

Contextual meanings:
an investigation of their persuasive power
in research article introductions

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Dedication

This thesis is respectfully dedicated to
Isabella Reid and Lily Ann Black
with love and gratitude.

Acknowledgement

I wish to thank my academic supervisor, Dr. Shoshana Dreyfus,
for her enthusiasm, patience, kindness and constructive criticism.

Abstract

This thesis explores the persuasive power of contextualisation (Dreyfus & Bennett forthcoming) in research article (RA) introductions. Contextualisation is understood within the framework of systemic functional grammar (SFL). It refers to the interpersonal working of meanings at the interface of discourse semantics and lexicogrammar, as these meanings frame and shape discourse participants and processes, to evoke particular understandings that serve the text's social purpose. A corpus of six RA introductions from the disciplines of history, social science and inorganic chemistry was selected. Analysis included TRANSITIVITY, PERIODICITY, THEME and APPRAISAL. The thesis argues that in the corpus, contextual meanings fulfil crucial interpersonal tasks, such as framing inquiry, engaging communities, establishing research importance, and foregrounding critical issues. Findings suggest contextual meanings work in several ways, with varying densities and on multiple levels, within participants, clauses, across stretches of texts and across discourses, to create interpersonal impacts. Analysis indicates that conglomeration of contextual meanings at particular points is a significant indication of persuasive risk, where precise meaning is required, such as in research claims. It is intended that this research will inform the development of resources for students who struggle with academic English and experience difficulty, or failure, in effectively foregrounding their work.

Table of Contents

List of Appendices	vii
List of Tables	viii
List of Figures	x
List of Abbreviations	xii
Key to colour-coding of contextual meanings	xiii
1 Introduction	1
2 Literature review	4
2.1 Pedagogical priority	4
2.2 The RA introduction as genre	5
2.3 The discourse semantic approach	7
2.4 Introductions as problematic structures	8
2.5 Resources of contextual meaning	10
2.6 Contextual persuasion as prosody	16
2.7 The need for systematic analysis	17
3 Theoretical location, typology and clause status	18
3.1 Location in the SFL framework	18
3.2 Classification of contextual meanings	19
3.3 Possibilities for description of spatial and temporal contextualisation	21
3.4 Locations and resources of contextual meaning	22
4 Methodology	25
4.1 Data selection	25
4.2 Analytical method and theoretical support	26
5 Creation of interpersonal impact by contextual meanings	31
5.1 Interpersonal impact of contextualisation within the clause	32
5.1.1 Impact of contextualisation in marked circumstantial Themes	33
5.1.2 Conglomeration of contextual meanings	34
5.1.3 Evaluation in contextual meanings	35
5.1.4 Commitment of contextual meaning potential	37
5.2 Patterning and the interpersonal impact of contextual density (CD)	38
5.2.1 CD Type 1: Sprinkling	39
5.2.2 CD Type 2: Pairing	39
5.2.3 CD Type 3: Clustering	40
5.2.4 CD Type 4: Clumping	40
5.3 Summary of interpersonal impact created by contextual meanings	42

6	Analysis of contextual meanings in the dataset	43
6.1	Introduction to topic phases	43
6.1.1	Chemistry Introductions to topic	44
6.1.1.1	Brooks et al (2013) clauses 1-7	45
6.1.1.2	Kennedy et al (2013) clauses 1-5	46
6.1.2	Education introductions to topic	48
6.1.2.1	Gray (2010) clauses 1-2	49
6.1.2.2	Macpherson & Owen (2010) clauses 1-4	50
6.1.3	History introductions to topic	51
6.1.3.1	Bowen (2010) clauses 107	52
6.1.3.2	Patrick (2011) clauses 1-10	54
6.2	Development phases	58
6.2.1	Chemistry development phases	58
6.2.1.1	Brooks et al (2013) clauses 8-20	60
6.2.1.2	Kennedy et al (2013) clauses 6-15	63
6.2.2	Education development phases	66
6.2.2.1	Gray (2010) clauses 3-8	67
6.2.2.2	Macpherson & Owen (2010) clauses 5-11 and 17-24	69
6.2.3	History development phases	72
6.2.3.1	Bowen (2010) clauses 10-14	73
6.2.3.2	Patrick (2011) clauses 11-12	76
6.3	Reviews of literature and other research	78
6.3.1	Chemistry reviews of other research	78
6.3.1.1	Brooks et al (2013) clauses 33-37	78
6.3.2	Education literature reviews	80
6.3.2.1	Gray (2010) clauses 11-37 and 40-43	80
6.3.2.2	Macpherson & Owen (2010) clauses 12-14	93
6.3.3	History literature reviews	94
6.3.3.1	Bowen (2010) clauses 15-16	95
6.3.3.2	Patrick (2011) clauses 16-18 and 20-24	96
6.4	Research space phases	100
6.4.1	Chemistry research space phases	100
6.4.1.1	Brooks et al (2013) clauses 21-29	101
6.4.1.2	Kennedy et al (2013) clauses 16-17	104
6.4.2	Education research space phase	105
6.4.2.1	Gray (2010) clauses 38-39	105
6.4.3	History research space phases	107
6.4.3.1	Bowen (2010) clauses 8-9	108
6.4.3.2	Patrick (2012) clauses 14-15	109
6.5	Purpose-value phases	111
6.5.1	Chemistry purpose value phases	111
6.5.1.1	Brooks et al (2013) clauses 30-32	111
6.5.1.2	Kennedy et al (2013) clauses 18-20	113
6.5.2	Education purpose value phases	114
6.5.2.1	Gray (2010) clauses 9-10	115
6.5.2.2	Macpherson & Owen (2010) clause 21	116
6.5.3	History purpose value phases	117
6.5.3.1	Bowen (2010) clauses 17-20	117
6.5.3.2	Patrick (2011) clauses 13, 19 and 25	119

Table of contents (cont.)

7	Conclusion: the persuasive power of contextual meanings	123
7.1	Framing information and argument in marked Themes	124
7.2	Strategically shaping participants by contextual conglomeration	126
7.3	Boosting meaning potential	127
7.3.1	Boosting meaning potential by conglomeration	127
7.3.2	Boosting meaning potential through evaluation	129
7.3.2.1	Inscribing and invoking attitude	129
7.3.2.2	Flagging and affording attitude in Manner processes	130
7.3.2.3	Graduation in contextual meanings	132
7.3.2.3.1	Intensification	133
7.3.2.3.1	Quantification	133
7.3.2.3.2.1	Spatial scoping	134
7.3.2.3.2.2	Temporal scoping	138
7.3.2.3.2.3	Specificity	143
7.4	Managing argumentative risk by conglomeration	144
7.5	Summary of findings, limitations and usefulness of the research	147
7.5.1	Contextual enrichment of meanings	147
7.5.2	Limitations of the research	149
7.5.3	Designing student resources	150
	Reference List	151
	Appendices	156

List of Appendices

Appendix A: Original texts of introductions	156
A1 Brooks et al (2013)	156
A2 Kennedy et al (2013)	158
A3 Gray (2010)	159
A4 Macpherson & Owen (2010)	162
A5 Bowen (2010)	163
A6 Patrick (2011)	164
Appendix B: Contextual patterns	166
B1 Brooks et al (2013)	166
B2 Kennedy et al (2013)	168
B3 Gray (2010)	169
B4 Macpherson & Owen (2010)	171
B5 Bowen (2010)	172
B6 Patrick (2011)	173
Appendix C: Transitivity and Theme analyses	175
C1 Brooks et al (2013)	175
C2 Kennedy et al (ed3gbtgdfsb2013)	190
C3 Gray (2010)	199
C4 Macpherson & Owen (2010)	222
C5 Bowen (2010)	231
C6 Patrick (2011)	241
Appendix D: Content and linguistic analysis	259
D1 Brooks et al (2013)	259
D2 Kennedy et al (2013)	268
D3 Gray (2010)	274
D4 Macpherson & Owen (2010)	289
D5 Bowen (2010)	295
D6 Patrick (2011)	302
Appendix E: Processes infused with Manner	312
E1 Introductions to topic	312
E2 Development	313
E3 Reviews of literature and other research	314
E4 Research spaces	315
E5 Purpose-value	316
Appendix F: Resources for framing by quantification	317
F1 Introductions to topic	317
F2 Development	318
F3 Reviews of other research	319
F4 Research spaces	321
F5 Purpose-value	321
Appendix G: Models of temporal qualities	322
G1 Brooks et al (2013)	322
G2 Kennedy et al (2013)	322
G3 Gray (2010)	323
G4 Macpherson & Owen (2010)	323
G5 Bowen (2010)	324
G6 Patrick (2011)	324
Appendix H: Contextual density indicating risk points	325
H1 Brooks et al (2013)	325
H2 Kennedy et al (2013)	326
H3 Gray (2010)	327
H4 Macpherson & Owen (2010)	328
H5 Bowen (2010)	329
H6 Patrick (2011)	330
Appendix I: Contextual meanings in the dataset by rank	331

List of tables

Table 3.1:	Contextual meanings at and below clause rank, Gray (2010) clause 49	24
Table 4.1:	Phases of the dataset	30
Table 5.1:	Resources of evaluation, Macpherson & Owen, clause 4	36
Table 5.2:	Resources of evaluation, Brooks et al (2013) clause 4	36
Table 5.3:	Commitment of contextual meaning potential, Gray (2010) clause 37.1	37
Table 5.4:	Commitment of meaning potential in nominal group, Gray (2010) clause 37.1	37
Table 5.5:	Contextualising by commitment of meaning potential, Gray (2010), clause 37.1	38
Table 5.6:	Contextualising, Gray (2010) clause 37.2	38
Table 5.7:	Contextual sprinkling, Brooks et al (2013) clauses 1-4	39
Table 5.8:	Contextual pairing, Brooks et al (2013) clause 35	39
Table 5.9:	Contextual pairing, Gray (2010) clause 41	40
Table 5.10:	Contextual clustering, Brooks et al (2013) clause 5	40
Table 5.11:	Contextual clustering, Kennedy (2013) clause 7.1	40
Table 5.12:	Conglomeration: contextual clumping, Patrick (2012) clause 11	41
Table 6.1:	Patterns of contextual meanings in chemistry introductions to topic	44
Table 6.2:	Contextualisation 'markets' research, Kennedy et al (2013) clauses 2-3	47
Table 6.3:	Patterns of contextual meanings in education introductions to topic	48
Table 6.4:	Patterns of contextual meanings in history introductions to topic	51
Table 6.5:	Conglomerate contextual meanings in C. Location: place – abstract, Patrick (2011) clause 11	57
Table 6.6:	Patterns of contextual meanings in chemistry development phases	59
Table 6.7:	Patterns of contextual meanings in education development phases	66
Table 6.8:	Contextual meanings in Existent, Gray (2010), clause 4	68
Table 6.9:	Patterns of contextual meanings in history development phases	73
Table 6.10:	Cluster of contextual meanings in Bowen (2013) clause 14	74
Table 6.11:	Conglomerate contextual meanings, Patrick (2011) clause 11	76
Table 6.12:	Patterns of contextual meanings in Gray's (2010) literature review	81
Table 6.13:	Embedded contextualisation creates positive positioning, Gray (2010) clause 11.3	82
Table 6.14:	Conglomerate embedded contextual meanings scope other research, Gray (2010) clause 37.1	90
Table 6.15:	Qualifiers in a burnish/tarnish sequence, Gray (2010) clause 43	92
Table 6.16:	Patterns of contextual meanings in history literature reviews	94
Table 6.17:	Conglomerate complex contextual meanings at multiple clause levels, Patrick (2011) clause 18	97
Table 6.18:	Patterns of contextual meanings in chemistry research space phases	100
Table 6.19:	Complex temporal contextualisation, Brooks et al (2013) clause 27	103
Table 6.20:	Conglomerate contextual meanings at multiple clause levels, Gray (2010) clauses 38-39	107
Table 6.21:	Patterns of contextual meanings in history research space phases	107
Table 6.22:	Patterns of contextual meanings in chemistry purpose-value phases	111
Table 6.23:	Conglomerate embedded contextual meanings, Brooks et al (2013) clause 32.2	112
Table 6.24:	Conglomerate embedded contextual meanings shape research purpose and value, Kennedy et al (2013) clause 18	113
Table 6.25:	Patterns of contextual meanings in education purpose-value phases	114
Table 6.26:	Patterns of contextual meanings in history purpose-value phases	117

List of tables (cont.)

Table 6.27: Conglomerate embedded contextual meanings controlling argument, Patrick (2011) clause 25	122
Table 7.1: Marked Theme contextualises across discourse, Kennedy et al (2013) clause 1	124
Table 7.2: Shallow embedding of Qualifiers, Brooks (2013) clause 5.1	126
Table 7.3: Conglomerate deeply embedded contextual meanings frame achievement, Kennedy et al (2013) clause 18	126
Table 7.4: Contextual meanings as downranked circumstances, Bowen (2010) clause 8	127
Table 7.5: Commitment of meaning potential by conglomeration invokes positive appreciation of research, Brooks et al (2013) clause 32.2	127
Table 7.6: Examples of conglomerate contextual meanings and their effects	128
Table 7.7: Manner processes in the dataset	130
Table 7.8: Contextual meanings as afforded attitude in Manner processes	132
Table 7.9: Positive positioning of writer's research by intensification in contextual meanings	133
Table 7.10: Location: place – historical in Bowen (2010) and Patrick (2011)	135
Table 7.11: Location: place – physical people in Gray (2010) and Patrick (2011)	135
Table 7.12: Strategic spatial scoping by marked Themes	136
Table 7.13: Scoping boosts research status, Gray (2010) clause 11	137
Table 7.14: Narrow spatial scoping of literature by conglomerate meanings, Gray (2010) clause 37	137
Table 7.15: Multi-scoping shapes research space, Bowen (2011) clause 9.2	137
Table 7.16: Spatial scoping contextualises other research as unfocused, Gray (2010) clauses 34.2 and 36	138
Table 7.17: Interpersonal effects of unlocated: determinate temporal contextualisation	140
Table 7.18: Temporal scoping by marked Themes	141
Table 7.19: Contextual normalcy construed by scoping as frequency	142
Table 7.20: Sustainability construed by contextual meanings of duration	143
Table 7.21: Interpersonal effects of meanings of specificity	144
Table 7.22: Conglomerate contextual meanings support research value, Brooks (2013) clause 27	145
Table 7.23: High CD brings logic to development phase, Gray (2010) clause 3	146
Table 7.24: Complex contextualisation defines research space, Gray (2013) clauses 38-39	147

List of figures

Figure 2.1	Genre, register and language (from Martin & Rose, 2008, p. 309)	6
Figure 2.2	Meaning realised by lexicogrammar at the content plane (Halliday & Matthiessen, 1999, p.5)	7
Figure 2.3	Map of locational contextualisation raised by circumstances of Location: place, showing complexity of places between abstract and concrete (Dreyfus & Jones, 2011, p.77)	12
Figure 2.4	Model of APPRAISAL, based on Martin & Rose (2007, p. 38) and Hood (2010), p.105)	15
Figure 3.1	Contextualisation: semantics and lexicogrammar mesh at the stratal interface (after Halliday & Matthiessen, 1999, p.5)	18
Figure 3.2	Location of contextual meanings (after Martin & Rose, 2007, p. 297)	18
Figure 3.3	Simultaneous circumstantial distinctions, types and subtypes (based on Halliday & Matthiessen, 1999; 2004)	20
Figure 3.4	Resources of contextualisation	23
Figure 4.1	Matrix for visual representation of temporal qualities	28
Figure 5.1	Contextualisation by a marked Theme, Kennedy (2013) clause 1	33
Figure 5.2	Two-way contextualisation by a marked Theme, Macpherson & Owen (2010) clause 21	34
Figure 5.3	Conglomeration creates positive appreciation as prosody, Kennedy et al (2013) clause 18	34
Figure 5.4	Conglomerate contextual meanings as a sequence, Patrick (2012) clause 11	41
Figure 6.1	Contextual meanings invoke positive appreciation as prosody, Kennedy et al (2013) clauses 2-3	47
Figure 6.2	The hook: marked Themes organise layers of strong contextualisation, Bowen (2012) clauses 6-7	53
Figure 6.3	Contextual meanings as Qualifiers invoke negative affect, Gray (2010) clause 3	67
Figure 6.4	Temporal contextualisation construes increasing priority, Gray (2010) clauses 3-5	68
Figure 6.5	Contextual meanings 'bookend' critical thinking definition, Macpherson & Owen (2011) clauses 5-10	70
Figure 6.6	Contextual meanings create negative affect, Macpherson & Owen (2011) clauses 16-19	71
Figure 6.7	Negative appreciation as clause prosody, Macpherson & Owen (2010) clause 19	71
Figure 6.8	Marked Themes of Location: time invoke importance across clauses, Bowen (2013) clauses 10-14	73
Figure 6.9	Contextual meanings in burnishing/tarnishing other research, Brooks et al (2013), clauses 33-37	79
Figure 6.10	Contextual scoping by marked Themes and meanings of Location place invoke importance for communication skills, Gray (2010) clauses 14-16	83
Figure 6.11	Spatial scoping construes wide-ranging problem, Gray (2010) clauses 17-19	84
Figure 6.12	Locational contextualisation in literature evaluation, Gray (2013), clauses 20-24	85
Figure 6.13	Spatial contextualisation assists burnishing/tarnishing, Gray (2010) clauses 25-28	86
Figure 6.14	Negative appreciation spatially scoped across clauses, Gray (2010) clauses 29-32	87
Figure 6.15	Clusters of contextual meaning in burnish/tarnishing, Gray (2010), clauses 33-37	89
Figure 6.16	Contextual meanings assist burnishing/tarnishing, Gray (2010), clauses 40-43	91

List of figures (cont.)

Figure 6.17	Affect as disquiet: unease across clauses as prosody, Patrick (2012) clauses 16-18	96
Figure 6.18	Negative appreciation spatially scoped across clauses, Patrick (2012), clauses 20-22	98
Figure 7.1	Marked Themes of C. Location: place dominate clauses and across clauses to create a 'reading zone' of positive appreciation of communication skills, Gray (2010) clauses 14-16	125
Figure 7.2	Meaning potential in a manner citation process assists burnishing/tarnishing of other research, Gray (2010) clause 42	130
Figure 7.3	Map of locational contextualisation in the dataset, showing the complexity of place between abstract and concrete (after Dreyfus & Jones, 2011, p.77)	134
Figure 7.4	A model for temporal determinacy and locatedness	138
Figure 7.5	CD peak, Brooks et al research space phase, clause 27	145
Figure 7.6	CD peaks indicates significance of clauses 27 and 37, Brooks et al (2013)	145
Figure 7.8	CD peaks correlate with important argumentative occasions, Patrick (2011)	146

List of abbreviations

Attr.	Attribute
attr.	attributive
C., circ.	Circumstance
CD	Contextual density
chem.	chemical
Cl.	Classifier
D.C.	downranked circumstance
det.	determinate
edu.	educational
Ep.	Epithet
en	engagement
Fi.	Finite
geo.	geographical
gr	Graduation
id.	identifying
indet.	indeterminate
inst.	institutional
Loc.	Location
loc.	located
m.	marked
mat	material
nom.	nominal
N.	Numerative
occ.	occupational
phys.	physical
prep.	prepositional
Pred.	Predicator
Pr.	Process
Q.	Qualifier
Q-in-Q	Qualifier-in-Qualifier
SFL	Systemic functional linguistics
Th.	Thing
unloc.	unlocated

Key to colour-coding of contextual meanings

Contextual meanings are colour-coded according to type to facilitate perception of patterning and density:

Extent

Location: place

Location: time

Manner: means, quality, comparison, & degree

Cause: purpose & Cause: reason

Contingency

Accompaniment: comitative & additive

Role: guise & Role: product

Matter

Angle: source & Angle: viewpoint

Process infused with Manner: quality

Attributes (circumstantial):

spatial temporal accompaniment

Temporal Adjunct Frequency Adjunct

1 Introduction

This thesis explores how contextualisation creates persuasive power in research article (RA) introductions (Dreyfus & Bennett, forthcoming). Envisaged within the stratal framework of language theorised in SFL (for example, Halliday & Matthiessen, 1999; Martin & Rose, 2007), contextualisation refers to the work of ideational meanings at the interface between the discourse semantic and lexicogrammatical strata. These meanings strongly frame and shape discourse participants and processes to mandate particular understandings of them, to build convincing arguments and evoke agreement. The interpersonal nature of academic writing, especially in RA introductions, is well accepted (for example, Hood, 2010; Hyland, 2010; Swales, 2004).

The research began when a colleague, a fellow teacher of English for academic purposes, sought my opinion on a literature review he envisaged including in readings for international students. The literature review was in a peer-reviewed research article, Gray (2010), about the oral communication skills of new accountancy graduates in New Zealand. Gray's (2010) introduction is geared to align readers at every stage. Staged, explicit, persuasive, and restrained, it is a model for international students beginning postgraduate work in English. Importantly, much conviction derives from clarity and precision in statements of research significance, evaluations of others' research and establishment of the research space, involving strategic deployment of lexicogrammatical resources that realise persuasive contextual meanings.

Motivation for the research arises from the needs of students experiencing significant challenges in engaging with academic texts in English. As a teacher of academic literacy and communication to undergraduate and postgraduate international students at an Australian technology university, I observe that a recurring major problem is failure to produce logical introductions as foundations for written work. Not only do these students find it difficult to understand introductory purposes and structures, but they also struggle to strategically contextualise their research. It is argued here that in focusing on the realisation of contextual meanings in the lexicogrammar, this research is pedagogically useful. Illustrating the realisation of contextual meanings across grammatical functions, within circumstances and in other grammatical locations, can informally grammatically explicit teaching resources to assist these students to appropriately contextualise their work and produce persuasive introductions.

Analysis strongly suggests that in the dataset used in this thesis, persuasion is significantly enabled by contextual meanings, which function to construe research and engage and align the readership. The thesis aims to show how contextual meanings persuade by framing and shaping clause messages and constituents to compel particular understandings and viewpoints. A multi-modal viewpoint may give insight here, and indeed, Systemic Functional Linguistics (SFL) already acknowledges the multimodal nature of framing (Kress & van Leeuwen, 2001, pp.2-3). From 1996 Kress and van Leeuwen extended their view of framing from 'specific to visual communication' to 'clearly... a multimodal principle', able to connect 'bits' of writing. However, they see framing as delineating 'between' (such as separating articles in a newspaper) or realised by 'framelines' (such as space or discontinuity), while this thesis sees framing as setting boundaries for understanding and directing the reader. This view of contextual meaning is in line with British sociologist Basil Bernstein's (2000, p.12) observation that, in communication, 'framing is about who controls what'.

My view of contextual meanings as interpersonally powerful framers and shapers also derives from the ideas of French film aesthetics authority Jacques Aumont. Aumont (1994, pp.106-109) contends that a visual frame places an image in its own perceptual environment, contributes to its perspectives, and creates a 'special zone' for the spectator by setting the image in a 'visual force field'. The frame signals that the image has certain values and should be viewed in a particular way. Aumont (1994, p.99) also postulates that an image contains *materiality*, for example, 'painterly' brush strokes or photographic grain. It is suggested in this thesis that, in the lexicogrammar, the materiality of contextualisation may be more or less fine, depending on the nature and density of the resources that deliver the contextual meaning. Analysis of the dataset indicates that the patterning, or materiality, of contextual meanings varies across discourses. It is argued that conglomerate contextual meanings that are dense, contextualising participants with fine materiality, reflect high-stakes points, when very precise meaning is necessary to ensure effective argumentation, such as in important definitions, research space statements and claims of research value.

In drawing theoretically on SFL, this investigation of the resources of contextual meaning greatly relies on Halliday & Matthiessen's (2004, pp. 262-263) classification of circumstantial elements, particularly as meanings of enhancement. The thesis argues that contextual meanings are generally circumstantial and that persuasion is markedly assisted through enrichment and enhancement of ideation. It is also suggested that analysis of contextual meanings can benefit from more delicate development of Halliday &

Matthiessen's (2004) spatial classifications (drawing on Dreyfus & Jones (2008; 2011) and of temporal meanings, since these may vary in realising qualities of locatedness and determinateness.

The thesis recognises circumstances as 'constructing' (Halliday, 1994, p.151) representations of the human context — the spaces, times, manner, causes, matters and conditions of existence. Drawing on Aumont (1994) it suggests that circumstances are major elements in constructing a special 'reading zone', that is, a 'force field' that bounds the 'reading zone'. Thus, the thesis investigates the interpersonal effects of contextual meanings within clauses as circumstances and as processes infused with circumstantial meaning, and, below clause rank, as down-ranked circumstances in embedded clauses, as Qualifiers and in nominal groups. It also explores the effects on contextual meanings of APPRAISAL choices and the commitment of meaning potential (Halliday & Matthiessen, 2004; Hood, 2010; Martin & White, 2005). The analysis here indicates that, while essentially ideational, contextual meanings can be powerful rhetorical resources and have prosodic effects. Realised by particular lexicogrammatical choices, the interpersonal effects of contextual meanings radiate outward from the clause, across stretches of text and across discourses, working to fulfil the introduction's purpose of persuasion of research quality and value.

2 Literature review

In examining the interpersonal impact of contextualisation in the RA introductions in the dataset, the thesis analyses meanings that are to a significant degree realised by circumstances but range beyond the clausal constituent of Circumstance down to below or within constituent rank. The thesis argues that contextualisation in this corpus works to present the writers' research as original, interesting, valuable and successful. Further, the thesis suggests that contextualisation is an indicator of 'argumentative risk', that is, that contextual meanings conglomerate, or gather densely, at 'high-stakes' points where precise meaning is crucial for conviction, such as in definitions and statements of research aims and spaces.

The literature to be reviewed informs six key areas of this research. The first area is pedagogical priority, involving the status of the RA introduction, difficulties inherent in its creation, the need to address the problems of students who struggle with academic writing, and the value of the explicit learning approach of Sydney School genre pedagogy. The second area covers understanding of the RA introduction as genre, and therefore purposeful. The third area is the discourse semantic approach to analysis. The fourth area is the problematic nature of the introduction's structure and the difficulty of identifying staging. The fifth area is that of uncertainty in meaning, and contextualisation as a means of narrowing uncertainty through lexicogrammatical resources. This area includes literature on SFL theories about meanings of enhancement and analytical theories including transitivity, Theme, periodicity and APPRAISAL. The final area to be covered is the creation of interpersonal prosodies by contextual conglomeration and patterning.

2.1 Pedagogical priority

Prominent authorities (such as Hood, 2010; Hyland, 2010; Swales 1990; Swales & Feak, 2012) support inquiry into meaning-making in published, peer-reviewed RA introductions as valuable. This literature argues the unrivalled prestige of the RA, the unique rhetorical and structural demands of foregrounding RA content, and the profound difficulties that many students experience when writing introductions. Hyland (2010, p.117) terms the research article 'the pre-eminent genre of the academy' and Hood (2010, p.6) 'a high-stakes text type across all disciplines'. However, according to Swales (1990, p.137) the introduction is a 'troublesome' piece of work, in which the persuasive impact needed to engage and convince readers must not compromise academic restraint. Sources also

describe strategic problems— writers need to decide whether an introduction positively ‘carves space for new knowledge’ (Hood, 2010, p.58) or, more neutrally, seeks to justify the importance of the work (Hyland, 2009), or more negatively, aims to identify a ‘niche’ or ‘gap’ that the research may fill (Swales & Feak, 2012, p.331). Since students need to learn how to argue for a space in their own research writing, the research for this thesis aims to inform preparation of explicit writing models and practice tasks in writing introductions, for students (especially first-year international students) experiencing failure or difficulty at university in Australia. Developing adequate academic writing skills is a major challenge for many, since, as Veel (1998, p.140) has noted (in relation to school science writing), ‘sophisticated control over a large number of linguistic resources’ is needed for writing success. Many Australian sources deplore the language and cultural struggles of these students (for example, Arkoudis & Starfield, 2007; Birrell, 2006; Bretag, 2007; Wesley, 2009), and therefore research to assist them must be an ethical priority.

Sydney School genre pedagogy (for example, Christie & Martin, 1997; Rose & Martin, 2012) is therefore a natural and ethical location for the research conducted for this thesis. Genre pedagogy promotes explicit demonstration to teachers and learners of the systematic connection between language and context, in constructing specialised and purposeful texts through lexicogrammatical and rhetorical patterns (Martin & Rose, 2007, 2008; Rose & Martin, 2012). Hyland (2003, 2007) writes that genre pedagogy benefits both teachers and learners by mandating and supplying clear aims and resources. Wingate (2006, p. 464) argues for explicit teaching of writing within the disciplinary context as ‘the only way of developing students’ understanding of subject-specific writing requirements’, and that tutors should model the rhetorical processes involved. Hampton et al (2003) stipulate that explicit instruction is needed for the development of academic writing and learning skills. Bernstein’s concept of ‘visible’ pedagogy (2000, pp.109-10) provides a further ethical basis: visible pedagogy requires clarity, instead of leaving students to muddle along. In addition, Hyland (2002) calls for teaching of literacy skills that fit the expectations of particular communities. Genre pedagogy has two strands: curriculum and pedagogy. The curriculum strand is the concern of this thesis, as it involves describing and analysing text patterns so that teachers may teach them.

2.2 The RA introduction as genre

In line with genre pedagogy, this thesis studies the RA introductions in the corpus as genre, as genre is explained in a wide body of SFL literature (for example, Christie, 1999; Christie & Martin, 2007; Halliday, 1994; Hyland, 2002, 2003, 2007; Martin & Rose, 2007,

2008; Painter, 1988; Tardy, 2011). In this literature, genre is 'a staged, goal-oriented social process' (Christie, 1999, p.760; Martin & Rose, 2007, p.8) and 'a resource that we call upon in order to achieve our social goals' (Painter, 1988, p.1). Bhatia (2002, p.22) emphasises genre's location in context, as 'situated linguistic behaviour' and as 'conventionalized expression' directed towards institutional goals (2004, p.23). Hyland (2002, p.115) calls attention to the structured nature of genre and its serving of particular communities with common communicative aims. Further, Hood (2010, p.65) accords the RA introduction high status as a genre in its own right, that is, fulfilling the social purpose of 'the macro-genre of the research warrant'. The function of this genre is to realise contexts of academic culture and disciplinary situation and seek to persuade readers of research originality, worth and success by strategic configuration and language. The introductions in the dataset are studied as examples of this important genre.

Martin & Rose's (2007, p.309) model of genre, register and language indicates the centrality of language to genre. In this model, language (the inseparables of semantics and lexicogrammar) realises register (the variables of field, that is, experiential meaning), tenor (interpersonal meanings of social interaction and evaluation) and mode (written or spoken texts), which combine to realise genre, Figure 2.1:

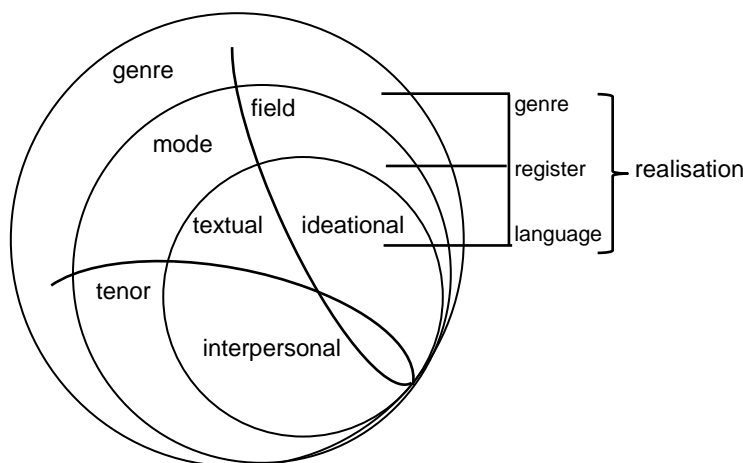


Figure 2.1: Genre, register and language (Martin & Rose, 2008, p. 309)

Thus the SFL literature makes clear the importance and functions of the RA introduction as genre. In doing so, it offers strong support for analysis of language deployed in RA introductions, given their location in context, their centrality of purpose in language and configuration, and their eminent generic role, and for the study of its persuasive meaning to provide pedagogic assistance for needy students.

2.3 The discourse semantic approach

The thesis takes the discourse semantic approach in SFL (such as Halliday & Matthiessen, 1999; Martin & Rose, 2007, 2008) for insight into language that realises contextual meanings. The thesis envisages those meanings as realised at the interface between discourse semantics and the lexicogrammar. Halliday & Matthiessen's (1999, p.5) tri-stratal model of language is helpful because it shows meanings realised by lexicogrammar in the content plane, and the interface between the strata, Figure 2.2:

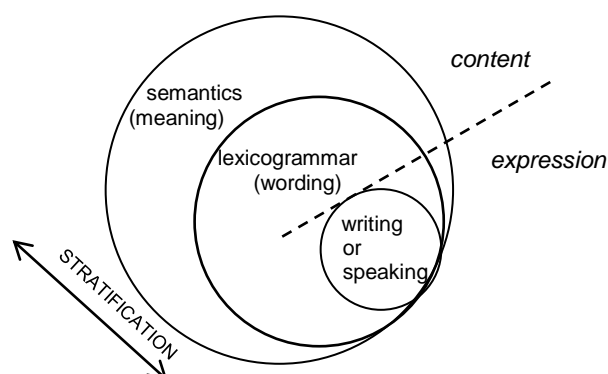


Figure 2.2: Meaning realised by lexicogrammar at the content plane, (Halliday & Matthiessen, 1999, p.5)

Taking a discourse semantic approach means that meanings are captured no matter at what rank they occur in the lexicogrammar to ensure the inclusion of meanings that may be deeply embedded in participants. Many sources engage with the interpretation of meaning, but, as far as this research can ascertain, there appears to be a lack of published systematic clause analyses that explicitly capture the lexicogrammatical making of meaning, especially with regard to RA introductions. Hood, (2010) comprehensively analyses evaluation in academic texts, including introductions, but does not present structural or lexicogrammatical analyses across discourses. Hyland's (2005, 2010) work on reader engagement also does not specifically address introductions. Martin and Rose (2007) deal with the interpretation of social discourse, the construal of experience and the negotiation of meaning, but analyse South African social texts, not academic discourse, and do not present clause-level analysis across texts. Humphrey and Dreyfus (2012) closely analyse staging, Themes and evaluation in a small corpus of published research articles and student texts to show their purposeful unfolding and improve their own understanding of student writing, but they focus on the results and discussion stages of the texts in their corpuses. Lee's (2008) study of attitude in high- and low-graded student writing confirms the basic role of attitude resources in critical voice, but, here also, there is no specific attention to the introduction stage. Martin et al (1985) analyse features such as structure, rhetorical features, transitivity, Themes, referencing, attitude and cohesion, and

show the importance of staging in different types of narrative and exposition; however, they are concerned with the development of children's writing from infant to senior secondary school. Finally, the SLATE project (Mahboob et al, 2010) shows how model texts and explicit feedback can guide appropriately staged student work, including coherent introductions, but it focuses on structure. There is thus a clear scope for the discourse semantic approach to sustained, systematic clause-level analysis of persuasive meanings in published texts that can act as models for student writing, such as those in this corpus.

2.4 Introductions as problematic structures

The literature (such as Bloor, 1998; Hood, 2010; Hyland, 2004; Lovitts, 2007) encourages non-formulaic analysis of the staging of introductions. Hood (2010) argues that while social language theory can account for genre's realisation of the contexts of culture and purpose, it does not, as yet, explain *how* language realises the social purpose of genre or of stages or moves, and that consequently intuition is necessary for discerning them. Bloor (1998, p.60) observes that analysing the stages of texts has proved 'contentious' at times, and indeed there are myriad variables in purposes and phases as texts unfold. For instance, Hood (2010) identifies multiple complexities in the construction of an introduction— shifts in field and changing representations of information across texts and typical sequential sub-genres, or stages, of descriptions of the research object, other research, field knowledge and the writer's research. Hyland (2004) also presents complexities; he suggests that academic writing goals include convincing readers, originality, claims, reviewing previous knowledge and justifying viewpoints, and also nominates the establishment of authority and collegial solidarity, but he writes about academic texts in general. Lovitts' (2007, p.53) criteria for marking introductions as 'outstanding' require a 'hook' to fix attention, and clear statements of the research problem, its significance and context, but she is concerned with post-graduate dissertations, not RAs. The thesis therefore identifies the stages of each introduction in the dataset according to functionality indicated by Themes and field shifts.

Swales' (1990, 2004) and Swales & Feak's (2012) work on 'moves' is valuable for analysing staging. Swales (2004, p.229) defines a 'move' as a 'discoursal or rhetorical unit that performs a coherent communicative function'. However, Swales' advice that a move is a functional, not a formal unit, and is 'better seen as flexible in terms of its linguistic realization' further supports intuitive identification of staging. Swales' (2004, p. 244) Open

a Research Option (OARO) model is useful because it nominates stages that can also be seen as interpersonal goals

- *Attracting readership (optional opening)*
- *Establishing credibility (sharing background knowledge, justifying research need, presenting interesting thoughts, or introducing a general goal)*
- *Offering a line of inquiry (discussing current problems and expressing interest in an emerging topic)*
- *Introducing the topic*
- *Offering a line of inquiry*

Swales & Feak's (2012, p.331) Create a Research Space (CARS) suggests varied goals that also involve contextual persuasion:

- Move 1— Establishing a research territory*
 - a. showing that the general research area is important, central, interesting problematic or relevant (optional)*
 - b. introducing and review items of previous research (obligatory)*
- Move 2— Establishing a niche (specific context for the research)*
 - indicating a gap in previous research or extending previous knowledge (obligatory)*
- Move 3— Occupying the niche*
 - a. outlining purposes or stating nature of the present research (obligatory)*
 - b. listing research questions or hypotheses*
 - c. announcing principal findings*
 - d. stating the value of the present research*
 - e. indicating the structure of the research paper*

Thus there is room for intuition and flexibility in analysing staging in the dataset, especially since not all of these stages and purposes may be present in any given introduction, or may be differently ordered in different introductions. It can be surmised that they occur and are ordered strategically to work towards establishing research originality, value and success.

Still, the thesis argues that the successful outcome of any stage, or indeed an entire introduction, is by no means certain. Kress (1985, pp.42-23) emphasises that uncertainty is inherent in the construal of meaning. He warns that while texts 'impose limitations' on how they may be read, reading is not a passive process, readers are potentially resistant to textual aims and meanings and there is unlimited possibility for different readings. Halliday and Matthiessen (1999, p.1), also acknowledge uncertainty in their view of experience as 'not as knowing but as meaning'. It is argued here that in the dataset of introductions, contextualisation works to address readers' unknowable reactions by providing 'limitations', directing reading through strategic framing of information that

privileges some meanings over others. The thesis argues that in the dataset, high contextual density and evaluation within contextual meanings at certain 'high stakes' points (for example, claims of research importance or definitions) indicate greater 'argumentative risk', where the text addresses uncertainty. Argumentative uncertainties and risks differ from one text to another, but all require precise meaning to maximise the possibility for reader agreement. The thesis thus investigates contextual density within clauses, and tracks contextual patterning across the texts as indications of significant risk at particular points.

2.5 Resources of contextual meaning

Halliday & Matthiessen's (2004, pp.262-3) classifications of circumstantial types and subtypes, covering the world of human experience, is the basis for identifying and interpreting contextualisation by meanings of enhancement, and also by other meanings when appropriate. Their classifications are:

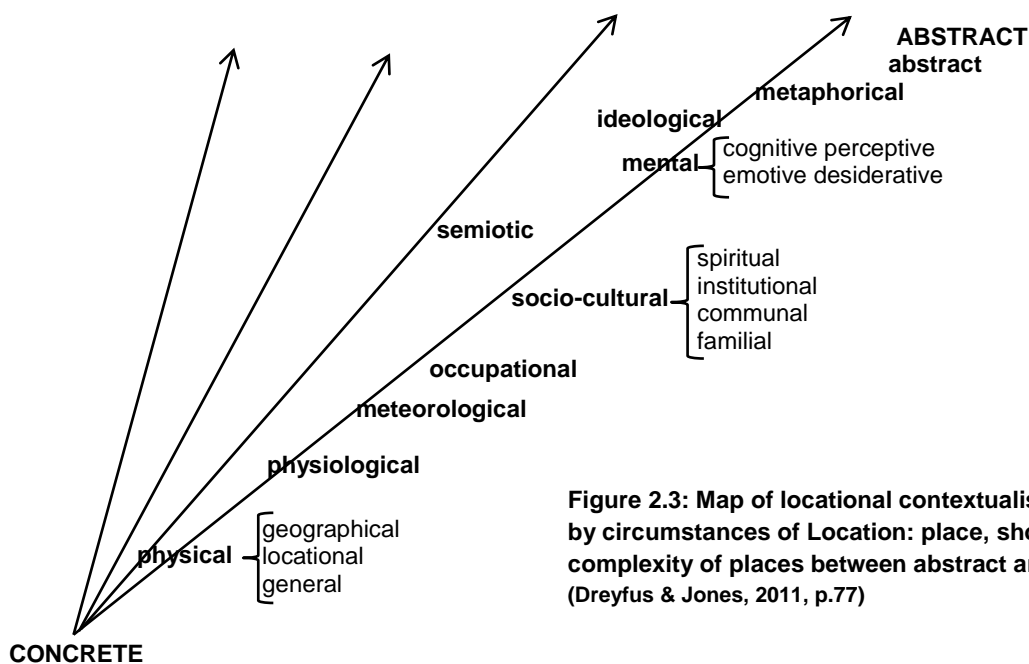
<i>Enhancing</i>	}	Extent (distance, duration and frequency)
		Location (time and place)
		Manner (means, quality, comparison and degree)
		Cause (reason, purpose and behalf)
		Contingency (condition, default and concession)
<i>Extending</i>		Accompaniment (comitative and additive)
<i>Elaborating</i>		Role (guise and product)
<i>Projecting</i>	}	Matter
		Angle (source and viewpoint)

Halliday & Matthiessen (2004, p.261) admit this list is 'fairly arbitrary'. However, much scope for exploration and fine-tuned assessment of contextual meanings is provided by Halliday's (1994, p.xiii) view that there is potential for increasingly fine descriptions of 'inexhaustible' language.

The thesis therefore focuses on contextual meanings and patterns of enhancement. The thesis argues that contextual enhancement may be instantiated by Circumstance, in a participant, by infusion of a process (with the circumstance of Manner) or by an Adjunct. It maintains that enhancement has interpersonal (and therefore persuasive) impact because it increases the degree of commitment of meaning potential in one instance of language compared with another (Hood, 2008, p.356) and so may add significantly to the degree of meaning potential in any unit of meaning.

Literature relating to the key enhancing meanings of Location (space and time), Cause and Manner will now be reviewed. It is suggested that when identifying contextual meanings it is useful to analyse spatial meanings as more than simply physical or directional, and temporal meanings as other than calendar- or clock-defined. The thesis thus examines spatial locations between concrete and abstract, some far from what Dreyfus and Jones (2008, p.2) describe as Halliday & Matthiessen's (2004, pp.262-3) 'very concrete take on the concept of place'. However, Halliday himself (1994, p.161) noted that ideas about circumstances had travelled away from the concrete, particularly with respect to space. Halliday and Matthiessen (2004, p.266) illustrate several 'qualitative domains' of abstract space. Others suggest spaces can be dynamic or formless or unknown, for example, Foucault's (1986, p.23) 'heterogenous' space that 'gnaws and claws'; O'Toole's (1994, p.184) 'ever-shifting space between canvas and eye'; and Veel's (1997, p.174) 'non-specific place and time which is often outside [science] students' experience'. More recently, Matthiessen and Kashyap (2014) suggest space in different registers: 'boundless, three-dimensional' physical spaces; biological space as 'experience'; constructs such as 'intimacy' in social systems; and semiotic space as 'shared meaning'. So there are many possibilities for spatial contextualisation beyond commonsense notions and the thesis considers that they are interpersonally important.

The thesis draws on Dreyfus & Jones' (2008, 2011) proposals for more delicate and non-physical classifications of circumstances of Location: place. Dreyfus and Jones (2008) propose non-concrete, non-physical classifications such as metaphorical, mental, social, cultural, occupational, and meteorological places. Dreyfus and Jones' (2011) envisage places from concrete to abstract that realise varied contexts, as shown in Figure 2.3:



In Figure 2.3, the fan reflects the non-linear nature of space. While Dreyfus and Jones (2011, p.77) admit ‘some uncertainty’ about the placement of circumstances, their concept of a complex route from concrete to abstract provides a means of representing the variety of contextual meanings that will be identified in this dataset. However, their work focuses on school and adolescent writing, children’s picture books and political speeches, with only minor consideration of academic writing. In addition, it does not analyse below the clause and does not consider persuasive contextual effects. Nevertheless, it suggests the potential for quite delicate contextual classification of spatial meanings.

Meanings of Location: time are also important in contextualisation. With regard to temporal contextualisation, the thesis generally aligns with Coffin’s (2006, p.106) view of the basic role of circumstances in representation in the semantic temporal categories: setting events in particular temporal locations (Location: time); measuring Duration of an event (Extent: duration) and Phasing, that is, contextualising beginning, continuation and conclusion. However, although discussing the use of lexicogrammatical resources in shaping of perceptions of the past, Coffin (2006) focuses on school history writing.

A variety of ideas about time (for example, Boroditsky, 2000, 2001; Kinneavy & Eskin, 1994; Martin & Rose, 2007; van Leeuwen, 2008) encourage adventurous exploration of its persuasive representation. Halliday’s (1994, p.153) concept of time is far from static: he views it as ‘unidimensional; we see it as moving, and carrying the observer along with it in the current...’ Boroditsky (2000, 2001) indicates that thinking about time horizontally, in

spatial metaphors (*ahead, behind*) and as a way to experience change, engenders subjective meaning for English speakers. Martin (2003) proposes that time may be packaged as periods, such as defining shifts in governance, and Martin, Maton and Matruglio (2010, p. 442) suggest that packages of time (such as the Indochina war) may be divided into 'component episodes'. Or, time may be represented as cyclical, experienced through annual seasons, economic cycles and recurring wars (van Leeuwen, 2008, pp.80-81; Stern, 2003). Van Leeuwen (2008) postulates several notions of time, including as a commodity to be managed, scheduled, and budgeted, and even as an authority over people's lives. With respect to the rhetorical organisation of texts, Martin and Rose (2007, p.126-7) explain the significance of conjunctive resources of 'external' time in organising fields and of 'internal' time in coherent narratives and argument (p.137-139). Disjunctions of text time and field time in a news report are illustrated in Martin & Rose (2008). Coffin (1997, p.200) notes the importance of 'real time', 'external' and 'internal time', and 'text time' in history texts. However, while these sources present various ways of thinking about time, and 'types' of time, they do not conceptualise or discuss temporal *qualities*. The thesis argues that representations of temporal *quality*, such as its determinateness or locatedness, produce significant persuasive strength.

Kinneavy & Eskin (1994)'s study of time in Aristotelian rhetoric supports the qualitative assessment of representations of time. Kinneavy & Eskin (1994) interpret Aristotelian concepts of time as *chronos* (quantitative) or *kairos* (qualitative, that is, 'opportune', or 'right'). This thesis argues that in the dataset introductions, contextual meanings convey temporal qualities such as determinacy and locatedness, relativity to experience and process. It suggests that these qualities are *kairos*-like in their construal of meanings that support writers' viewpoints. The thesis explores the interpersonal effects of these temporal qualities and argues that they effectively influence understanding of research.

Literature encourages the examination of causal contextual meanings in the dataset (Achugar & Schleppegrell, 2005; Coffin, 2004; Halliday & Matthiessen, 2004). Causal meanings appear significant in positive representations of participants and processes, particularly in the inorganic chemistry and history introductions. Analysis of causal meanings relies on Halliday & Matthiessen's (2004, p.271) classification of causal circumstances as reason (why a process happens), purpose (the intention behind the process) and behalf (typically representing a person for whose sake the process occurs). Meanings of contingency also have causal implications. Halliday and Matthiessen, (2004, p.271) list sub-types of the circumstance of contingency as condition (necessary for actualisation of the process), concession (construing 'frustrated cause') and default

(having the sense of negative condition). Coffin (2004) values close attention to how causality is construed in the lexicogrammar and examines the grammatical resources for causality, but focuses on school writing and does not specifically consider contextual or interpersonal implications. Schleppegrell and Achugar (2003) draw attention to meanings of time as organizational resources for time and cause, but, also, only in school texts. Achugar and Schleppegrell (2005) explore patterns of language that construct cause in history writing. They draw attention to the infinite extent of the possibilities for causal meaning presented by causal verbs and prepositions (compared with the limited possibilities offered by conjunctions). However, they only examine history textbooks in the US. Martin (2003) opens a wide view of causal meaning by contextualisation by acknowledging the possibilities offered by the open lexis provided by material and verbal processes, but he is looking at causality in relation to abstraction in history texts. In summary, while these sources offer many examples of, and comments on, the realisation of causal meaning in the lexicogrammar, they do not touch on the contextual persuasion in RA introductions investigated in this thesis.

Literature relating to resources of evaluation and intersubjective stance (for example, Hood, 2006, 2010; Martin, 1992,1997; Martin & White, 2005) will now be considered. The thesis argues that when resources of evaluation and intersubjective stance are deployed within contextual meanings, the commitment of meaning potential, is significantly raised, and works for persuasive strength. These resources include meanings of manner and APPRAISAL.

Many sources support the idea of meanings of manner as strongly evaluative and interpersonal (such as Halliday, 1994; Hood, 2010; Martin & White, 2005). Halliday and Matthiessen (2004, pp.267-9) illustrate manner's critical role of in construing the actualisation of processes. They postulate four sub-types of manner: means (how a process takes place); comparison (similarity or difference); quality (linking qualities to a process, and enabling interpersonal evaluation), and degree (evaluating the extent of actualisation of a process). Hood (2010, p.87) argues, 'While ... other kinds of circumstances also offer evaluative potential, it is clear that manner circumstances are in a sense intrinsically interpersonal'. Further, Stillar (1998, p.37) explains that when adverbs of manner of quality and degree are linked to processes, they have positional value that includes 'a trace' of the language-user's attitudes and evaluations.

The literature indicates infusion of manner in processes is a significant generator of interpersonal impact. According to Martin & White (2005, p.143), in infusion, a meaning of Manner, typically of quality, not only intensifies or upgrades meaning in a process, but also is inseparably enfolded, creating a single lexical form. Hood (2010, p. 92) argues that infusion of processes enables subtle interpersonal impact, 'invoking a reading of increased effort, vigour or rigour' while maintaining apparent objective balance. Since language is 'inexhaustible' (Halliday, 1994, p.xiii), it is suggested that infusion offers unlimited possibilities for flagging (strongly indicating) or affording (less strongly indicating) attitude in processes, and, when explicit meaning is infused, for inscribing attitude. Consequently, investigation of its impacts must be a priority in introductions, where processes evaluate information and others' research.

APPRAISAL theory (Hood, 2010; Martin & White, 2005; White, 2015) supports the argument that contextual meanings in the dataset derive substantial interpersonal power from evaluation. APPRAISAL is concerned with resources for intersubjective positioning: ENGAGEMENT (single or multiple textual voices), ATTITUDE (inscription of explicit meaning and invocation of indirect meaning as appreciation, affect and judgement) and GRADUATION (scaling and scoping information). Figure 2.4 maps the APPRAISAL system:

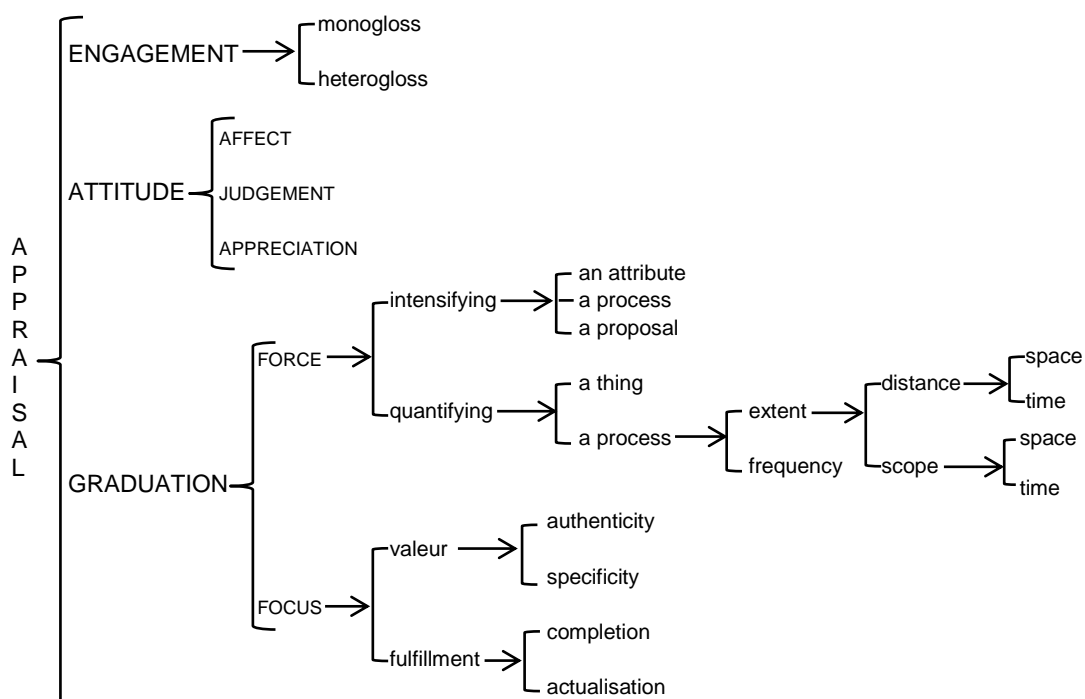


Figure 2.4: Model of APPRAISAL, based on Martin & Rose (2007, p.38) and Hood (2010, p.105)

The interpersonal power of APPRAISAL resources is widely agreed (for example, Feez, Iedema & White, 2008; Hood, 2005, 2006, 2010; Hood & Martin, 2007; Martin, 1996; Martin & Rose, 2008; and Martin & White, 2005). APPRAISAL resources are said to bring readers' feelings 'on-side' to create a 'sense of belonging' (Martin 2004 (p.341), 'create empathy and discernment' (Macken-Horarik, 2003, p.287), 'give value to social experience' (Coffin, 2006, p.141) and offer 'multi-dimensional' options for dynamic and varied textual voices, attitudes and values (Hood, 2010, p.25). Hood's (2010) comprehensive work on ATTITUDE in academic texts, including introductions, shows its value in identifying and explaining the creation of interpersonal meaning by the lexicogrammar, and contains many examples but does not analyse at depth across discourses. While Martin & White (2007) is a comprehensive account of the APPRAISAL system, it discusses APPRAISAL in relation to a range of popular, rather than academic, texts. Coffin (1997, 2006) illustrates APPRAISAL in history writing, though she focuses on school texts. Among these resources, graduation is presented as a significant source of interpersonal power in academic texts. According to Hood & Martin (2007, p.758), graduation, by flagging ATTITUDE as scaling FORCE and FOCUS, enables academic texts to fulfil crucial aims — appealing to readers while preserving 'objectivity', achieving positive positioning within communities, carving research spaces and promoting 'new realities'. Thus the thesis investigates the interpersonal effect of graduation in the dataset, as it occurs in contextual meanings to invoke ATTITUDE, typically as APPRECIATION OR AFFECT.

2.6 Contextual persuasion as prosody

When examining how interpersonal meanings work across texts, Halliday (1994, p.35) uses the term 'prosody'. He defines prosodies as 'continuous forms of expression' and as meanings that radiate, or spread, across clauses and across texts. Similarly, Hood (2006, p.38) reports a range of descriptions of prosodic action as 'the spread, sprawl, smear or diffusion of interpersonal meanings' across segments of text. Martin (1997, p.17) represents prosody as 'supra-segmental', spreading across texts 'more or less intensely as required'. The thesis therefore identifies prosodic interpersonal impacts as they are created by contextualisation. Prosodic impact may be quite covert, since prosody is processed below conscious awareness (Frazier, Carlson & Clifton, 2006, p.244), but examples in the literature indicate its power to create particular reading responses. Hood (2006, p.44) discusses examples of how prosodies work within clauses, across a clause complex, in longer stretches of text and retrospectively. Martin (1992, p.11 and pp.533-534) illustrates the spread of negative affect as clause prosody, though the prosody is generated within a nominal group. Martin & White's (2005, p.24, p.27) models of

saturating, intensifying and dominating prosodies show meanings accumulating and intensifying to specially position participants. However, those models display informal, spoken language. There is thus a need for analysis of formally written RA introductions that shows how contextualisation positions research.

There is clearly scope for detailed, systematic analysis of how contextual meanings in the dataset are placed, and how they *conglomerate* to generate interpersonal prosodies that direct reading. While this thesis focuses on ideational meanings, it argues that these meanings can function interpersonally, thus creating prosodies, and that these prosodies are most intense at points of argumentative risk. Thus, hereon, when referring to prosodic meanings ideationally, the terms *conglomeration* or *conglomerate* will be used. When referring to ideational meanings interpersonally, the term *prosody* will be used.

2.7 Summary: the need for systematic analysis

In summary, the literature supplies both opportunities and analytical tools for research into contextual meanings that engage and convince in RA introductions. The research is supported philosophically and ethically by genre pedagogy, and by SFL genre theory, which enables the introductions to be considered as staged, purposeful texts that seek to meet the expectations of particular academic communities. SFL provides the analytical tools for investigating how, and to what degree, persuasion is addressed by their structures, semantics, lexicogrammar and contextual language patterns, particularly contextual meaning patterns, which are examined from an ideational perspective. Transitivity, as an experiential system in the grammar of the clause, enables identification and scrutiny of contextual meanings as they create particular environments for understanding within participants, clauses and across clauses. APPRAISAL theory supplies ways of teasing out strengths and nuances in contextual meanings. There is thus a significant body of interpretive literature that can inform the study of contextualisation. However, as far as can be ascertained by this research, there is a deficiency of comprehensive systematic work that specifically analyses and traces the creation, strength and patterning of persuasive meaning by contextualisation across RA introductions, as representatives of the genres of their disciplines. In seeking to show the persuasive working of contextual meanings in this corpus of six RA introductions in the disciplines of inorganic chemistry, education and history, the research seeks to address the need for more systematic and informative analysis.

3 Theoretical location, typology and clause status

3.1 Location in the SFL framework

The thesis examines contextualisation within SFL theory (for example, Halliday, 1994; Halliday & Matthiessen, 1999, 2004; Martin & Rose, 2007). In SFL, language is organised hierarchically in rising levels of abstraction from its expression as strata interrelated by the means of realisation of language: discourse semantics realised by lexicogrammar. Figure 3.1 adapts Halliday & Matthiessen's (1999, p.5) tri-stratal model of language to indicate contextual meanings at the content plane. The dashed line represents the 'porous' interface between the strata, where semantics and lexicogrammar mesh to make meaning:

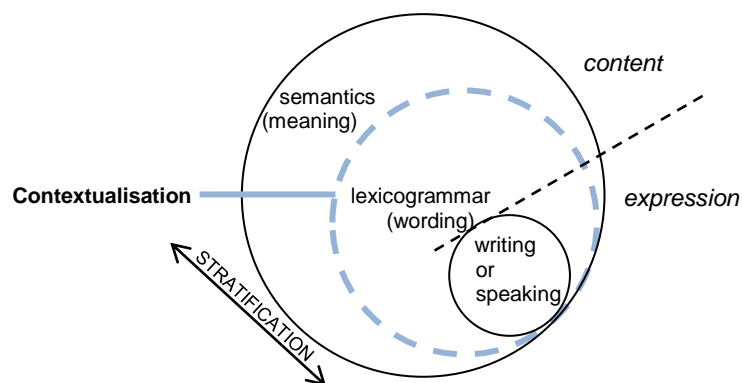


Figure 3.1: Contextualisation: semantics and lexicogrammar mesh at the stratal interface (after Halliday & Matthiessen, 1999, p.5)

In SFL, the resources for conveying meaning are provided by three metafunctions: ideational, for construing experience; interpersonal, for managing interaction and evaluation; and textual, for organising experiential and interpersonal meanings into discourse. Contextual meanings, combining semantics and lexicogrammar, are located in the ideational metafunction, as shown in Figure 3.2:

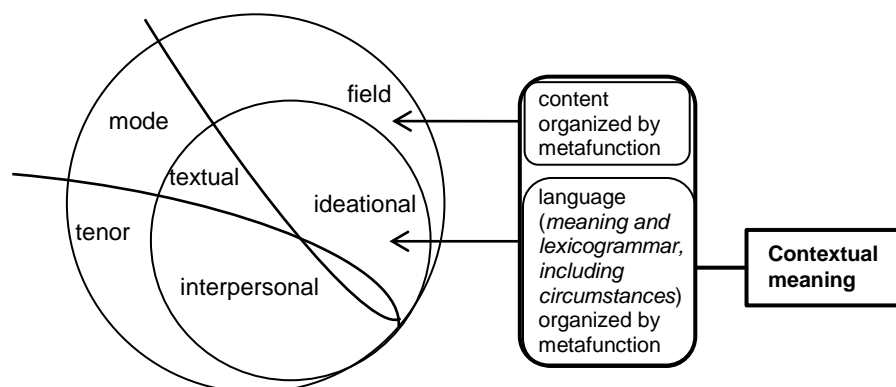


Figure 3.2: Location of contextual meanings (after Martin & Rose, 2007, p. 297)

The thesis thus studies contextual meanings occurring at the interface of semantics and lexicogrammar, within the ideational metafunction. It is concerned with contextual meanings as realised by circumstances, downranked circumstances in embedded clauses, circumstantial Attributes, processes infused with meaning (typically manner), Qualifiers of participants and also Adjuncts of temporality and frequency.

3.2 Classification of contextual meanings

The thesis recognises circumstances as a major means of contextualisation. They shape participants and construe values in participants and processes, despite their minor, peripheral and dependent clause status (Bloor & Bloor, 2004; Halliday & Matthiessen, 2004; Martin & Rose, 2007; Thompson, 2004). Their typological variety and multi-level, multi-function roles within the clause mean they can be strategic carriers of contextualisation that works interpersonally to position research, not only at clause level, but also, it is argued, below the clause, across stretches of texts and across discourses.

Inquiry into contextual meanings is therefore substantially informed by classification of the circumstantial elements (Halliday, 1985, 1994; Halliday & Matthiessen, 1999, 2004), in which circumstances are the prepositional phrases and adverbs of place, time and manner that construe, or represent, human experience. While the process is at the clause nucleus, participants represent people or other entities carrying out the process, and circumstances construe the world in which the action is taking place. Halliday & Matthiessen (1999, pp. 63-64) draw simultaneous distinctions between the different experiential relations construed by different circumstantial types. Simple circumstances, are typically qualities realised by adverbs, such as *easily* or *heavily*, including adverbs of time, such as *today*, Macro circumstances are prepositional phrases, which include a participant and in which the preposition is seen as a kind of process that contextualises its relationship to the other constituents, such as *in early twentieth-century classrooms*. They distinguish relations of construal between projection and expansion, and within expansion, between elaboration, extension and enhancement.

Figure 3.3 shows these circumstantial types and subtypes in terms of the relations being construed, with examples from the dataset. Where the dataset texts do not contain a realisation, the example is from Halliday & Matthiessen (2004):

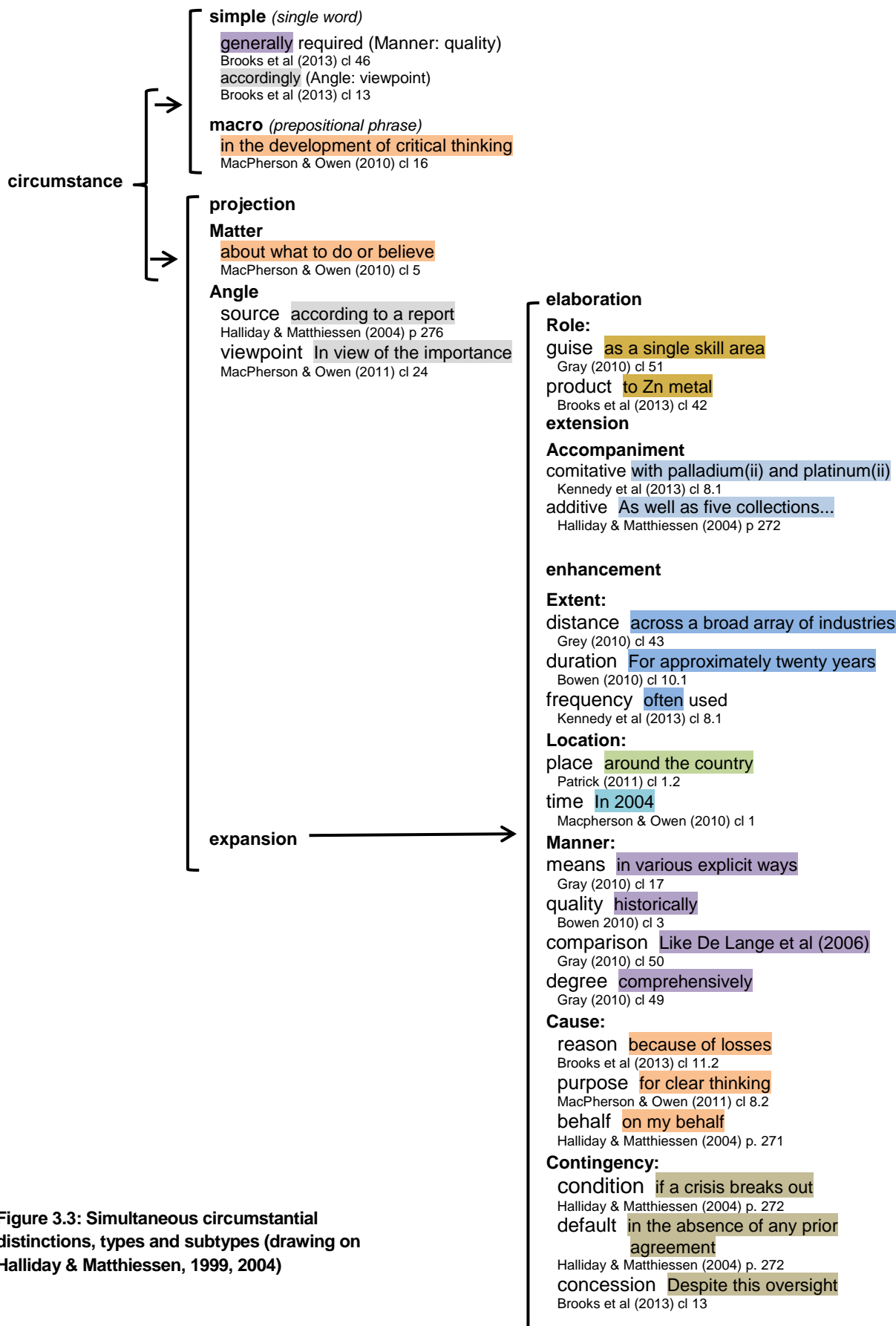


Figure 3.3: Simultaneous circumstantial distinctions, types and subtypes (drawing on Halliday & Matthiessen, 1999, 2004)

3.3 Possibilities for description of spatial and temporal contextualisation

It is suggested that fine-tuned assessment of contextual meanings is advantageous when assessing academic texts, particularly introductions, where they are significant in defining and scoping topics and issues, and in claiming research spaces and values. Therefore, when identifying contextualisation in the dataset texts (scientific, educational and historical) it is useful to analyse spatial contextual meanings as more than, simply physical or directional, and those of temporal location as other than merely date- or clock-defined.

In analysing spatial contexts, the thesis aligns with, and offers additions to, Dreyfus & Jones' (2008; 2011) proposals for classification of circumstances of Location: place. These are more delicate than traditional Hallidayan ideas (for example, Halliday & Matthiessen, 2004). It is suggested that more delicate classifications away from the concrete can give more insight into the interpersonal effects of contextual meanings raised by the circumstances and other lexicogrammatical resources.

With regard to temporal contextualisation, the thesis aligns with Coffin's (2006, p.106) view of the fundamental role of circumstances in temporal representation in the semantic temporal categories: setting events in particular temporal locations (Location: time); measuring Duration of an event (Extent: duration) and Phasing, that is, contextualising beginning, continuation and conclusion. Because temporality may vary in locatedness (clock/calendar time) and determinateness (boundedness/ measurability), the thesis postulates four kinds of temporal qualities that are significant in assessing the persuasive effects of temporal contextualisation. It is stressed here that these are not *types* of time, but temporal *qualities*. These examples of temporal quality are from the dataset texts:

1. Located: determinate; for example, *In 2004* (Macpherson & Owen, 2010, clause 1). This particular quality is calendar/clock. However, this example is not as precisely locatable or determinate as, for example, *between noon and 1pm*, or, *on June 28*.
2. Located: indeterminate; for example, *By the 1870s* (Bowen, 2010, clause 11). This example is conventionally locatable, yet is determinable, or bounded, only on one side, the end of the 1870s. It is significantly less determinate than *In 2004*. Full understanding of this quality and its contextual meaning depends upon the co-text.
3. Unlocated: determinate; for example, *Upon chelation* (Kennedy, 2013, clause 7). This quality of time is determinate upon an event, but is unlocatable, and thus semi-bounded. Timing (perhaps unknowable and even indefinable) is determinate only if associated with time what has a located, determinate quality, that is, date and/or clock.

4. Unlocated: indeterminate; for example, *Ultimately* (Bowen, 2010, clause 20). This highly unlocated and indeterminate quality means that representation of the future is unbounded. Its meaning and impact can be understood only within the co-text.

It will be shown that the contextual meanings realised by these temporal qualities, and their interpersonal effects, depend upon the context of their deployment.

3.4 Locations and resources of contextual meaning

This inquiry examines contextual meanings within the constituent of circumstance, and in downranked locations because, although the dataset texts generally exhibit grammatically simple clause structure, clause constituents are often densely constructed and complexly layered, with many embeddings. In addition, meanings are densely construed and many processes and attributes are infused with contextual meaning. In identifying circumstantial Attributes and processes infused with Manner, Halliday recognised the migration of meanings beyond the constituent of Circumstance, for example, describing distinction between participants and circumstances as 'blurred' (1985, p.144) and circumstance as Attribute as 'overlap' (1994, p.130).

The thesis thus examines and ranks contextual meanings as realised by:

- Circumstances (1a): prepositional phrases ranking as full-clause constituents alongside participants and processes, and downranked circumstances (1b) prepositional phrases ranking as circumstances in embedded clauses
- Qualifiers (2a) or Qualifiers-within-Qualifiers (2b) of nominal groups: these are also prepositional phrases, but are below clause rank
- Adverbial intensifiers within Attributes (2c)
- Infused processes (typically infused with Manner) at clause rank (3a) and downranked in embedded clauses (3b)
- Circumstantial Attributes, at constituent level (4a) and downranked (4b) and
- Adjuncts of relative time, frequency and comparison (5)

Figure 3.4 shows examples of contextualisation resources in the dataset, as they operate with respect to place, time, manner, cause and condition, at and below clause rank in circumstances, processes, circumstantial Attributes, Qualifiers and Adjuncts:

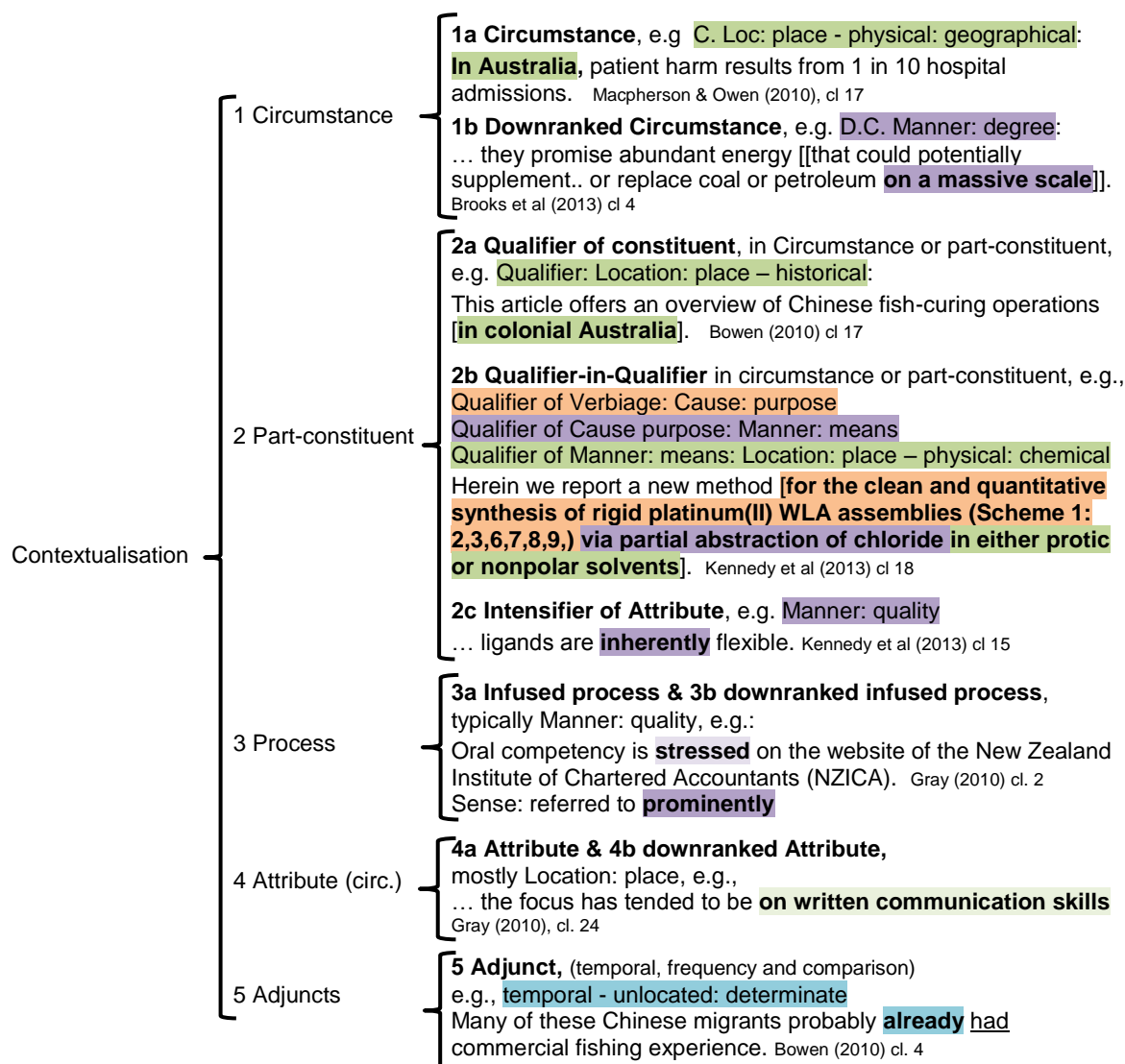



Figure 3.4: Resources of contextualisation

Analysis of the variety and positioning of contextual meanings in the dataset, at clause level and below, indicates strongly that, if examination were limited to constituent level, much contextual meaning would be neglected or undetected, particularly for participants. This study has found significant amounts of contextual meanings in Qualifiers of nominal groups. While the Hallidayan view is that Qualifiers are clauses or prepositional phrases in terms of a unit (for example, Halliday & Matthiessen, 2004), this distinction does not consider meanings in Qualifiers. It is not entirely new to examine meanings outside the

constituent of circumstance: Dreyfus and Jones (2008, 2011) analysed comprehensively across the clause when examining spatial meanings below constituent level, such as in Qualifiers and embedded clauses. Following Dreyfus & Jones (2008, 2011), this analysis looks at the meaning of the units in Qualifiers—and those meanings are contextual. Table 3.1 shows an example of multi-level contextualisation across a clause:

Table 3.1: Contextual meanings at and below clause rank, Gray (2010) clause 39

Circumstance	Qualifier and Qualifier-in-Qualifier		Circumstance	Process
Marked Theme Full clause constituent prepositional phrase	Part clause constituents prepositional phrases		Full clause constituent adverb of manner	Infused lexically infused process
... since McLaren's 1990 study,	the particular requirements [for communication skills ¹ in the New Zealand accountancy workplace ²]	have not been	comprehensively	examined.
1a C. Loc: time	Target	Pr: mat...	1a C. Manner: degree	...erial
Appraisal gr/force/quantify/ process/extent/ scope/time	for communication skills ¹ in the New Zealand accountancy workplace ²		Appraisal gr/force/quantify/ process/extent/scope/ space	3a Manner process: Sense: look at thoroughly
	2a Q. Matter			
	in the New Zealand accountancy workplace ²			
	2b Q. Loc: place- institutional: occupational			

Negative affect 

A marked Theme of Circumstance Location: time frames research in long-standing neglect. In the Target, the Qualifier and Qualifier-in-Qualifier precisely frame the research space; the negative Manner process stresses the qualitative deficiency and Circumstance Manner: degree creates a very wide area for this deficiency. Thus, contextual meanings realised by circumstances (in their clause roles and containing graduation), Qualifiers and Appraisal create negative affect: disquiet as prosody. The contextual meanings enhance ideation, injecting interpersonal impact to push the need for research.

The thesis thus takes the discourse semantic perspective to capture contextual meanings wherever and however they occur within the clause. It argues that analysis of the introductions in the corpus provides evidence that enhancement of ideation through contextualisation is a major conduit for interpersonal power and fulfillment of social purpose in these research article introductions. It will show that contextualisation is realised in circumstances, Qualifiers, in intensifiers of Attributes, and in processes at clauses level and below, and that contextual density (CD) significantly responds to argumentative stress.

4 Methodology

The research focuses on the role of contextual meanings in advantageously positioning discourse in RA introductions. It examines contextual meanings as they occur in circumstances at clause rank and downranked in embedded clauses, Qualifiers, intensifiers of Attributes, processes, and adjuncts. It also plots contextual density (CD) across the introductions in the dataset to indicate the relationship of conglomerate contextual meanings to occasions of argumentative stress.

4.1 Data selection

A small corpus of six research articles from three disciplines was selected to facilitate detailed examination of the introductions as whole sub-genres and to ensure sufficient commentary on the findings within the limits of this thesis:

Chemistry

Brooks, A.C., Basore, K., & Bernhard, S. (2013). Photon-driven reduction of Zn^{2+} to Zn metal. *Inorganic Chemistry*, 52, 5794-5800.

(Researches a new method of storing solar energy in easily oxidized metals. Describes photocatalysed reduction of Zn^{2+} to demonstrate feasibility for use as solar fuel.)

Kennedy, R.D., Machan, C.W., McGuirk, C.M., Rosen, M.S., Stern, C.L., Sarjeant, A.A. & Mirkin, C.A. (2013). General strategy for the synthesis of rigid weak-link approach platinum(ii) complexes: Tweezers, triple-layer complexes, and macrocycles. *Inorganic Chemistry*, 52, 5876-5888.

(Describes the weak-link approach to assembling complex molecular structures that can be manipulated between rigid and flexible states.)

Education

Gray, F.E. (2010). Specific oral communication skills desired in new accountancy graduates. *Business Communication Quarterly*, 73 (1), 40-67.

(Investigates the importance of oral communications skills for new accountancy graduates in New Zealand.)

Macpherson, K. & Owen, C. (2010). Assessment of critical thinking ability in medical students. *Assessment & Evaluation in Higher Education*, 35 (1), 45-58.

(Reports on a study of critical thinking skills in first-year students in a graduate medical course. Argues that these skills are essential for effective clinical decision-making.)

History

Bowen, A. (2010). The central role of Chinese people in Australia's colonial fishing industry. *Journal of Australian Colonial History*, 12, 97-118.

(Provides an overview of Chinese fish-curing operations in colonial Australia. Claims Chinese people generated greater wealth from this industry than previously believed.)

Patrick, R. (2011). An antidote to bookishness: local history, educational practices and colonialism in New Zealand primary schools, 1900-1940. *New Zealand Journal of History*, 45 (2), 192-208.

(Critiques approaches to researching pedagogy in early 20th century New Zealand.)

The principal criterion for the choice of article was publication in a peer-reviewed academic journal not earlier than 2010. This was to ensure some stylistic typicality and timeliness. The journals were found in searches of relevant databanks and the articles selected on the basis that their titles and abstracts indicated differences in field within the discipline. Introductions from the disciplines of history, education and inorganic chemistry were chosen as diverse research texts that, conforming to academic article conventions of function and structure, might indicate patterns and uses that would inform the purposes and viewpoints of this thesis. Full texts of introductions are in Appendix A (pp.156-164).

4.2 Analytical method and theoretical support

The articles were grouped by discipline. Analysis focused exclusively on the introductions, that is, introductory sections up to descriptions of the research method. Analyses at clause level and below included transitivity, periodicity, Thematic, process, and APPRAISAL (Halliday, 1985, 1994, 2004; Hood, 2010; Martin & Rose, 2007; Martin & White, 2005).

The clause analysis sought to identify not only contextual patterns but also linguistic features such as Themes and process changes that could indicate staging, since, as Hood (2010, p.31) notes, shifts within a text do not necessarily correlate with paragraph breaks and subheadings. Analysis was according to the SFL transitivity system (Halliday, 1985). Analysis extended below constituent rank to investigate how closely contextual meanings were bound within circumstances and downranked circumstances, and could shape other clause constituents as Qualifiers, Qualifiers-in-Qualifiers and Attributes.

The clauses in the dataset were analysed across all three metafunctions. However, since contextual meanings are ideational, transitivity was the principal means of analysis. Transitivity enabled identification and description of three kinds of clause constituents: participants, processes and circumstances. However, the gaze was not limited to the clause constituent, but ranged beyond and below to examine contextual meanings wherever they occurred (as flagged, for example, by Halliday, 1994; Halliday & Matthiessen, 2004; Martin & Rose, 2007).

Clause and structure analysis was carried out in line with theories of Thematic structure (Halliday & Matthiessen, 2004, p.65) and periodicity (Martin & Rose, 2007; Martin & Rose, 2008, p.36). Themes provide the departure point for information at clause level. Periodicity

refers to the operation of higher-level Themes above the clause that enable organisation and flow of information in peaks of meaning as a text unfolds, clause by clause. Since circumstances, when deployed as Themes, can contextualise transits, for example, from description to argument, by indicating shifts in field or crucial points, Thematic analysis was a factor in separating out introductions in two papers in the absence of sub-headings. However, in this thesis, the focus was always contextual meanings, across phases, within clauses, and within circumstances and other clause constituents, and their impact in positioning the discourse. Identification and consideration of meanings was generally according to Halliday's (1994) and Halliday & Mathiessen's (2004) classifications of circumstances. Further delicacy for classifications of circumstances of Location: place and Location: time was discussed as analysis revealed opportunities. (For transitivity and Theme analyses of each introduction, see Appendix B.)

A colour-code system was devised to indicate types of contextual meanings, wherever and however made, and to assist perception of varying density in patterning:

Extent Location: place Location: time Manner Cause
 Contingency Accompaniment Role Matter Angle
 Process infused with C. Manner: quality
 Attribute (circumstantial): spatial temporal accompaniment
 Temporal Adjunct Frequency Adjunct

(The key to colour-coded contextual patterning is also found on p. xiii.)

APPRAISAL analysis was also applied. This analysis drew principally on Martin & White (2005) and Hood (2010) to identify evaluative content in contextual meanings and their interaction with other resources in the texts to create interpersonal impact. The APPRAISAL system describes linguistic resources for interpersonal meaning. The APPRAISAL analysis and the color-coding indicated that contextual meanings can contain very liberal amounts of evaluation, especially the resources of appreciation and graduation, and that in the analysed texts these resources have significant impact. APPRAISAL analysis across the dataset is shown in Appendix D (pp. 259-311).

Contextual analysis built on Hallidayan classifications to more delicately describe circumstances of Location: space and Location: time. For concepts of Location: space beyond Hallidayan classifications, analysis drew on Dreyfus & Jones (2011), as depicted in Figure 2.3 (p.12). For temporal qualities, a matrix was constructed to indicate visual representation of locatedness and boundedness, as shown in Figure 4.1:

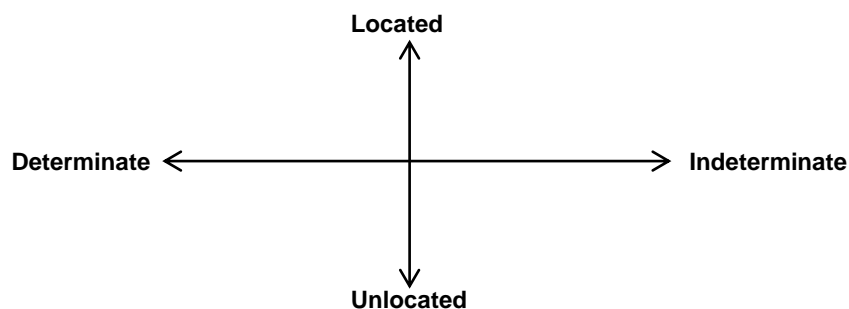


Figure 4.1: Matrix for visual representation of temporal qualities

In addition, density of the patterning of contextualisation (contextual density or CD) was considered. CD refers to four basic densities:

1. Sprinkling (contextual meanings are separated by other types of meaning realised by participants and processes);
2. Pairing (two contextual meanings together make 'two-dimensional' meaning);
3. Clustering (a group of three or more contextual meanings within a clause); and
4. Clumping (contextual meanings nest one inside the other, often in a string of Qualifiers, uninterrupted by other clause elements).

It is argued that the variance of CD across the texts may be considered as reflecting important strategic stakes at particular points, such as the need for audience engagement or precise definition of an entity. Analysis indicates that these points exhibit conglomerate contextual meanings. Analysis of the incidence and patterns of CD enabled comparisons that shed light on the interpersonal impact of contextualisation in shaping participants, facilitating argument and positioning discourses at points and overall.

The introductions were analysed for content functionality. This was to manage evident variations in staging and structure, and the disrupted logogenesis of some texts. The aim was consistent comparison of density when comparing patterning. In preliminary consideration of the tasks and purposes of different phases, content functionality analysis drew on Swales' (2004, p.244) Open a research option (OARO) model and Swales & Feak's (2012, p. 331) Create-a-research-space (CARS) model. However, it was felt that linguistic-based content analysis would enable simpler modeling of the functional areas that would better facilitate the aims of this thesis. Differences in phasing included logogenetic variations such as omitted or vestigial expression of functions, or disruption (such as short purpose statements within a literature review). It was decided to categorise the content of the introductions as purposeful phases, based ideationally and interpersonally on linguistic factors that identified the main purpose of that particular area. Logogenetically disrupted statements could thus be extracted and categorised. Linguistic

factors included changes in Theme, field focus and tense, and interpersonal language.

Five purposeful phases were identified:

- **Introduction to the topic:** the major purpose is audience engagement; the topic is introduced and research construed as relevant and important by evaluations of disciplinary or social relevance, beneficial potential, or problematic research or usage. This phase covers from clause 1 up to the first important evaluation.
- **Development:** takes account of the differing purposes of writers when developing information immediately following introductions to topic. Purposes varied from topic elaboration, contextual description, argumentative support for research, historical backgrounding, and evaluations of others' attitudes. Given this variety of purpose, it was felt that the general classification of *development* was more suitable than *background*.
- **Review of literature or of others' research:** only one introduction (Gray (2010)) contained a formal literature review. In the others, this phase was identified by literature Themes and extended literature references, by tense changes or by specific allusions, descriptions and evaluations of other research.
- **Research space:** this is indicated by re-presentation of the topic or research using Themes of need, failure, challenge, lack of attention, research absence or neglect, literature gap, or opportunity for study.
- **Purpose-value:** it was found that such statements may be characterised by marked Themes of C. Angle: viewpoint and C. Cause: purpose; by topical Themes referring to authors; by circumstances of Cause: purpose; and by purpose-indicative processes such as *examine*, *determine*, *aim*, or *report*. In some introductions, these statements did not form a separate phase, but were embedded in the literature review, background or arguments about research, or were themselves logogenetically disrupted. To allow for their special academic purpose and to facilitate study of their contextualisation, it was thought best to extract them and classify them as purpose-value phases.

Table 4.1 shows the breakdown of phases and summarises their contents.

Table 4.1: phases of the dataset

	'Hard' science		Social Science		Humanities	
	Inorganic chemistry		Education		History	
Content area	Brooks et al (2013)	Kennedy et al (2013)	M&O (2010)	Gray (2010)	Bowen (2010)	Patrick (2011)
Intro to topic	cl 1-7 Expansion of renewable energy; value of research on storing photon energy in solid fuel.	cl 1-5 Importance for WLA for discipline; advantages for methodology and outcomes, rarity.	cl 1-4 Importance of critical thinking skills in problem-based learning of 1 st year medical students.	cl 1-2 Concern about poor communication skills of accountancy graduates. Professional importance of skills.	cl 1-7 Recount of Chinese arrival & economic importance in Aust. early fishing industry.	cl 1-10 Preamble, background & evaluation of pedagogical approach to history teaching in NZ schools.
Development	cl 8-20 Argument: promotes metals, focuses on zinc: evaluates lightweight, efficient Zn/air battery as <i>remarkable</i> .	cl 6-15 Elaboration on WLA; raises air sensitivity as problem; segues to work on expanding WLA; evaluates ligand flexibility as <i>shortcoming</i> .	cl 5-11 Critical thinking definition and description. 15-20 Importance of critical thinking .	cl 3-5 Evaluation of absence of formal studies on specific skills. Asks what are implications.	cl 10-14 Elaboration of Chinese fishing, curing, consumption & exports in US in 1850s-70s; evaluates industry as economically significant.	cl 11-12 Comment & interpretation of attitudes of education historians to research into 'colonial knowledge'.
Reviews of literature or others' work	cl 33-37 Reviews two other approaches to photo-reduction of metals.		cl 12-14 Overview of recent research; literature themes.	1: cl 11-17 2: cl 40-43 Formal literature review in 2 sub-phases	cl 15-16 Comments on US documents and evidence correlating with Aust. research.	1: cl 16-18 2: cl 20-24 2 sub-phases: review of recent studies & critique of research focus.
Research space	cl 21-29 Argues need for efficient photosensitizer, discussion of reactions and evaluation of benefits.	cl 16-17 Asserts general modular route to certain complexes is desirable but 'typical' work has failed so far'.		cl 38-39 Research gap; oral communications skills needed in accountancy have not been fully examined.	cl 8-9 Chinese activity in Aust. colonial fishing industry has not received same attention as in US, but mirrors US.	cl 14-15 Research into role of knowledge in furthering colonialism yet to be taken up
Purpose-value	cl 30-32 Claims work as unique and demonstrating practicality.	cl 18-20 Reports new method, previews results, makes value claim	cl 21 Claims appropriate to test students' critical thinking skills.	cl 9-10 Purpose (seeks to investigate) and objectives	cl 17-20 Overview, preview of organization and thesis statement.	1: cl 14 Extend critique 2: cl 19 Examine 3: cl 25 Return textbooks to 'proper place'.

Appendix D (pp. 259-311) contains the comprehensive content analysis, including phases, linguistic analysis by clause and contextual classifications.

5 Creation of interpersonal impact by contextual meaning

It is argued in this thesis that complex contextual meanings within the clause and across discourses not only construe the world experientially, but also constantly operate within the interpersonal realm to encourage, or even compel, sympathetic reading.

Contextualisation demonstrates the ‘complementary functions of language: construing experience, and enacting social purposes’, ‘driven’ by the lexicogrammar (Halliday and Matthiessen, 1999, p. xi). Further, construal of meaning is active, a dynamic two-way realisation between the experience ‘creator’ (or writer) and its ‘understander’ (or reader). There is not only *activity*, but also *choice*. Halliday and Matthiessen (2004, p. 369) observe: ‘... we choose between augmenting a clause “internally” by means of a circumstantial element, and augmenting it “externally” by means of another clause in a complex ... to do with how much textual, interpersonal and experiential semiotic “weight” is to be assigned to the unit’. Thus, contextual meaning begins with purposeful lexicogrammatical choices within clauses, leading to patterns of contextualisation across clauses, or phases, or discourses. In the dataset of this thesis, contextualisation is sometimes sparse and sometimes dense and its interpersonal effects sometimes subtle and sometimes intense, yet it is always functional and persuasive, always working to fulfil the textual purpose.

It is maintained here that convincing readers of research value and relevance is the crucial priority for introductions, and that strategic contextualisation is essential in achieving this. Persuasion in academic texts depends to a degree on what Hyland (1999, p.341) calls the ‘strategic manipulation of various rhetorical and interactive features’. Analysis of contextual meanings in the dataset in this thesis strongly suggests that contextualisation is among these rhetorical and interactive features and that persuasion is significantly facilitated by the contextual choices that construe research and engage and align the audience.

The thesis examines contextual meaning in circumstances, Qualifiers, Attributes, processes and temporal adjuncts. It argues that contextualisation enables settings for people, events and processes to be purposefully built for maximum sympathetic interpersonal effect. Meanings about a participant can be *attached to*, or *embedded in*, the participant, instead of being placed in another clause. This weight of information and contextual meaning can be subtly, sometimes heavily, packed into the clause, often at multiple levels.

It is argued that in this way, the reading of a text can extend from the experiential into the interpersonal. Interpersonal extension occurs lexicogrammatically at constituent level and below and semantically across texts by lexical and typological choice and by proportion, positioning and patterns of contextual meanings. In clauses, circumstances, Qualifiers, Attribute intensifiers and processes locate and modify participants and processes to compel particular understandings. Across the dataset texts, strategic patterning of contextual meanings accumulates to create a persuasive semantic climate in the absence (or near-absence) of overt interpersonal language. It will be argued that beyond the clause, contextual patterning realises interpersonal impact at strategic points in a discourse, across stretches of discourse and across discourses. Creation and operation of contextual meanings within the clause will now be described.

5.1 Interpersonal impact of contextualisation within the clause

Within the clause, contextual meanings operate in complex ways and at different levels: that is, in addition to occurring at constituent or group level, they are found in embedded clauses, in Qualifiers of nominal groups and infused in processes. It is argued that circumstances are significant in making contextual meanings at clause level, despite their grammatical dependency and geographical location at the clause periphery. Status as a clause constituent allows circumstantial flexibility in movement around the clause to maximise meaning potential. This status enables circumstances to be marked Themes, so that the contextual meanings they realise may dominate clauses and radiate through texts.

Contextual meanings can also conglomerate to enable opportunistic evaluative impact, across clauses or in shaping constituents as Qualifiers and Qualifiers-in-Qualifier. In addition, they can be tightly packed with evaluative lexis via the resources of APPRAISAL (Hood, 2010; Martin & White, 2005), and intensify when within an Attribute or infused in a process. The carrying/containment role includes the infusion of processes, typically with circumstances of Manner: quality, through which processes carry evaluative meanings within themselves (Hood, 2010).

5.1.1 Impact of contextualisation in marked Themes

The potential for high interpersonal impact within the clause is particularly marked when a contextual meaning is placed at the front of a clause as a marked Theme, giving it a strong framing role. By virtue of this preeminent clause position, marked Themes prioritise information, within themselves, across clauses and even across discourses. The marked Theme is a global information organiser, achieving a peak of textual and meaning prominence (Martin & Rose, 2008, pp.191-2), signaling shifts in field and new phases of discourse and compelling particular understandings across texts or stretches of text. It is thus suggested here that marked Themes may operate as dominating prosodies (Martin & White, 2005, p.20), influencing meanings that influence other meanings. Such properties are valuable in academic texts, in which the management of stance and engagement is expected without overtly subjective language (Hood, 2010, p.1). An example of a marked Theme operating as a strong frame that has prosodic effect across a clause that extends across a discourse, is in Kennedy, clause 1:

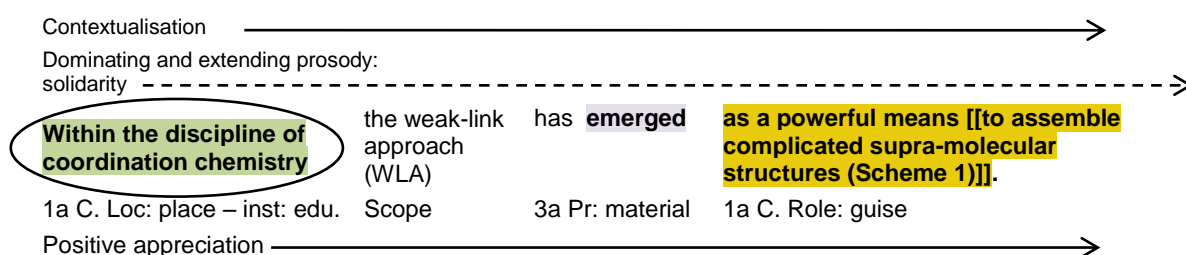


Figure 5.1: Contextualisation by a marked Theme, Kennedy (2013) clause 1

Figure 5.1 shows the marked Theme of C. Location: place framing the introduction. As a high-energy pulse of contextual meaning of professional solidarity and status, it dominates the point of departure and globally not only with respect to information, but also by demanding attention from the specialist audience across the discourse while obviating the need for direct address. The effect can be gauged by repositioning the circumstance; this does not change the experiential meaning but robs the clause of its interpersonal impact:

The weak-link approach (WLA) has emerged **as a powerful means [[to assemble complicated supramolecular structures (Scheme 1)]]** **within the discipline of coordination chemistry.**

The effect of repositioning demonstrates the special nature of circumstantial flexibility—the ability to be placed for best contextualisation.

Marked Themes also experientially enable contextualisation that works backwards to summarise previous argument and information, with strong interpersonal effect, shown in Macpherson's conclusion, clause 21, in Figure 5.2:

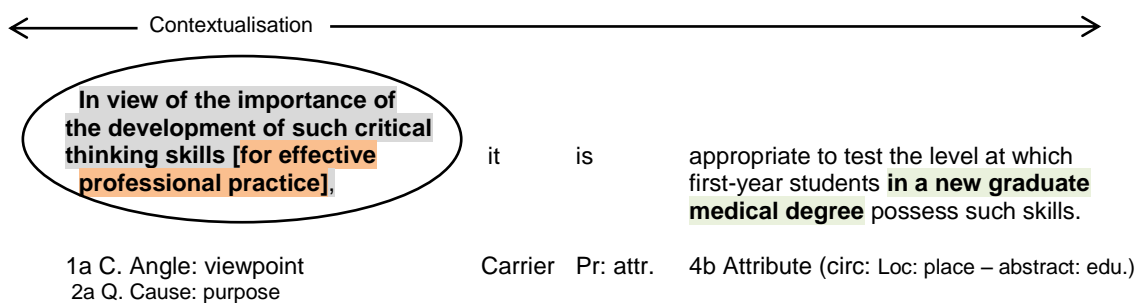


Figure 5.2: Two-way contextualisation by marked Theme, Macpherson & Owen (2010) clause 21

Figure 5.2 shows the marked Theme of C. Angle: viewpoint and Q. Cause: purpose that summarise previous argument and compel acceptance of the assertion in the clause. This two-way contextualisation mandates understanding of the research as highly important and pushes a positively persuasive conclusion.

5.1.2. Conglomeration of contextual meanings

Contextual meanings may gain interpersonal power from conglomeration. It is argued that in contextual conglomeration, experiential meanings accumulate to create interpersonal effect— demonstrating ‘functional complementarity’ between the experiential and the interpersonal (Halliday, 2009, p. 263). It is stressed here that what is being considered is not conglomeration of interpersonal meaning, but of experiential meaning that builds interpersonal effect in constituents and across clauses and that can radiate across texts.

An example of intense contextualisation by conglomerate meanings is in Kennedy clause 18, in Figure 5.3:

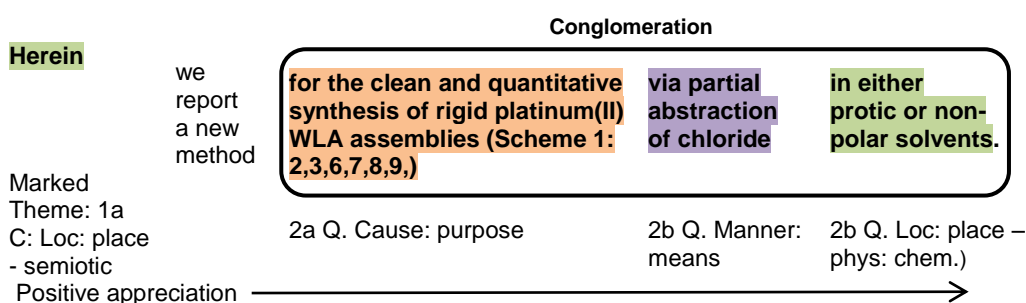


Figure 5.3: Conglomeration create positive appreciation of research as prosody, Kennedy et al (2013) clause 18,

The clause begins the purpose/value phase that concludes Kennedy’s introduction. Interpersonally, the marked Theme *Herein* is a ‘pay attention’ cue and builds expectation. The conglomerate contextual meanings, a cluster of Qualifiers, lock meanings into the a

new method. Their impact intensifies as the sequence proceeds. The meanings shape the usefulness of the research achievement, with growing precision, below the clause and thus beyond the level of argument. This contextual precision not only construes authority and conviction but upgrades positivity about the research. Positive appreciation is generated as prosody, even though there is only one evaluation item (clean = high positive appreciation). So, it can be concluded that the construal of expectation, authority and positivity arise from the arrangement and density of contextual meanings. Further, without those meanings, the clause becomes uninformative and interpersonally ineffectual: ... we report a new method...

Thus, it is suggested that the potential interpersonal power of contextual meaning may seem most evident at constituent level, where circumstances can create marked Themes that dominate contextualisation across clauses, or even across texts. However, as indicated in Figure 5.3, contextual meanings as Qualifiers and Qualifiers-within-Qualifiers can be embedded within constituents, conglomerating to shape and define. The thesis argues that this may especially occur at strategic points in a discourse, for example, when a definition is required. As Figure 5.3 shows, in an RA introduction, such sensitive points might be reached at statements of organisation, purpose and previews of findings, where there is a degree of risk in satisfying objective description and critique while summarising or progressing to a new phase or stage.

5.1.3 Evaluation in contextual meanings

It is argued that contextual meanings realised as circumstances and Qualifiers can be substantially loaded with evaluation, and processes infused with contextual meaning, typically Manner: quality. This ability to carry evaluation can bring intense interpersonal power to particular clauses as a tactic in moves. Analysis of evaluation draws on Martin & White (2005) and Hood (2010).

An example of contextual meaning containing evaluation, with tactical effect, is provided in Macpherson, clause 4.

4. Research **into the success or otherwise of learning and teaching strategies associated with the development of critical thinking ability** is important both **in terms of education efficiencies and in terms of producing capable medical graduates.**

This clause closes the phase of introduction to topic. Its contextual meanings contain strongly positive evaluative choices, indicated in Table 5.1:

Table 5.1: Resources of evaluation, Macpherson & Owen (2010) clause 4

Lexis	Appraisal
success	appreciation: high positive
otherwise	appreciation: medium negative
important	appreciation: high positive
both	gr/force/intensify/attribute
efficiencies	appreciation: high positive
capable	appreciation: high positive

The effect of evaluation within the contextual meanings builds on the items *important* and *both*. The interpersonal result is acceptance of the research as highly justified and important.

Evaluations of Manner are major means of contextual meaning. Hood (2010, p.87) describes Manner as 'in a sense, intrinsically interpersonal'. Evaluation may be provided in contextualisations of Manner that occur as prepositional phrases by means of modifiers of noun groups, or it may be carried by adverbs of 'positional value' (Stillar, 1998, p.37) tintured with the writer's own viewpoint. An example of interpersonal impact generated by a downranked Circumstance of Manner, containing evaluation, is in Brooks, clause 4:

4. ... since they [*solar power schemes*] promise abundant energy
 [[that could potentially supplement // or replace coal or
 petroleum **on a massive scale**]].

The meaning contextualises an expansive and prosperous future for solar energy.

Resources of evaluation are shown in Table 5.2:

Table 5.2: Resources of evaluation, Brooks et al (2013) clause 4

abundant	gr/force/quantify/thing
could	modalisation medium probability gr/focus/fulfillment/actualisation
potentially	modal adverb gr/focus/fulfillment/actualisation
massive	gr/force/quantify/thing

Interpersonally, the clause plants expectations with *abundant* but achieves caution by teaming the modal *could* with the modal adverb *potentially*. Despite the hedging, *massive* in *on a massive scale* (D.C. Manner: degree), substantially magnifies *abundant*. D.C. Manner: degree is thus a container of highly quantitative evaluation that is popular rather than academic and, indeed, provides the notable persuasive impact in this clause.

Infusion of processes with evaluation is a common means of construing value in academic texts. In infusion, a circumstance (typically Manner: quality) is lexically blended into a process to create one lexical unit. Contextually, manner enhances or intensifies the process so that it can shape particular understandings, not only of the process itself but also of the participant that generates the process. The strength of these understandings

depends on the strength of the infused meaning: attitude may be flagged (indicated strongly) or afforded (indicated less strongly), and, when explicit, inscribed appreciation, affect or judgement (Hood, 2010, p.92; Martin & White, 2005, p.67). In academic texts, infused meaning appears to be most often realised by citation processes. These processes shape the reader's understanding of the writer's attitude to the cited text. Choices of such processes result in a greater or lesser interpersonal impact. For example, *suggest* (state *tentatively* = affording attitude) signals more caution and has less impact than *declare* (state *emphatically* = flagging attitude), while *failed* is explicit and may inscribe judgement or appreciation, depending on the co-text.

5.1.4 Commitment of contextual meaning potential

An important function of contextual meanings is their ability to commit more meaning potential in one instance of language compared with another (Hood, 2008, p.356). It is argued here that contextualisation commits significant meaning potential that achieves interpersonal impact by framing and shaping meanings in and about constituents and across clauses, especially if the contextual meanings are densely arranged or consist of or contain evaluation.

For example, in Gray clause 37.1, contextual meaning provides a high degree of meaning commitment, in response to the risk posed by the need to acknowledge the quality of a research study without allowing this acknowledgement to impinge on Gray's research space. Substantial meaning potential is committed within the Scope, *13 individual skill areas*, in Table 5.3:

Table 5.3: Commitment of meaning potential, Gray (2010), clause 37.1

[[While	Morgan (1997)	identified	13 individual skill areas [within oral communication activities in account- ancy in a study of accounting professionals in England and Wales]] ...
	Actor	Pr: material	Scope

First, commitment comes from the Numerator, Epithet and Classifier in the nominal group, shown in Table 5.4:

Table 5.4: Commitment of contextual meaning potential in nominal group, Gray (2010), clause 37.1

Nominal group			
13	individual	skill	areas
Numerator	Epithet	Classifier	Thing
gr/force/quantify/thing	gr/focus/valeur/specificity		

Further commitment comes in the succession of Qualifiers with meanings of Location: place, as related instances of language, in Table 5.5:

Table 5.5: Contextualising by commitment of meaning potential, Gray (2010) clause 37.1

Qualifiers of Location: place			
[within oral communication activities]	in accountancy	in a study of accounting professionals	in England and Wales]
2a abstract	2b abstract	2b semiotic	2b physical: geographical

The effect of these dense, prosodically arranged contextual meanings in the nominal group and as Qualifiers is very specific shaping of *areas*. The high degree of commitment in clause 37.1 that positively frames Morgan's (1997) text is important. It prepares the reader to accept discarding of Morgan's research in clause 37.2. This is achieved by further commitment, in contextualisation by the circumstance of Manner: quality, sharpened by the Epithet *specific*, a graduation item, in Table 5.6:

Table 5.6: Contextualising, Gray (2010) clause 37.2

his study	is	exceptional	in its specific ¹ focus.
Carrier	Pr: attributive	Attribute	1a C. Manner: quality 1 gr/focus/valeur/specificity

The impact of the commitment is evident if pre-Modifiers and circumstances are omitted, leaving the evaluation unframed and, while still logical, lacking much impact:

While Morgan (1997) identified areas ... his study is exceptional in its focus.

Therefore, contextualisation through commitment of meaning potential, as accumulated meanings and through evaluation, may be seen as effective in creating interpersonal impact within clauses and constituents.

5.2 Patterning and the interpersonal effect of contextual density (CD)

It is argued here that contextual meanings have interpersonal effect through density and patterns. Contextual Density (CD) refers to the concentration and proportion of contextual meanings across a text or segment of text, whether delivered in whole- or part- clause constituents, or by lexical infusion of a process. It will be seen that in the dataset, the proportion, or density, of contextual meaning can vary with moves, phasing and priorities. This thesis suggests that CD variation in the dataset is generally proportionate to the level of risk with respect to reader positioning. Issues such as accuracy and precision seem more significant in some statements than in others, but the higher the argumentative stakes, the denser contextualisation appears to be. Thus, contextual meanings can accumulate in patterns that function interpersonally across phases of discourse and across discourses to enable successful navigation of the argumentative challenges of engagement and precision, and to align readers with the research purpose. This thesis

classifies CD according to patterns found in analysis of the dataset— sprinkling, pairing, clustering and clumping. Conglomeration is associated with clustering and clumping. CD across the texts is graphed in Appendix H (pp. 325-330). CD types are explained below.

5.2.1 CD Type 1: Sprinkling

In sprinkling, contextual meanings constitute a minor proportion of the meaning in a clause, or across several clauses, or even across a phase, because contextual meanings are separated by meanings realised by participants and processes. Sprinkling can vary; it may be sparse or more generous. It tends to be evident when a statement is broad, generally evaluative, unlikely to be challenged, or based on commonsense or real-world understandings, that is, when there seems relatively little at risk at that point.

For example, Brooks commences investigation into photon energy storage with broad real-world claims formulated to build interest and position the research as worthwhile, but not central to the actual scientific investigation. Thus, in academic terms, the risks in these opening clauses are relatively light. CD is sprinkled in clauses 1-4 (though there is a pair in clause 2), Table 5.7:

Table 5.7: Contextual sprinkling, Brooks et al (2013) clauses 1-4

Cl	Text	Rank	Contextualisation
1	Human energy consumption has been rising for decades .	1a	C. Extent: duration
2	The resulting economic conditions and the environmental consequences [of this growth] will provide an opportunity for renewable energy applications [[to thrive]] .	2a	Q. Cause: purpose
		3b	Manner process
3	Many direct and indirect solar power conversional schemes are currently the subject of intense research	5	Temporal adjunct. Loc: time – loc: indet
4	since they promise abundant energy [[that could potentially supplement // or replace coal or petroleum on a massive scale]].	1b	D.C. Manner: degree

5.2.2 CD Type 2: Pairing

Pairing refers to two successive contextual meanings that result in a ‘two-dimensional’ meaning, that is, a meaning with two parts. Although pairing can occur in a succession of clauses or in a phase characterised by sprinkling (such as shown in Table 5.7), it indicates a relatively important meaning is at stake at that particular place. Precision is required, to define, describe or locate. Paired contextual meanings can provide a significant proportion of a clause or segment of text, as shown in Brooks, clause 35, which is part of justifying the research process. Contextualisation comes through two Qualifiers, seen in Table 5.8:

Table 5.8: Contextual pairing, Brooks et al (2013) clause 35

35	Rank	Contextualisation
A dissimilar approach <u>is</u> the reduction of Zn ²⁺ [to Zn metal by solar thermal ZnO decomposition] .	2a	Role: product
	2b	Q. Manner: means

An example of paired meanings addressing the task of discounting other research is shown in Gray's literature review, clause 41. Here also contextual meaning, provided by C. Role: guise and Q. Location: place, takes up a significant part of the clause, in Table 5.9:

Table 5.9: Contextual pairing, Gray (2010) clause 41

41	Rank	Contextualisation
Oral and written communication <u>was again presented</u> as a single skill area [within the seven].	2a	C. Role: guise
	1a	Q. Loc: place – abstract: generic

5.2.3 CD Type 3: Clustering

Clustering refers to a group of three or more contextual meanings in a clause. Clustering indicates complexity or importance that must be represented multi-dimensionally, a sign of higher argumentative importance at a particular point. Clustered contextual meanings may include pairs and can occupy a significant proportion of a clause. As an example, clustering in Brooks clause 5 occurs as a pair of Qualifiers and a single Qualifier, facilitating definition and evaluation of the research in terms of potential and purpose. The contextual meanings occupy the greater part of the clause, in Table 5.10:

Table 5.10: Contextual clustering, Brooks et al (2013) clause 5

5	Rank	Contextualisation
Consequently, [[storing photon energy as chemical potential in solid fuels]] <u>is</u> of particular interest // for replacing hydrocarbons for mobile applications .	2a	Q. Role: guise
	2b	Q. Loc: place - physical: chemical
	1a	C. Cause: purpose

In Kennedy clause 7.1, effective contextualisation of a vital chemical process requires a cluster of meanings of time, place and role, another pair and a single, in Table 5.11:

Table 5.11: Contextual clustering, Kennedy (2013) clause 7.1

7.1	Rank	Contextualisation
Upon chelation to a d⁸ metal center (e.g., rhodium(I), palladium(II)) and in the absence of coordinating anions , the favoured <i>cis</i> geometry of the phosphine ligands <u>promotes</u> the clean formation of bimetallic macrocyclic assemblies ...	1a	C. Loc: time - unlocated: determinate
	2a	Q. Role: product
	1a	C. Loc: place – abstract

5.2.4 CD Type 4: Clumping

In clumping, contextual meanings nest, uninterrupted by other elements in a clause. Clumping, at or below clause constituent level, constitutes very high CD and is associated with conglomeration. Clumping indicates a vital point that requires narrowed focus, precise definition, intensification or accumulation of significant meanings to manage a critical statement, move or evaluation. In this framing, or careful shaping, of meaning at strategic points, clumped contextual meanings are strategically interpersonal, directing and angling presentation of information, and can create strong persuasion.

Conglomeration for maximum persuasion is shown in Kennedy clause 18, where it enables management of complexity and precision in contextualising the research purpose and value (see Figure 5.3). Another example is in Patrick clause 11, where conglomerate contextual meanings occupying most of the clause begin establishment of the research deficiency, in Table 5.12:

Table 5.12: Conglomeration: contextual clumping, Patrick (2012) clause 11

<p>Recently¹, several historians have attempted to shift the context [of the historical debate over the connections² between knowledge and colonialism³ in New Zealand⁴] from one⁸ [[almost exclusively⁵ devoted⁶ to examining the ‘textual outputs’ of colonial knowledge⁷]].</p>
<p>¹ 5 Adjunct: temporal (located: indeterminate) ² 2a Q. Matter ³ 2b Q. Loc: place – abstract ⁴ 2b Q. Loc: place – physical - geographical ⁵ 1b D.C. Manner: quality ⁶ 3b Manner process ⁷ 3b Manner process ⁸ 1a C. Loc: place – abstract (i.e., from one ... colonial knowledge)</p>

Figure 5.4 shows the meanings in sequence. It is suggested here that as the sequence proceeds, it creates rising expectations about development of the argument, and affect as disquiet: uneasy about existing research attitudes:

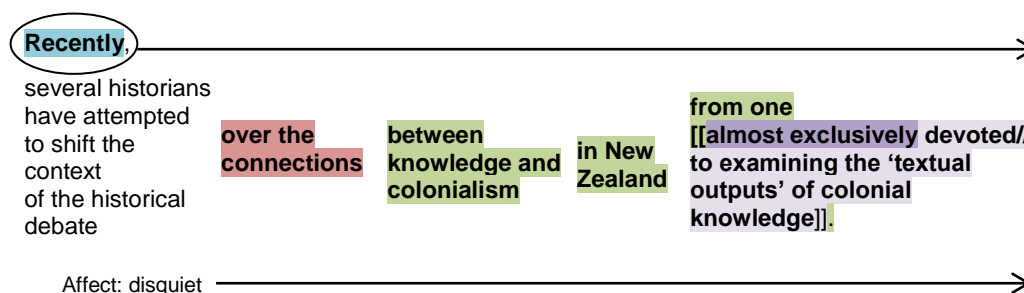


Figure 5.4: Conglomerate contextual meanings as a sequence, Patrick (2012) clause 11

The temporal Adjunct *Recently* refocuses the reader from the preamble in clauses 1-10 into Patrick’s centre concern, expressed in the core message. It acts like a marked Theme. Then, in the conglomerate meanings, the first three meanings are as Qualifier and Qualifiers-in-Qualifier, but the final is at clause rank as a circumstance of Location: place embedded with a downranked circumstance of Manner: quality and processes infused with Manner: quality. The conglomeration of contextual meanings, laced with evaluation as meanings of manner, reflects the tension in aiming to appropriately situate research, politically and historically, at the transit from recount to argument. It is suggested that the conglomerate contextualisation in this clause is an effective example of intense CD reflecting a high-risk point in a discourse.

5.3 Summary of interpersonal impact created by contextual meanings

Preliminary analysis of contextual meanings at clause level and below strongly suggests complex and significant operation to achieve interpersonal impacts. Within clauses, as ranking constituents, contextual meanings not only enable strategic settings for understanding participants, but also can be attitudinally loaded and intensified prosodically and through gradable evaluation. Below the clause, as Qualifiers and Qualifiers-within-Qualifiers, contextual meanings shape participants, directing very precise understandings of them. At the heart of the clause, through infusion, the circumstance of Manner can insert contextual meaning into processes. Contextualisation also is achieved by the commitment of meaning potential to a clause or constituent, through accumulation of meanings and through evaluation. In addition, CD patterning of sprinkling, pairing, clustering and clumping reflect stresses in argument and indicates contextual meanings can create strong interpersonal meaning at strategic points in a discourse. The action of contextual meanings in creating interpersonal impact will now be explored in terms of their roles as clause constituents and below the clause, the variable patterning of their density across the discourses of the dataset, and their content of evaluation.

6 Analysis of contextual meanings in the dataset

The analysis seeks to show how contextual meanings in the dataset work interpersonally to engage specialist readers and to ensure positive appreciation of research projects. The thesis investigates contextual meanings realised lexicogrammatically by circumstances, Qualifiers of constituents and processes. Circumstances are significant creators of contextual meanings in multiple ways— by experientially enabling strategic design of research topics and their worlds; strategically organising information when deployed as marked Themes; achieving dialogic engagement through prosodic accumulation of meaning and impact; and delivering evaluation. Below the clause (and thus below the level of argument), Qualifiers and Qualifiers-in-Qualifiers shape constituents by inseparably attaching contextual meanings that position the reader. Finally, at clause rank, and in qualifying clauses, processes also contextualise when infused with circumstantial meaning, typically of Manner: quality. The analysis also suggests that CD reflects particular high-stakes points as each text unfolds.

The six texts in the dataset are paired by discipline (inorganic chemistry, history and education.) The texts are analysed in phases: introduction to topic, development, reviews of literature or other research, research space, and purpose/value. For a summary of these phases, see Table 4.1 (p. 30). For simplicity and avoidance of unnecessary repetition, texts are referred to solely by principal author and publication dates are omitted, except in tables and figures. To facilitate visual clarity, especially in patterning, clause boundaries and citations are mostly omitted from tables and figures. Colour coding of contextual meanings is as specified on p. xiii.

6.1 Introductions to topic phases

It is argued that contextualisation is crucial in enabling research article introductions to meet the challenge of engaging and aligning critical specialist readerships. This thesis views these introductions as accompanying title and abstract in a 'nucleus' of informational and persuasive strength, akin to White's (1997, p.121) envisioning of the informational strength of the nucleus of the hard news story. Here, the introductions are seen as supporting promises made in title and abstract by accompanying topic statements with a strong persuasive message that the research is 'important, interesting, problematic or relevant' (Swales & Feak, 2012, p. 331) and with what Lovitts (2007, p.3) calls the

'hook'. The 'hook' is viewed here as the first important evaluative statement, a highly positive, highly *positioning* topic evaluation that is an essential component of an introduction. Yet, while requiring interpersonal vigour, these clauses need also to 'reconcile objectivity and critique' (Hood, 2010, p. 2). Thus, it is suggested that these 'nuclear' clauses represent a unique high-stakes area for the whole of the discourse. Analysis of their contextual resources strongly indicates that contextualisation plays a basic role in managing argumentative risk and fulfilling social purpose.

6.1.1 Chemistry Introductions to topic: Brooks et al (2013) and Kennedy et al (2013)

CD patterning in Brooks and Kennedy, shown in Table 6.1, suggests different priorities and audience approaches. CD is very high in Kennedy's five clauses; three contain clusters, one has a single circumstance and one has none. CD is significantly lighter in Brooks, where there are three clauses with a single circumstance, two with pairs and two with clusters. In Kennedy contextual meanings portray the research as highly technical and significant, while in Brooks the topic is contextualised as more popular and less specialised, possibly reflecting different risks associated with different audiences.

Table 6.1: Patterns of contextual meanings in inorganic chemistry introductions to topic

Brookes et al (2013)	Kennedy et al (2013)
1 Human energy consumption has been rising for decades .	1 Within the discipline of coordination chemistry the weak-link approach (WLA) has emerged as a powerful means to assemble complicated supramolecular structures (Scheme 1) .
2 The resulting economic conditions and the environmental consequences of this growth will provide an opportunity for renewable energy applications to thrive .	2 Unlike the symmetry-interaction approach (SIA)⁷⁻¹¹ and directional bonding approach (DBA),¹²⁻²⁶ which lead to static, rigid structures , the WLA results in dynamic complexes that may be toggled between rigid and flexible states via the introduction and removal of elemental anions or small-molecule "effectors" .
3 Many direct and indirect solar power conversional schemes are currently the subject of intense research	3 Functional units such as catalytic sites, redox-active moieties, host-guest recognition sites, and fluorophores may be incorporated into the ligands in such a way that the structural change results in a marked change in the properties of the complex .
4 since they promise abundant energy that could potentially supplement or replace coal or petroleum on a massive scale .	4 Allosteric regulation of this type resembles the behavior of many enzymes
5 Consequently, storing photon energy as chemical potential in solid fuels is of particular interest for replacing hydrocarbons for mobile applications .	5 and examples of this aspect of biomimicry are otherwise rare in coordination chemistry .
6 This approach alleviates the complications created by the seasonal and diurnal fluctuations commonly observed in solar energy conversion systems .	
7 Unlike photovoltaic energy , solar fuels are independent of the electrical grid allowing them to be stored and transported easily as a mobile fuel .	

6.1.1.1 Brooks et al (2013): clauses 1-7

In Brooks' introductory clauses, CD is light. However, the sprinkled contextual meanings in clauses 1-4 are effective. They push positive popular evaluation of solar energy, construing wide topic relevance and creating expectations of interesting research. Some contain quite strong evaluation.

- 1 Human energy consumption has been rising **for decades**.
- 2 The resulting economic conditions and the environmental consequences of this growth will provide an opportunity **for renewable energy applications to thrive**.
- 3 Many direct and indirect solar power conversional schemes are **currently** the subject of intense research
- 4 since they promise abundant energy that could potentially supplement or replace coal or petroleum **on a massive scale**.

Evaluation in the contextual meanings has significant impact in driving up topic importance: *for decades* (C. Extent: duration = gr/force/quantify/process/extent/distance/time); the Manner process *thrive* (= grow abundantly), and *on a massive scale* (D.C. Manner: degree = gr/force/quantify/thing). *Thrive* (flagged attitude) in clause 2 and the Epithet *abundant* in clause 4 prepare for the impact of *massive*, and *growth* relates back to the process *rising*. Overall, direct, effective interpersonal effect of contextual meaning is delivered by resources consisting of, or containing, evaluation.

CD is densest in clause 5, which construes research relevance and value (see also Table 5.10, p.?), and, it is suggested, is a significant 'hook'. Circumstances explicitly state major research advantage. CD rises from sprinkling to cluster, including a pair:

- 5 Consequently, storing photon energy **as chemical potential in solid fuels** is of particular interest for replacing hydrocarbons **for mobile applications**.

C. Role: guise, Q. Location: place and C. Cause: purpose frame, contain and supply multi-focused meanings around the critical word *interest*. The audience, *chemical*, is indirectly addressed in C. Role: guise. Removing the contextual meanings illustrates their importance for interpersonal impact, because without them much interpersonal impact is foregone:

Consequently, storing photon energy ... is of particular interest for replacing hydrocarbons ...

Further contextualisation of relevance and value comes circumstantially in clauses 6-7:

- 6 This approach alleviates the complications created by the seasonal and diurnal fluctuations **commonly** observed **in solar energy conversion systems**.
- 7 **Unlike photovoltaic energy**, solar fuels are independent of the electrical grid, allowing them to be stored and transported **easily as a mobile fuel**.

The circumstances complete positive positioning by elaborating on research advantages. This is particularly so in clause 7, where *Unlike photovoltaic energy* (C. Manner: comparison) not only construes but, in its position as marked Theme, emphasises difference, while the pair of *easily* (C. Manner: quality) and *as a mobile fuel* (C. Role: guise) elaborate research advantage. In clauses 5-7, positivity is construed with minimum evaluation, and the Role: guise circumstances in clauses 5 and 7 keep the usefulness of the research to the fore.

6.1.1.2 Kennedy et al (2013): clauses 1-5

In Kennedy, high CD works strongly for immediate positive engagement with highly critical specialist audiences. It achieves intense dialogic quality through an explosion of meanings of audience identity and research justification, just where readers may be most interested in, and vulnerable to, those meanings. Circumstances form a large proportion of these clauses. They are always at clause rank, containing closely packed information and technical lexis. The result is high persuasive impact despite minimal overt evaluation.

The power of circumstances to supply contextualisation that attracts and meets specialist audience expectations is shown by the marked Themes in clauses 1-2:

- 1 **Within the discipline of coordination chemistry** the weak-link approach (WLA)¹⁻⁶ has **emerged as a powerful means to assemble complicated supramolecular structures (Scheme 1)**.
- 2 **Unlike the symmetry-interaction approach (SIA)⁷⁻¹¹ and directional bonding approach (DBA),¹²⁻²⁶ which lead to static, rigid structures,** the WLA results in dynamic complexes that may be toggled between rigid and flexible states **via the introduction and removal of elemental anions or small-molecule “effectors”**.

In clause 1, a cluster of contextual meanings aims at audience solidarity and high positive appreciation for the research. The marked Theme *Within the discipline of coordination chemistry* (C. Location: place – institutional: educational), presents a forceful, yet covert, appeal to the specialist audience that invokes affect as satisfaction: interest – attention. It is suggested that this reverberates throughout the introduction (see also Figure 5.1, p.33). As a scoping resource, it delivers a clear contextual boundary via the preposition *within*. There is also appeal to professional dignity in the designation of *discipline* (positive appreciation) rather than the neutral *subject*. The topic is flagged as important: *emerged* (Manner process = arise significantly). Then comes more interpersonal strength in *as a powerful means to assemble complicated supramolecular structures (Scheme 1)* (Role: guise). The Epithet *powerful* is overtly evaluative, but and quantifies the research, providing the ‘hook’—its major advantage. This Role: guise circumstance is thus

contextually important in invoking high positive appreciation of the research approach at a high-stakes point, the commencement of the article.

In clause 2, the marked Theme of C. Manner: comparison dominates. It contextualises past research problematically and foregrounds subsequent positive evaluation of present research through *dynamic* (Epithet), and construes its flexibility by *via the introduction and removal of elemental anions or small-molecule “effectors”* (C. Manner: means).

In clause 3, the writers’ research is further enhanced by clumped contextual meanings of C. Location: place - physical: chemical and C. Manner: means embedded with Q. Matter:

- 3 Functional units such as catalytic sites, redox-active moieties, host-guest recognition sites, and fluorophores may be incorporated **into the ligands in such a way that the structural change results in a marked change [in the properties of the complex].**

Interpersonal effect is raised by the critical role of C. Manner: means in engaging and creating high expectations. Indeed, across clauses 2-3 circumstances of Manner provide a ‘marketing’ or ‘advertising’ context for the research, in Table 6.2:

Table 6.2: Contextualisation ‘markets’ research, Kennedy et al (2013), clauses 2-3

CI	Contextualisation		Marketing context
2	1a C. Manner: comparison 1b D.C. Loc: place 2b Manner: means	Unlike the symmetry-interaction approach (SIA)⁷⁻¹¹ and directional bonding approach (DBA),¹²⁻²⁶ which lead [to static, rigid structures], via the introduction and removal of elemental anions or small-molecule “effectors”.	Limitation of past research Solutions offered by present research
3	1a C. Manner: means 1b D.C. Loc: place	in such a way that the structural change results in a marked change [in the properties of the complex].	Advantage promised

Contextual meanings conglomerate across these clauses: two pairs and a cluster attach values to core messages. In sequence, contextual meanings build positive appreciation as prosody, each meaning preparing the reader for the next. Figure 6.1 shows the announcement of the advantage in the last and most intense part of the construction:

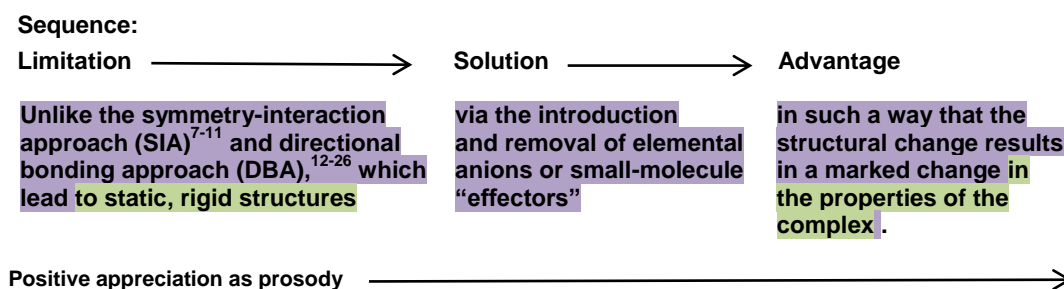


Figure 6.1: Contextual meanings invoke positive appreciation as prosody, Kennedy et al (2013) clauses 2-3

In clauses 4-5, contextual meaning maintains high interpersonal pressure as the 'call' for professional solidarity in clause 1 is reprised by C. Location: place – abstract:

- 4 Allosteric regulation of this type resembles the behavior of many enzymes
- 5 and examples of this aspect of biomimicry are otherwise rare **in coordination chemistry.**

Thus, in Kennedy's introduction to topic, contextual meanings facilitate a coordinated, rounded and complete segment of dialogic text. Contextualisation interpersonally includes the audience and strategically situates, defines and markets the topic at a point of textual sensitivity, to grow positive appreciation.

To summarise, contextual meanings in the chemistry texts point to a relationship between CD and prioritisation of context and relevance. High CD seems the major means of persuasion at strategic points and suggests different approaches to those challenges, especially as at no point does Brooks' CD approach that of Kennedy. Kennedy's CD indicates prioritisation of academic context, and Brooks' of commercial context. Circumstances are shown to be essential means of contextualisation, especially when containing evaluation, notably C. Cause: reason, C. Cause: purpose and C. Role: guise.

6.1.2 Education introductions to topic: Gray (2010) and Macpherson & Owen (2011)

These introductory clauses display relatively light CD. As Table 6.3 shows, contextual meanings are mostly sprinkled. There is no clumping and there are only three pairs. CD is higher in Macpherson, especially in clause 4, which claims research importance and in which elaborate contextual meanings comprise most of the clause:

Table 6.3: Patterns of contextual meanings in education introductions to topic

Gray (2010)	Macpherson & Own (2011)
1 A number of international research projects, supported by a wealth of anecdotal evidence, suggest that accountancy graduates entering the workplace often begin their careers with inadequate oral communication skills.	1 In 2004 , the Australian National University (ANU), Canberra, Australia, launched a graduate-entry medical degree.
2 Practitioners and professional associations as well as academics are conscious of this need: In New Zealand , accountancy job advertisements regularly specify both oral and written communication skills; oral competency is stressed on the web site of the New Zealand Institute of Chartered Accountants (NZICA) and oral communication is part of the assessment structure of the second stage of training towards becoming a chartered Accountant.	2 In 2005 , the Medical Education Unit commissioned research on the ability of students enrolled in that course in the area of critical thinking.
	3 The aim of the research was to monitor students' critical thinking skills as they experienced a range of educational styles including problem-based learning in the first year of their graduate medical studies.
	4 Research into the success or otherwise of learning and teaching strategies associated with the development of critical thinking ability is important both in terms of education efficiencies and in terms of producing capable medical graduates.

The sprinkled contextual meanings appear to position research by conditioning rather than by impact. They present a positive view of the research in a relatively restrained way. However, the analyses below seek to show that, despite an apparent lower interpersonal ‘temperature’, contextual meanings are strong in addressing the priorities of topic relevance and significance.

6.1.2.1 Gray (2010): clauses 1-2

In clause 1, contextual meanings assist the case for research:

- 1 A number of international research projects, supported by a wealth of anecdotal evidence, **suggest** that accountancy graduates entering the workplace **often** begin their careers **with inadequate oral communication skills**.

The construal of a problem is foregrounded by reference to wide research, with Grey’s cautious evaluation signaled by the Manner process *suggest*. The overall contextual meaning of authoritative evaluation of extensive insufficiency is achieved by *often* (C. Extent Frequency), which foregrounds *with inadequate oral communication skills* (C. Accompaniment: comitative), which includes negative quantification (*inadequate*).

In clause 2, circumstances construe local research as locally necessary, urgent and important:

- 2 Practitioners and professional associations as well as academics are conscious **of this need: In New Zealand**, accountancy job advertisements **regularly specify** both oral and written communication skills; oral competency is **stressed on the web site of the New Zealand Institute of Chartered Accountants (NZICA)** and oral communication is part of the assessment structure of the second stage of training towards becoming a chartered Accountant.

In clause 2, *of this need* (C. Matter) is evaluative (*need* = high negative appreciation) and construes serious deficiency of a *necessity*, rather than a skill that is simply *desirable*. In clause 3, *In New Zealand* (C. Location: place – geographical) creates local relevance, bolstered in clause 4 by *on the web site of the New Zealand Institute of Chartered Accountants (NZICA)* (C. Location: place – semiotic), which also draws in professional concern. Then, *regularly* (C. Extent: frequency) builds on *often* in clause 1. The interpersonal temperature is further raised by Manner processes; *specify* construes particular requirement and *stressed* invokes professional importance. Thus, circumstances supply contextual meanings that construe a problem requiring attention. It is suggested that, overall, the interpersonal evocation is of affect as disquiet: anxiety.

6.1.2.2 Macpherson & Owen (2010): clauses 1-4

In Macpherson's opening clauses marked Themes of C. Location: time contextualise temporal relevance of the research (not too far away in the past), while the audience is addressed obliquely and introduced to the topic by *in the area of critical thinking* (C. Location: place – abstract):

- 1 **In 2004**, the Australian National University (ANU), Canberra, Australia, launched a graduate-entry medical degree.
- 2 **In 2005**, the Medical Education Unit commissioned research [on the ability of students [[enrolled **in that course in the area of critical thinking**.

The temporal positioning in clauses 1-2 is followed in clause 3 by precise definition:

- 3 The aim of the research was to **monitor** students' critical thinking skills as they experienced a range of educational styles including problem-based learning **in the first year of their graduate medical studies**.

The research is contextualised as discriminating by *monitor*, (Manner process = *observing critically*) and significant by *in the first year* (C. Location: time – unlocated: determinate). Here time is defined by, and is part of, the research scope, and the time-scope is quantified in importance by *first* (gr/force/quantify/thing) and further defined by *of their graduate medical studies* (Q. Matter). This contextualisation prepares for evaluation, the significance of which is indicated by a leap in CD in clause 4, where contextualisation occupies nearly all the clause and supplies all its logical meaning:

- 4 Research **into the success or otherwise of learning and teaching strategies associated with the development of critical thinking ability** is important both **in terms of education efficiencies and in terms of producing capable medical graduates**.

Here, academic significance and contextual meaning derive entirely from Q. Matter, setting out the research area, and C. Cause: purpose, expressing the benefits. These contextual meanings facilitate the first rationale of research importance in this discourse, thus constituting a 'hook'. Interpersonally they encourage strong positive appreciation of the research.

In summary, while CD is relatively light (except in clause 4) there is significant interpersonal impact. The analysis appears to confirm the relationship between CD and the priority to position the research topic as relevant and valuable at an important phase of the discourse. Circumstances of Location: time, Location: place and Cause: purpose, Qualifiers of Matter and Cause: purpose, and the Manner processes combine to precisely contextualise the research area and position research as significant, without overt attitude.

6.1.3 History introductions to topic: Bowen (2010) and Patrick (2011)

CD is generously sprinkled, including in Bowen two clumps and one pair, and in Patrick two pairs. There is dense clumping in Patrick, clause 10, where contextual meaning occupies the greater part of the clause, shown in Table 6.4:

Table 6.4: Patterns of contextual meanings in history Introductions to Topic

Bowen (2010)	Patrick (2011)
1 The arrival of some 35,000 Chinese gold miners to Victoria during the 1850s increased demand for fish, a Chinese dietary staple .	Sub-phase 1
2 The majority of these migrants were impoverished lower class men from the provinces of Guangdong and Fujian and the island of Amoy .	1 In 1938 the New Zealand Education Department gave notice to its teachers of a “Centennial Competition” to be held in 1940 to judge the best ‘regional surveys’ submitted from primary, native, secondary and technical schools around the country .
3 In each of these regions fishing has historically played a major economic role.	2 By the time the competition closed 70 schools’ entries had been received.
4 Many of these Chinese migrants probably already had commercial fishing experience.	Sub-phase 2
5 Given the Chinese cultural preference for a fish-based diet some Chinese people very successfully entered Australia’s colonial fishing industry.	3 Afterwards, W.B. Harris, a lecturer at the Christchurch Teachers’ Training College , and H.C.D. Somerset, an expert in rural education and the author of the celebrated <i>Littledene</i> , a study of a New Zealand rural community, reflected upon some of the competition’s results.
6 At a time when most Melbourne and Sydney-based European fishermen were earning approximately £50 per year Chinese people working in Australia were earning that much every day .	4 In some areas of the country , they reported, the competition had prompted participating schools to document the local histories of their districts for the first time .
7 During the 1860s , one Chinese fish dealer— and there were many— earned over ten times more from fish sales annually than both Melbourne’s and Sydney’s European fish markets combined.	5 The pupils of the Kairakau Primary School in the Chatham Islands , for instance, had collected stories about the Moriori, Maori and Pakeha habitation of their islands , circulating them among the local community for verification .
	6 Kairakau School, Harris and Somerset wrote, was ‘the centre of a community which had suddenly become history-conscious’.
	Sub-phase 3
	7 While the 1940 Centennial formed the immediate impetus for the pupils of Kairakau and other schools to research their local history— and prompted considerable official and public effort towards putting New Zealand’s past on permanent record — the undertaking of local history research by primary school children had educational precedents.
	8 Situating the history-making efforts of the schools who contributed work to the Centennial competition alongside earlier educational initiatives to promote local history research by primary school children highlights the significance of the local within the pedagogy of the early twentieth century New Education movement .
	9 History was a component of a school system that was both imperial and national in orientation and the national primary curriculum and textbooks performed many functions that can be seen as legitimizing colonial authority.
	10 However, local histories produced by schools, this article contends , also need to be understood in the context of a set of imported pedagogical theories and educational practices that had less to do with a colonial context than with the aim of developing particular Qualities and capacities in children through the medium of locally based lessons .

The introductory clauses include recounts in which contextual meanings are essential in building interest. The recounts end with evaluations that position topics as significant and create expectation of further historical context and/or explicit statement of research. It is argued that interpersonal strength accrues as circumstances organise information, package it tightly and create a degree of contextual density. Delicate meanings of Location: time and Location: place enhance impact by enabling highly convincing evaluations and arguments that construe interest, importance and relevance.

6.1.3.1 Bowen (2010): clauses 1-7

Circumstances and Qualifiers in clause 1 immediately illustrate their roles in realising essential contextual meanings:

- 1 The arrival of some 35,000 Chinese gold miners **to Victoria during the 1850s** increased demand **for fish, a Chinese dietary staple**.

Q. Location: place construes local relevance (the article is published in *Australian Colonial History*), C. Location: time identifies the period, and C. Cause: purpose indicates the field. Without them, the clause loses historically significant context and does not engage.

Topic context is elaborated in clauses 2-3 by contextual meanings:

- 2 The majority of these migrants were impoverished lower class men **from the provinces of Guangdong and Fujian and the island of Amoy**.
- 3 **In each of these regions** fishing has **historically** played a major economic role.

In clause 3, the temporal adjunct *historically*, one of Stillar's (1998, p.37) 'positional adverbs' and construing located yet indeterminate time, impacts reassuringly on the specialist reader by enhancing the historical importance of the topic, and, with meanings of Location: place in both clauses 2 and 3, amplifies the effect of the Chinese migrants on demand for fish in Victoria.

There is a further important temporal contextualisation in clause 4:

- 4 Many of these Chinese migrants probably **already** had commercial fishing experience.

Already (Adjunct: temporal (unlocated: determinate) shows possibilities and value of viewing time as qualitative. *Already* contextualises *experience* as past, but how far cannot be known; *already* cannot *define* when the experience was 'had'. However, temporal uncertainty in *already* in no way weakens the median value of the preceding modal *probably*. Rather, *already*, as a graduation resource of intensification, combines with *probably* to raise the meaning potential to *almost certainly*. This provides the opportunity

in clause 5 for paired contextual meanings as C. Cause: reason and Q. Matter to supply conclusive positive evaluation:

- 5 **Given the Chinese cultural preference for a fish-based diet** some Chinese people **very successfully** entered Australia's colonial fishing industry.

Positivity is magnified by *successfully* (C. Manner: quality), intensified by *very*. Both the circumstance and its intensifier are graduation items (force/intensify/process). Without them the clause loses not only interest and impact but also confident contextualisation of the research topic as locally relevant and important:

... some Chinese people entered Australia's colonial fishing industry.

Then, there is contextual conglomeration as several meanings in just two clauses provide the introductory hook; it evaluates the research topic as economically significant:

- 6 **At a time [[when most Melbourne and Sydney-based European fishermen were earning approximately £50 per year]]** Chinese people working **in Australia** were earning that much **every day**.
- 7 **During the 1860s**, one Chinese fish dealer— and there were many— earned **over ten times more from fish sales annually** than both Melbourne's and Sydney's European fish markets combined.

The marked Themes of C. Location: time – unlocated: determinate (a very complex Theme in clause 6) impose coherence on an elaborate weave of information. They are contextual, they launch other contextual meanings and they organise and dominate these to enhance information reception and processing, amplifying research importance as prosody. Figure 6.2 aims to represent this:

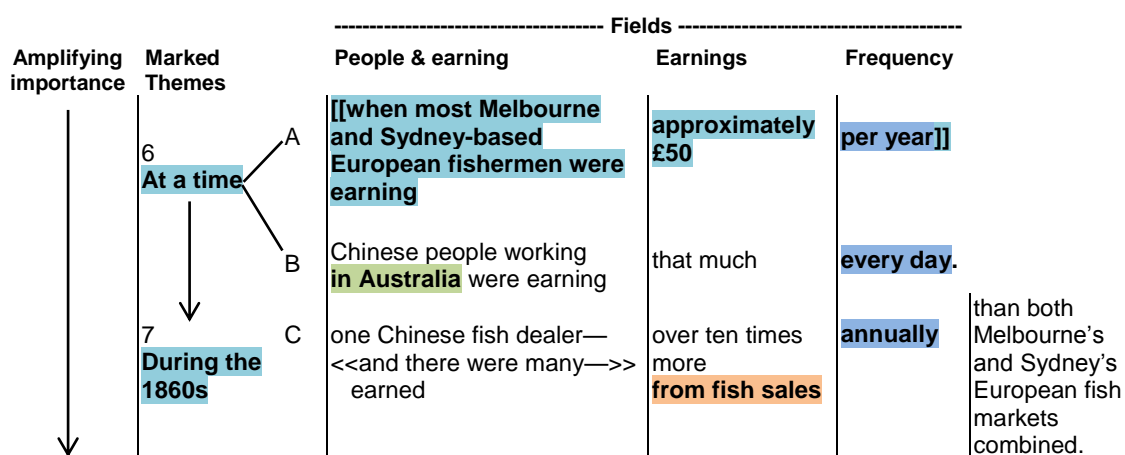


Figure 6.2: The hook: marked Themes launch and organise layers of strong contextualisation, Bowen (2012), clauses 6-7

Figure 6.2 shows that each layer of information prepares for amplification in the next. In Clause 6 the marked Theme *At a time* launches layer A, organises layer B and prepares for the more located, elaborative and emphatic layer C beginning *During the 1860s*. Layer A gives a general view of Sydney-Melbourne-European fishermen, *most/approximately /per year*. Layer B gives more specific attention in *Chinese people/that much/every day*. Layer C concentrates on *one Chinese fish dealer/over ten times more/annually*. In all layers, meanings of Extent: frequency at the third and most intense stage, contextualise amplified earnings. In effect, also, the meanings construe three ‘events’ as one inter-connected ‘event’. This complex comparison of economic values is organised contextually, contains strategic temporal meaning and magnifies research interest and worth.

6.1.3.2 Patrick (2011): clauses 1-10

This phase is analysed as three sub-phases. Sub-phase 1 contextualises a history-writing competition; sub-phase 2 summarises a historical reflection on this competition; sub-phase 3 contains the writer’s own reflections on the competition and the understanding of history pedagogy and connects with the research field. The value of marked circumstantial Themes in creating interpersonally powerful contextual meanings is demonstrated across all the phases. CD is lighter than in Bowen. It is mostly sprinkled, with only one pair, two clusters and one very dense clump—a marked leap in CD that indicates the significance of the concluding evaluation. The three sub-phases presage argument about the role of history textbooks in early 20th century New Zealand primary schools.

Sub-phase 1: clauses 1-2

Dominating marked Themes work for coherence and relevance. Clause 1 begins with the marked Theme *In 1938* (C. Location: time – located: determinate), followed by *in 1940* (C. Location: time – located: determinate). The Location: place Qualifiers in clause 1 are educational and physical: geographical. Contextualisation enables the narrative to be staged, designedly time-specific and historically relevant, setting up aligned reading:

- 1 **In 1938** the New Zealand Education Department gave notice to its teachers of a “Centennial Competition” to be held **in 1940** to judge the best ‘regional surveys’ submitted **from primary, native, secondary and technical schools around the country**.

Clause 2 begins with another marked Theme of C. Location: time:

- 2 **By the time the competition closed** 70 schools’ entries had been received.

This is an example of less determinate, less located time. Assisted by *70* (gr/force/quantify/thing), the competition is presented as a major activity, raising expectations of important information to follow.

Sub-phase 2: clauses 3-6

Sub-phase 2 opens with the conjunction *Afterwards*. It continues the temporal link to the competition and assists narrative momentum:

- 3 Afterwards, W.B. Harris, a lecturer **at the Christchurch Teachers' Training College**, and H.C.D. Somerset, an expert **in rural education** and the author of the celebrated *Littledene*, a study of a New Zealand rural community, reflected upon some of the competition's results.

Also, Location: place meanings realised by downranked circumstances of Location: place in clauses 1, 2 and 3 assist a view of the field as educationally significant.

In clause 4, C. Location: place as a marked Theme stresses the national focus and *for the first time* (Adjunct: temporal (unlocated: determinate), with quantification in *first*, creates a sense of innovation:

- 4 **In some areas of the country**, they reported, the competition had prompted participating schools to document the local histories of their districts **for the first time**.

Moving towards specificity, C. Location: place situates an example in clause 5:

- 5 The pupils of the Kairakau Primary School **in the Chatham Islands**, for instance, had collected stories **about the Moriori, Maori and Pakeha habitation of their islands**, circulating them **among the local community for verification**.

Meanings of Location: place and Matter contextualise the project as deeply relevant and lively for New Zealand readers. *Among the local community* (C. Location: place – sociological) illustrates opportunities for more delicate descriptions of Location: place; between physical and non-physical, it construes the vitality of sharing in human life. *About the Moriori, Maori and Pakeha habitation of their islands* (Q. Matter) acknowledges the past as complex and ethnically conflicted. *For verification* (C. Cause: purpose) construes vigour in the children's research, as does *suddenly* (D.C. Manner: quality) in Patrick's quote from Harris and Somerset in clause 6:

- 6 Kairakau School, Harris and Somerset wrote, was 'the centre of a community which had **suddenly** become history-conscious'.

The effect here is to enhance perception of Patrick's research as interesting and important.

Sub-phase 3: clauses 7-10

In clauses 7-8, contextual meanings enable segue into the wider educational context:

- 7 While the 1940 Centennial formed the immediate impetus for the pupils of Kairakau and other schools to research their local history— and prompted considerable official and public effort towards putting New Zealand's past **on permanent record**— the undertaking of local history research by primary school children had educational precedents.
- 8 Situating the history-making efforts of the schools who contributed work to the Centennial competition **alongside earlier educational initiatives to promote local history research by primary school children highlights** the significance of the local **within the pedagogy of the early twentieth century New Education movement**.

On permanent record (D.C. Location: place – semiotic) in clause 7 and meanings in C. Accompaniment: comitative and C. Location: place – abstract in clause 8 transit the discourse from concrete (physical, community and geographical places) to abstract and semiotic areas in which argument can be pursued. In clause 8, where CD rises to a cluster, *highlight* (Manner process = indicates prominently) is interpersonally valuable. As well as being an engagement resource (contract/proclaim/endorse) it amplifies evaluation and creates positive expectation.

The amplification assists relocation of the discourse in preparation for the evaluations of abstract and semiotic entities in clause 9:

- 9 History was a component of a school system that was both imperial and national **in orientation**, and the national primary curriculum and textbooks performed many functions that can be seen as legitimizing colonial authority.

These clauses prepare for the crucial evaluation in clause 10 that sets up identification of the research deficiency.

Conglomerate contextual meanings occupy most of clause 10. They are delivered mostly by downranked circumstances that construct a complex Circumstance of Location: place. High CD indicates that the evaluation in this clause marks a high-stakes point:

- 10 However, local histories produced by schools, <<this article **contends**>>, also **need** to be understood **in the context of a set of imported pedagogical theories and educational practices that had less to do with a colonial context than with the aim of developing particular Qualities and capacities in children through the medium of locally based lessons** .

First, Patrick's argument is proclaimed as strong by *contends* (Manner process = asserts strongly = en/contract/proclaim/pronounce) in the enclosed clause. Then, interpersonal heat is raised by *need* (Manner process = *required necessarily*; modal = high obligation), which construes deficiency in understanding. Finally, C. Location: place – abstract construes a large and complex *context*, the significance of which is quantified up by *a set of*. Deep embedding of the variety of contextual meanings in this circumstance is shown in Table 6.5:

Table 6.5: Conglomerate contextual meanings in C. Location: place - abstract, Patrick (2011) clause 10

However, local histories produced by schools, << this article contends >> also need to be understood	<p>in the context of a set¹ of imported pedagogical theories and educational practices that had less² to do with a colonial context³ than with the aim of developing particular qualities and capacities⁴ in children⁵ through the medium of locally⁶ based lessons⁷.</p>
<p>C. Location: place – abstract (gr/force/quantify/process/extent/scope/space) ¹ a set of (gr/force/quantify/thing) ² less (gr/force/quantify/process/extent/scope/space) ³ D.C. Accompaniment: comitative ⁴ D.C. Accompaniment: comitative ⁵ D.C. Location: place – people ⁶ D.C. Location: place – physical: general ⁷ D.C. Manner: means</p>	

Negative affect: insecurity: disquiet



It is suggested that the conglomerate contextual meanings realised by graduation and the sequence of downranked circumstances arouse negative affect as disquiet. The downranked circumstances apply the negative construal of deficiency to all the important fields -- history (colonial), people (children), relevance for the audience (local) and education (lessons). Indeed, the final and most intense component of this complex circumstance, *through the medium of locally based lessons* (Manner: means), relates back to the importance of *the local* and *pedagogy* raised in clause 8, and increases expectations of argumentative focus. Since all these meanings operate below the clause, the nature of *the context* of the deficiency is beyond arguability. So the contextual meanings in this clause herald Patrick's research as robust, and others as widely deficient. The transitivity analysis of this clause is shown in Appendix C6 (p.246).

Analysis of these clauses suggests that a more delicate classification of contextual meanings of Location: place, extending beyond the Hallidayan view, is useful. Classification of location at a distance from the concrete has been helpful in consideration of meaning and effect, as here they facilitate navigation from narrative to argument. Some variety is displayed: concrete meanings of Location: place are basic resources for geographical and general contexts. *Among the local community* (clause 5) is a

sociological place and *in children* (clause 10) is a people place. Clauses 7 and 8 contain semiotic (*on permanent record*) and abstract places (*within the pedagogy of the early twentieth century New Education movement*). In the latter, *early twentieth century* suggests further delicacy: Location: place – abstract: historical.

Thus, across these clauses in Patrick, contextual meanings interpersonally orient and situate through historical, geographic and sociological location, enable examples and transit to the context of argument, build evaluative tension, and invoke affect. CD peaks in clause 10, where meanings mark and address strategic risks with regard to topic by very precisely defining a strategic constituent, maximising persuasive effect.

To summarise contextualisation patterning and effects in the history sub-set, CD is variable. Circumstances of Location: time and Location: place are interpersonally significant in creating meanings that position research advantageously. As marked Themes they strategically organise information and, in generating prosodies, engage and align through sequencing, intensification and amplification. Location: place provides a concrete basis for location of events and an abstract tool for argument.

6.2 Development phases

'Development' refers to the greater depth of contextualisation through elaboration, critical discussion, evaluation and interpretation. In these phases, contextual meanings reinforce and extend the favourable impressions, evaluations and expectations raised in the introductions to topic phases.

6.2.1 Chemistry development phases: Brooks et al (2013) and Kennedy et al (2013)

Both inorganic chemistry development phases display mostly generous CD as sprinkling, pairing and clustering, though there are no clumps, as Table 6.6 shows:

Table 6.6: Patterns of contextual meaning in chemistry development phases

Brooks et al (2013)		Kennedy et al (2013)	
	Sub-phase 1		Sub-phase 1
8	Specifically, H ² is often identified as a promising candidate	6	The WLA for the synthesis of macrocyclic complexes employs symmetric homoditopic ligands that possess rigid cores and two hemilabile ³⁸⁻⁴¹
9	but storage requirements partially offset the high gravimetric densities desired for transportation applications .		phosphino-chalcoether (P,X; X = S, O, Se) or phosphine-amine (P,N,O moieties (Scheme 1).
10	To illustrate, gaseous H ² has a 39.4kWh/kg theoretical specific energy density	7	Upon chelation to (into) a d⁸ metal center (e.g., rhodium(I), palladium(II)) and in the absence of coordinating anions , the favoured <i>cis</i> geometry of the phosphine ligands promotes the clean formation of bimetallic macrocyclic assemblies while preventing the formation of polymeric and oligomeric by-products.
11	but a safe, 700 bar tank system for mobile H² use has a theoretical specific energy density of 1.89 kWh/kg, which further drops because of losses from compression and fuel cell mass .	8	A reaction often used in conjunction with the WLA is the halide-induced ligand rearrangement (HILR) reaction, in which a ligand-sorting process between electron-rich and electron-poor hemilabile ligands leads exclusively to heteroligated structures thus allowing for an extra level of complexity to be incorporated into WLA architectures (2,3,6,7,8, and 9, Scheme 1) .
	Sub-phase 2		
12	Metals are an often -overlooked alternative to energy-dense liquid and gaseous solar fuels.	9	Functional allosteric enzyme mimics synthesized via the WLA rely on the precise positioning of active groups that are incorporated into the hemilabile ligand .
13	Despite this oversight zinc and aluminium are well suited for this application	10	This is achieved by using rigid ligands in which the weakly coordinating atom (Scheme 1) is bound directly to an aryl group .
14	because they can utilize established Zn/air and Al/air batteries which are efficient, lightweight and consume only these reactive metals and air.	11	In the case of rhodium(I) , rigid, heteroligated aryl-aryl' complexes may be synthesized cleanly and reliably using P-, S-aryl and P,O-aryl ligands as the strong and weak binders respectively .
15	The very negative reduction potential of Al renders it an extremely efficient candidate for energy storage , but its reactivity will greatly complicate the photo-catalytic production of this metal.		Sub-phase 2
16	Consequently zinc is a more appealing prospect for a fuel cycle involving a mechanically rechargeable metal/air battery employing the relevant electrode reactions shown in Scheme 1 .	12	However, the sensitivity of rhodium(I) WLA complexes to air limits their compatibility with certain reaction environments
	Sub-phase 3	13	and accordingly a recent focus of our work has been the expansion of the WLA to include the chemistry of more stable d ⁸ metals such as nickel(II), palladium(II) and platinum(II).
17	Neglecting the mass of the O ² oxidant, zinc has a theoretical specific energy density of 1.35 kWh/kg.	14	We have demonstrated that heteroligated tweezers and triple-layer complexes form cleanly and spontaneously with palladium(II) and platinum(II) when alkyl- and aryl-based hemilabile compounds are used in combination (e.g. Scheme 2; compound 22) .
18	Without the need for compression only the battery is used for storage ,		Sub-phase 3
19	which lowers the practical specific energy density just slightly to 1.084 kWh/kg .	15	One shortcoming of this assembly technique is that alkyl-based ligands are inherently flexible and thus unsuitable for the construction of rigid architectures in which supramolecular properties are controlled with structural changes .
	Sub-phase 4		
20	The lightweight and remarkable 98% coulombic discharge efficiencies of the Zn/air battery exemplify the great potential of zinc as a transportable, abundant solar fuel .		

Table 6.6 shows CD patterning is slightly less dense in Brooks, perhaps reflecting lesser risk presented by a popular rather than a highly technical topic. Brooks' 13 clauses contain two clusters and three pairs. In contrast, of Kennedy's 10 clauses, five contain clusters (that include pairs) and clauses 8 and 14 each contain five contextual meanings. In Kennedy, contextual meanings appear to supply significantly less of the total text than in the introduction to topic. However, its slightly higher CD overall suggests greater argumentative risk in framing research in a critical and technical environment.

6.2.1.1 Brooks et al (2013): clauses 8-20

Brooks' development presents an argument for metal as solar fuel that is fundamental to the research opportunity. The phase is identified by Themes that indicate a shift in field from general topics in the introduction to topic (for example *energy, solar power, solar fuels*) to elaboration on specifics (such as *H₂, gaseous H₂, metal, zinc and aluminium*).

The development phase unfolds in four sub-phases:

1. clauses 8-11 discount gaseous solar fuels,
2. clauses 12-16 positively evaluate metals as solar fuels, particularly zinc,
3. clauses 17-19 are concerned with technical details, and
4. clause 20 ends the Development with emphatically positive evaluation.

Across the phases, contextual meanings from circumstances directly shape understanding of processes and change, while 2a or 2b Qualifiers shape understanding of participants. Argument is upgraded at strategic points by circumstances that consist of, or contain, intensification and appreciation.

Sub-phase 1: clauses 8-11

The sub-phase begins with counter-argument in which contextual meanings work to prepare the way for consideration of metals, rather than gas, for solar energy storage:

- 8 Specifically, H² is **often** identified **as a promising candidate**
- 9 but storage requirements **partially** offset the high gravimetric densities desired **for transportation applications**.
- 10 To illustrate, gaseous H² has a 39.4kWh/kg theoretical specific energy density
- 11 but a safe, 700 bar tank system **for mobile H² use** has a theoretical specific energy density of 1.89 kWh/kg, which further drops **because of losses from compression and fuel cell mass**.

Often (C. Extent: frequency = gr/force/quantify/process/frequency) and, within C. Role: guise, *promising* (appreciation: high positive) acknowledge the possibility of H². This is then negated in clause 9 by the conjunction *but* and by *partially* (C. Manner: degree = gr/force/quantify/ process). In clauses 10-11 circumstances of Cause purpose, Cause: reason and a Qualifier of Location: place contextualise the example that supports the claim against H₂. Thus, in these clauses, contextual meanings prepare for positive evaluation of solid fuels in sub-phase 2. The contribution of the contextual meanings to logical meaning and argument is evident if they are omitted:

- 8 Specifically, H² is identified
- 9 but storage requirements offset the high gravimetric densities desired.
- 10 To illustrate, gaseous H² has a 39.4kWh/kg theoretical specific energy density
- 11 but a safe, 700 bar tank system has a theoretical specific energy density of 1.89 kWh/kg, // which further drops...

Sub-phase 2: clauses 12-16

Clauses 12-16 argue the advantages of metals as solid solar fuels. The interpersonal temperature is raised by expectations created in clause 12:

- 12 Metals are an **often**-overlooked alternative to energy-dense liquid and gaseous solar fuels.

Contextualisation and evaluation in *often* (Epithet in nominal group within the Attribute = gr/force/quantify/process/frequency), invoke perception of deficiency in others' research.

In clause 13, a marked Theme of C. Contingency: concession aligns the reader for the strategic claim in clause 14:

- 13 **Despite this oversight** zinc and aluminium are well suited **for this application**
- 14 because they can utilize established Zn/air and Al/air batteries which are efficient, lightweight and consume only these reactive metals and air.

The text is kept contextually particular by *for this application* (C. Cause: purpose). Delicate consideration of the disciplinary audience is suggested by *oversight* (low negative appreciation) in C. Contingency: concession, rather than, for example, *research deficiency* (high negative appreciation) or *failure* (absolute negative). Thus, C. Contingency: concession avoids the inference of incautious judgement on others' research and C. Cause: purpose refocuses on future research.

Next, contextual meanings in clauses 15-16 work compellingly for acceptance of zinc:

- 15 The very negative reduction potential of Al renders it an extremely efficient candidate **for energy storage**, but its reactivity will **greatly** complicate the photocatalytic production of this metal.
- 16 Consequently zinc is a more appealing prospect **for a fuel cycle involving a mechanically rechargeable metal/air battery employing the relevant electrode reactions shown in Scheme 1**.

Contextual meanings at clause rank situate and persuade. First, in clause 15, *for energy storage* (C. Cause: purpose) acts experientially and interpersonally by supplying focus and relevance. Then, *greatly* (C. Manner: degree = gr/force/ intensify/process) upgrades the disadvantage of aluminium. In clause 16, the conjunction *Consequently* (in the sense of Cause: reason *because of this*), assisted by *for a fuel cycle ...* (D.C. Cause: purpose), *mechanically* (Manner: means, Epithet and construing ease of operation) and *in Scheme 1* (D.C. Location: place – semiotic), facilitates summary and evaluation of that argument: together they operate interpersonally to convey the sense of an evaluation made from evidence, and thus, authoritative.

Sub-phase 3: clauses 17-19

Clauses 17-19 contain technical contextualisation. Clause 17 states an important attribute of zinc. In clause 18 the marked Theme *without the need for compression* (C. Accompaniment: comitative) enables logical conclusion. In clause 19, *just slightly* enhances *to 1.084 kWh/kg* (Extent: distance).

- 17 Neglecting the mass of the O² oxidant, zinc has a theoretical specific energy density of 1.35 kWh/kg.⁸
- 18 **Without the need for compression** only the battery is used **for storage**,
- 19 which lowers the practical specific energy density **just slightly to 1.084 kWh/kg**⁹.

These contextual meanings at clause rank prepare for significant evaluation in clause 20.

Sub-phase 4: clause 20

Contextual meaning in circumstances in clause 21 amplifies the Zn/air battery's qualities:

- 20 The lightweight and remarkable 98% coulombic discharge efficiencies of the Zn/air battery **exemplify** the great **potential** of zinc **as a transportable, abundant solar fuel**.

Claims in the Introduction to Topic in clause 4 are restated:

- 4 ... **promise abundant** energy [[that could **potentially** supplement or replace coal or petroleum **on a massive scale**].

First, *exemplify* (Manner process = *demonstrate excellently*) and the Epithet *great* invoke the superlative, in line with *on a massive scale* (D.C. Manner: degree). Also, *potential* restates the clause 4 items, the process *promise* and the modal item *potentially*. In addition, quantification as *abundant* and *massive* (gr/force/quantify/thing) in clause 4 resurfaces in clause 20 in *as a transportable, abundant solar fuel* (C. Role: guise). In this way, contextualisation amplifies the positive messages in clauses 1-5 to enhance positive appreciation of the research.

To conclude, in Brooks' development, contextual meanings of Cause: purpose and Role: guise portray solid fuel advantages. The circumstances are fundamental in contextual meaning, the persuasive impact of which is enhanced by intensification and appreciation. Manner: quality and Manner: degree also assist argument. In the final clause, *exemplify* sums up the overall contextualisation of research worth and necessity.

6.2.1.2 Kennedy et al (2013): clauses 6-15

Kennedy's development unfolds in three sub-phases:

1. clauses 6-11, which elaborate on the WLA process,
2. clauses 12-14, which seek credibility for the writers and research and
3. clause 15, which contains strategic evaluation that opens the way for the statement of the research opportunity (in clauses 16-17).

Sub-phase 1: clauses 6-11

The sub-phase commences with orientation— contextualisation of the purpose of the WLA via Q. Cause: purpose:

- 6 The WLA **for the synthesis of macrocyclic complexes** employs symmetric homoditopic ligands that possess rigid cores and two hemilabile phosphino-chalcoether (P,X; X = S, O, Se) or phosphine-amine (P,N/O moieties (Scheme 1).

A cluster, including a pair, of contextual meanings then facilitates elaboration:

- 7 **Upon chelation to (into) a d^8 metal center (e.g., rhodium(I), palladium(II))** and **in the absence of coordinating anions**, the favoured *cis* geometry of the phosphine ligands promotes the clean formation of bimetallic macrocyclic assemblies while preventing the formation of polymeric and oligomeric by-products.

The contextual meanings *Upon chelation* (C. Location: time – unlocated: determinate), *to a d^8 metal center (e.g., rhodium(I), palladium(II))* (Q. Role: product) and *in the absence of coordinating anions* (C. Location: place – abstract) portray the research as dynamic and multi-dimensional. *Upon chelation* construes an unlocated yet determinate temporal quality that is infused with dynamic process. This time is unlocatable; it may be *any* time, because chelation could take place at *any* time, and that time is not known, need not and cannot be known but is fused with an event. The event can be replicated but the quality of the time will be the same, however many replications occur. This, with *to a d^8 metal center ...* construes vigorous change, while *in the absence of coordinating anions* construes not only simplicity in the event, but some quality of independent strength in the research. In all, these contextual meanings work as a complex marked Theme that interpersonally, authoritatively and beneficially foregrounds the claim of research achievement.

In clauses 8-11 contextual meanings interpersonally engage the technical audience.

Clause 8 contains a cluster of five single meanings, including Location: place, realised by a circumstantial Attribute and a circumstance:

- 8 A reaction **often** used **in conjunction with the WLA** is the halide-induced ligand rearrangement (HILR) reaction, in which a ligand-sorting process **between electron-rich and electron-poor hemilabile ligands** leads **exclusively** to heteroligated structures thus allowing for an extra level of complexity to be incorporated **into WLA architectures (2,3,6,7,8, and 9, Scheme 1)**.

Without the cluster of contextual meanings, the statement loses critical focus and relevance, and therefore interpersonal strength. Only *thus* enables exposition:

- 8 A reaction used is the halide-induced ligand rearrangement (HILR) reaction, in which a ligand-sorting process leads to heteroligated structures thus allowing for an extra level of complexity to be incorporated.

The experiential role of contextual meaning continues in clauses 9-11, where sprinkled and pairs of meanings realised by circumstances and downranked circumstances facilitate technical description:

- 9 Functional allosteric enzyme mimics synthesized **via the WLA** **rely on the precise positioning of active groups that are incorporated into the hemilabile ligand**.
- 10 This is achieved by using rigid ligands in which the weakly coordinating atom (Scheme 1) is bound **directly to an aryl group**.
- 11 **In the case of rhodium(I)**, rigid, heteroligated aryl-aryl' complexes may be synthesized **cleanly** and **reliably** using P, S-aryl and P,O-aryl ligands **as the strong and weak binders respectively**.

Thus, across this sub-phase, contextual meanings as gr/force deliver interpersonal impact at significant points and in different ways. They magnify the importance of, and add conviction to, description, with messages of usability (*often*), reliability (*rely* = Manner process = depend confidently on; also, *exclusively* and *reliably*) and efficiency (*directly* and *cleanly*). At clause level, the meanings of Manner: quality (*exclusively*, *directly*, *reliably*) strongly shape processes. The meanings of *often* (Extent: frequency) and *directly* (Manner: quality) shape clause participants, by inseparably incorporating particular values into them. Thus, these seemingly descriptive clauses possess distinct interpersonal strength stemming directly from contextual meanings.

Sub-phase 2: clauses 12-14

In clause 12 the interpersonal temperature rises further with transition to identification of the research opportunity:

- 12 However, the sensitivity of rhodium(I) WLA complexes to air limits their compatibility **with certain reaction environments**

The conjunction *However* signals a problem. The problem is defined by *to air* (*Qualifier*), and *with certain reaction environments* (C. Accompaniment: comitative), in which *certain*

(gr/force/quantify/thing) actually construes uncertainty. But immediately, in clause 13, the marked Theme *accordingly* (C. Angle: viewpoint) addresses the issue of credibility, depicting the writers as attentive and the research as timely and relevant:

- 13 and **accordingly** a recent focus of our work has been the expansion of the WLA to include the chemistry of more stable d⁸ metals such as nickel(II), palladium(II) and platinum(II).

The cluster in clause 14 construes a highly successful outcome:

- 14 We have **demonstrated** that heteroligated tweezers and triple-layer complexes form **cleanly** and **spontaneously with palladium(II) and platinum(II)** when alkyl- and aryl-based hemilabile compounds are used **in combination (e.g. Scheme 2; compound 22)**.

First, *demonstrated* (Manner process = shown evidentially) to evaluate the writers' work construes confidence and addresses expectations of substantiative validation. *Cleanly* and *spontaneously* (both C. Manner: quality) construe efficiency and achievement. *With palladium(II) and platinum(II)* (C. Accompaniment: comitative) and *in combination (e.g. Scheme 2; compound 22)* (C. Manner: means) ground the achievement in its context.

Sub-phase 3: clause 15

Still, to prepare for the phase of research space in clauses 16-17, an unsuccessful aspect of this research must be managed in clause 15, as it is, through precise contextualisation:

- 15 One shortcoming of this assembly technique is that alkyl-based ligands are **inherently** flexible and thus unsuitable **for the construction of rigid architectures in which supramolecular properties are controlled with structural changes**.

Perception of any serious problem is minimised by *shortcoming* (appreciation: low negative), rather than *problem*, *deficiency* or *failure*, all of higher negative appreciation. Then contextual meanings refocus. First, *inherently* (D.C. Manner: quality) intensifies the Attribute *flexible*. Then, *for the construction of rigid architectures in which supramolecular properties are controlled* (C. Cause: purpose) and *with structural changes* (D.C. Manner: means) enable evaluation centring on research needs and creating expectation of success. Thus, clustered contextualisation avoids possible negative appreciation of the writers' work by construing a problem to be solved rather than a research failure.

To sum up, in Kennedy's development, contextual meanings containing evaluation (particularly Manner: quality) intensify the meanings of processes. As downranked circumstances and Qualifiers they intensify the shaping of participants. Interpersonally, they construe the research as complex and important and the researchers as credible, divert attention from 'short-coming' to research demands, and open the way for the research space. Overall, positive appreciation is evoked.

6.2.2 Education development phases: Gray (2010) and Macpherson & Owen (2011)

Fostering research importance seems the major purpose in both development phases.

Gray emphasises professional uncertainty about graduate communication skills.

Macpherson's development consists of two sub-phases logogenetically interrupted by the literature review. Sub-phase 1 defines critical thinking skills. Sub-phase 2 seeks to justify their importance. Table 6.7 shows denser CD closing evaluations in Macpherson phase 2 and Gray. It is suggested that this reflects increasing argumentative stakes:

Table 6.7: Patterns of contextual meaning in education development phases

	Gray (2010)	Macpherson & Owen (2011)
3	A number of New Zealand media outlets have recently been publicizing a significant rise in demand for communication skills among employers and voicing a concern that universities are not producing sufficiently literate Graduates.	Sub-phase 1: clauses 5-12
4	However, these reports are mainly anecdotal and there is presently a lack of well-grounded empirical data concerning precisely what skills are sought by employers in specific fields .	5 Critical thinking comprises 'a set of skills and strategies for making reasonable decisions about what to do or believe '.
5	In addition, formal studies of communication competences to this point have tended to the quite general, utilizing the umbrella term oral communication skills or the even vaguer term generic skills.	6 These skills are integral to effective clinical decision making.
6	What does this actually mean for a given industry ?	7 Beyer's (1987) classification provides a framework for developing an under-standing of the various components of thinking and the role that critical thinking plays.
7	What skills, specifically, do accounting employers want?	8 Beyer describes three components, all of which have to be present for clear thinking to occur: cognitive (thinking) operations; domain (subject) knowledge; and attitude.
8	What might the reported lack of oral communication skills in new Graduates mean for university accountancy educators ?	9 Domain-specific knowledge is the body of knowledge that a student acquires when studying, for example, medicine or law.
		10 Attitudes important to the development of sound thinking skills , Beyer suggests , include respect for evidence , healthy skepticism and curiosity, and desire (motivation) to solve a problem.
		11 Cognitive operations include three over-arching strategies of conceptualized problem-solving and decision-making and these strategies are underpinned by critical thinking skills such as detecting fallacious argument, identifying inferences and determining relevance.
		Sub-phase 2: clauses 15-20
		15 Developing students' critical thinking ability is of central importance as it underpins effective decision making; for example, diagnosis.
		16 Critical thinking biases and errors are a category of human error that is implicated in a broad range of medical adverse events .
		17 In Australia , patient harm results from 1 in 10 hospital admissions, and 2% of these lead to death or serious disability.
		18 There were 1.5 million admissions to New South Wales hospitals in 2003/4 .
		19 Human error plays a significant role in nearly 82% of these adverse events , and error associated with failure of cognitive function (e.g. failure to synthesise and/or act on information) is second only after 'failure in technical performance of an indicated procedure' as the most frequent cause of preventable medical error .
		20 Similar rates of error have been found in other Western countries such as the UK, Denmark, Canada and France .

6.2.2.1 Gray (2010): clauses 3-8

Contextual meaning in Gray's development is more generous than in the introduction to topic. It amplifies perception of the need for research and acknowledges professional and academic audiences. Contextual meanings contain substantial evaluation, construe research need and represent the field very precisely at strategic points. While there are no marked Themes, strong negative affect is generated through construal of communicative deficiency, professional anxiety and lack of information. This begins with the contextual cluster in in clause 3:

- 3 A number of New Zealand media outlets have **recently** been **publicizing** a significant rise **in demand for communication skills among employers** and **voicing** a concern that universities are not producing sufficiently literate graduates

Recently (Adjunct: temporal (located: indeterminate) = gr/force/extent/distance/time) positions research need as already widely and actively acknowledged (and therefore very important). This is enhanced by the Epithet *significant* and by flagging in the Manner processes *publicizing* (= reporting widely and prominently) and *voicing* (= expressing emphatically and urgently), so construing high public concern. Qualifiers drive up the importance of the problem by precisely defining it, invoking negative affect as insecurity: disquiet, as prosody, in Figure 6.3:

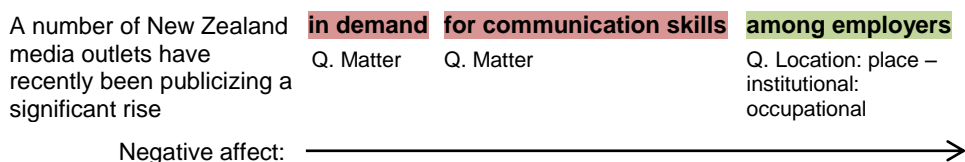


Figure 6.3: Contextual meanings as Qualifiers invoke negative affect, Gray (2010) clause 3

Significantly, Location: place *among employers*, is the final, and therefore the most intense and lasting contextual meaning. In this way, contextual meanings as Qualifiers keep attention on Gray's central concern of accountancy skills in the workplace, acknowledge the professional audience and build perception of research need.

In clause 4, contextual meanings portray the seriousness of the research deficiency:

- 4 However, these reports are **mainly** anecdotal and there is **presently** a lack of well-grounded empirical data **concerning precisely what skills are sought by employers in specific fields**.

Mainly (Manner: degree) within and intensifying the Attribute *anecdotal* discounts the quality of information. This critical assertion seeks to justify Gray's research. Temporal relevance is upgraded from *recently* (in clause 3) to immediacy by *presently* (Adjunct:

temporal (located: indeterminate). It is suggested that these deeply embedded conglomerate meanings indicate that careful description of the research deficiency is a high-stakes concern. They are shown in in Table 6.8:

Table 6.8: Conglomerate embedded contextual meanings in Existent, Gray (2010) clause 4

and	there	is	presently	a lack of well-grounded empirical data concerning precisely what skills are sought by employers in specific fields .
		Pr: ex.	5 Adjunct (temporal): Loc: time – loc: indet.	Existent
				concerning precisely what skills are sought¹ by employers in specific fields.
				2a Q. Matter ¹ 3b Manner process
				precisely in specific fields
				1b. D.C. Manner: 2b Q. Loc: place – quality abstract: generic

Table 6.8 shows the Existent shaped by Q. Matter, itself defined and intensified by dense contextual meanings: *precisely* (D.C. Manner: quality = gr/focus/valeur/specificity), *sought* (Manner process = *keenly looked for*) and *in specific fields* (Q. Location: place – abstract; *specific* = graduation focus/valeur/specificity). The contextual meanings reinforce the interpersonal effect of clause 3 and prepare for the declaration in clause 5:

- 5 In addition, formal studies of communication competences **to this point** have tended to the quite general, utilizing the umbrella term oral communication skills or the even vaguer term generic skills.

The Qualifier, Location: time – located: indeterminate, *to this point*, recontextualises research need to the immediate present. It completes a sequence of meanings of located: indeterminate time. With respect to interpersonal strength, the lack of determinateness does not matter, nor does the fact that the meanings are not realised by marked Themes. What is important is that they have impact because they construe increasing priority across clauses 3-5. This is plotted on a cline, in Figure 6.4:

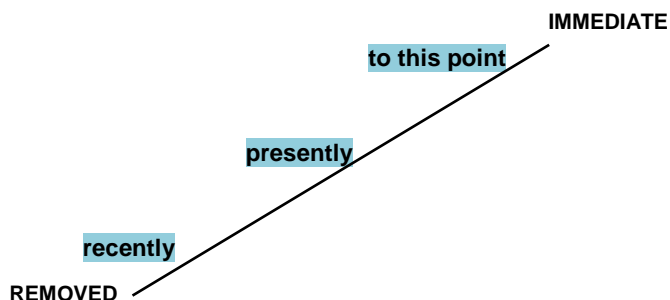


Figure 6.4: Temporal contextualisation construes increasing priority, Gray (2010) clauses 3-5

In construing urgency for research, contextual meanings interpersonally build prosodic negative affect (insecurity: disquiet-uneasy) across clauses 3-5. This ensures maximum effectiveness for reception of the rhetorical questions put in clauses 6-8, themselves engagement resources (expand/entertain):

- 6 What does this **actually** mean **for a given industry**?
- 7 What skills, specifically, do accounting employers want?
- 8 What might the reported lack of oral communication skills **in new Graduates** mean **for university accountancy educators**?

The impact of the contextual meanings is driven up by graduation. In clause 6, *actually* (C. Manner: quality = gr/focus/valeur/authenticity) brings reality and *given* (gr/focus/valeur/specificity) in C. Angle: viewpoint sharpens the values of limitation attached to the understanding of skills. In clause 8, *in new Graduates* (Q. Location: place – people) and *for university accountancy educators* (C. Angle: behalf) position the problem as relevant, for people as well as for a professional field.

To summarise, Gray's development shows contextual meanings generating interpersonal impact as prosody. In circumstances and embedded Qualifiers, meanings of Matter and Location: place, assisted by graduation, contextualise the topic as publicly and professionally concerning. Meanings of Location: time construe the skills deficiency as a problem needing urgent research. Overall, the effect is negative affect as disquiet, indirectly encouraging positive perception of Gray's research in the lead up to the purpose-value phase (clauses 9-10).

6.2.2.2 Macpherson & Owen (2010): clauses 5-11 and clauses 17-24

Further supporting the importance of research into medical students' critical thinking ability, these logogenetically interrupted sub-phases address different aspects of research value:

1. clauses 5-11 define and elaborate the importance of critical thinking;
2. clauses 15-20 argue the importance of critical thinking for medical practice.

It is suggested that the sparse CD in sub-phase 1 reflects a relative absence of textual tension, and that this derives from the academic audience's existing respect for critical thinking in itself, and from reliance on an authoritative, sympathetic source.

Sub-phase 1: clauses 5-10

Contextualisation in this sub-phase is quite sparse. Contextual 'bookends' frame a summary of a definition of clear thinking from Bayer (1987) that is sympathetic to the writers' viewpoint. It is suggested that the thin contextualisation reflects lack of tension. The claim in clause 5, appears comfortably supported by the citation of Bayer's work (clauses 6-10) and thus no further citations or argument seem necessary, Figure 6.5:

- 5 Critical thinking comprises 'a set of skills and strategies for making reasonable decisions **about what to do or believe**'.
- 6 These skills are integral to effective clinical decision making
- 7 Beyer's (1987) classification provides a framework for developing an understanding of the various components of thinking and the role that critical thinking plays.
- 8 Beyer describes three components, all of which have to be present for clear thinking to occur: cognitive (thinking) operations; domain (subject) knowledge; and attitude.
- 9 In addition, formal studies of communication competences to this point have tended to the quite general, utilizing the umbrella term oral communication skills or the even vaguer term generic skills.
- 10 Attitudes important **to the development of sound thinking skills**, <<Beyer **suggests**>>, include respect **for evidence**, healthy skepticism and curiosity, and desire (motivation) to solve a problem.

Positive appreciation



Figure 6.5: Contextual meanings 'bookend' critical thinking definition, Macpherson & Owen (2011), clauses 5-10

Contextual meanings in C. Matter in clauses 5 and 10 construe integrity via key lexis, *believe* (process infused with Matter: quality = rely faithfully on), *sound* and *evidence* (both high positive appreciation, invoking judgement: veracity). Also, *suggests* (Manner process = states tentatively) construes judicious evaluation of Beyer's work, which assists the perception of Macpherson's research as responsible and worthwhile.

In clause 11, *underpinned* (Manner process = supported securely) flags reliability and enables an assertive conclusion to the sub-phase:

- 11 Cognitive operations include three over-arching strategies of conceptualized problem-solving and decision-making and these strategies are **underpinned** by critical thinking skills such as detecting fallacious argument, identifying inferences and determining relevance.

Thus, despite very low CD, contextualisation gives interpersonal strength through structural deployment, and by containing evaluation.

Sub-phase 2: clauses 15-20

Sub-phase 2 follows the literature review (clauses 12-14). It commences with a field shift from literature to critical thinking about medical practice and errors. CD is denser. It is suggested this reflects tension inherent in making claims and supporting them. The CD includes three pairs. The phase begins in clause 15 (citations have been omitted):

- 15 Developing students' critical thinking ability is of central importance as it **underpins** effective decision making; for example, diagnosis.

In that assertion, *underpins* (Manner process = supports securely) repeats and reinforces the claim of clause 11.

Then, contextualisation, much by Location: place, increases the interpersonal temperature, pushing local relevance and problems over clauses 16-19, Figure 6.6:


- 16 Critical thinking biases and errors are a category of human error that is implicated **in a broad range of medical adverse events**.
- 17 **In Australia**, patient harm results from 1 in 10 hospital admissions, and 2% of these lead to death or serious disability.
- 18 There were 1.5 million admissions **to New South Wales hospitals in 2003/4**.
- 19 Human error plays a significant role **in nearly 82% of these adverse events**, and error associated with failure of cognitive function (e.g. failure to synthesise and/or act on information) is second only **after 'failure in technical performance of an indicated procedure' as the most frequent cause of preventable medical error**.
- Negative affect as insecurity: disquiet as cross-clause prosody
- 

Figure 6.6: Contextual meanings create negative affect, Macpherson & Owen (2011) clauses 16-19

In clause 16 *in a broad range of medical adverse events* (Attribute: circ. (Loc: place - abstract: generic), a container of evaluation, construes extensive consequences of error, with *broad range of* (gr/force/quantify/thing) and *medical adverse* (high negative appreciation). In clause 17, *in Australia*, (C. Location: place – physical: geographical) establishes physical proximity for these events, its effect enhanced by its role as a marked Theme. In clause 18, *to New South Wales hospitals* (C. Location: place – institutional occupational) sharply defines this proximity. *In 2003/4* (Q. Location: time – located: determinate) as final, and therefore important, constituent prepares for more interpersonal impact in clause 19. Here *a significant role* is powered up through graduation in C. Location: place – abstract: *nearly* (Epithet in nominal group = gr/force/intensify/attribute) and *82%* (gr/force/quantify/thing). With *adverse* (appreciation, high negative), the effect is strong invocation of negative affect as insecurity: disquiet unease.

In clause 19.2 repeated contextual meanings and evaluation amplify insecurity: there are *error* (high negative appreciation), *failure* (absolute negative appreciation), intensification and quantification within the contextual meanings, shown in Figure 6.7:


- 19.2 and **error** associated with **failure** of cognitive function (e.g. **failure** to synthesise and/or act on information) is second only **after 'failure in technical performance of an indicated procedure' as the most frequent cause of preventable medical error**.
- Negative appreciation
- 

Figure 6.7: Negative appreciation as clause prosody, Macpherson & Owen (2011), clause 19

C. Location: time, assisted by *second* and *only* (both quantification), contextualises professional *failure*. This circumstance infuses temporal quality and an event, temporally unknowable, but replicative. It serves to magnify negativity. C. Role: guise amplifies and intensifies *failure* by graduation as an absolute in *the most* (gr/force/intensify/attribute) and *frequent* (gr/force/quantify/thing), culminating in the final negative *error*. The effect is clause prosody of high negative appreciation of the possibilities of medical error.

In clause 20, this intense geographical, numerical and qualitative contextualisation of the consequences of critical thinking errors is dramatically extended—and further amplified—by C. Location: place – physical geographical.

24 Similar rates of error have been found **in other Western countries such as the UK, Denmark, Canada and France.**

Here *other* (gr/force/quantify/thing) and the list of countries maximise the breadth of negative consequences. This completes the maximisation of errors and failures across the phase that interpersonally creates negative affect: disquiet - unease, and thus the most favourable environment for the research.

To conclude, Macpherson's development illustrates the ability of contextual meaning to achieve persuasive strength by strategic patterning and containment of evaluation. Even when not marked Themes and even when sparse, contextual meanings are deployed to arrange information in persuasive rhythms to create a particular understanding of a research environment that mandates positive appreciation of the research.

6.2.3 History development: Bowen (2010) and Patrick (2011)

Commencement of the history development phases is indicated by marked circumstantial Themes of location: time in both texts. Bowen is concerned with interpreting and evaluating historical context and events. Patrick's brief phase is devoted to critiquing and evaluating the attitude of historians towards 'colonial knowledge' in New Zealand. Its high CD reflects concentrated strategic argument. Table 6.9 shows sprinkled CD in Bowen and densely conglomerated meanings in Patrick:

Table 6.9: Patterns of contextual meanings in history development phases

Bowen (2010)	Patrick (2011)
10 For approximately twenty years from the early-1850s Chinese people in the US caught and cured whatever fish came into their nets .	11 Recently several historians have attempted to shift the context of the historical debate over the connections between knowledge and colonialism in New Zealand from one almost exclusively devoted to examining the 'textual outputs' of colonial knowledge .
11 By the 1870s , specialized catching and curing camps were established to target individual fish species such as sturgeon, herring, flounder, shrimp, abalone and squid.	12 Instead, they argue , scholars need to recognize the importance of the institutional foundations of intellectual life in the shaping of colonial knowledge and of the sets of processes and practices that governed knowledge's production and reception.
12 Only a small quantity of Chinese cured fish was consumed in the US , the majority going to market in China in both a dry state in bags and pickled in casks .	
13 In 1880 , an estimated \$229,858 (US) worth of Chinese cured fish was exported from San Francisco to Hong Kong .	
14 This was a substantial amount especially considering that the retail value of all fresh fish sold in the San Francisco fish markets during 1877 was only US\$220,000.	

6.2.3.1 Bowen (2010): clauses 10-14

Bowen's development phase is separated from the introduction to topic by a very short research space phase (in clauses 8-9). There Bowen argues that Chinese work in Australia's early fishing industry has not been given proper research attention. The development phase, clauses 10-14, describes, elaborates and evaluates the Chinese contribution to the US international fish trade. The interpersonal effect is positive appreciation, as contextual meanings reinforce the worth of Bowen's Australian research.

At the commencement of this phase narrative is temporally contextualised by C. Extent: duration and C. Location: time as marked and dominating Themes, shown in Figure 6.8

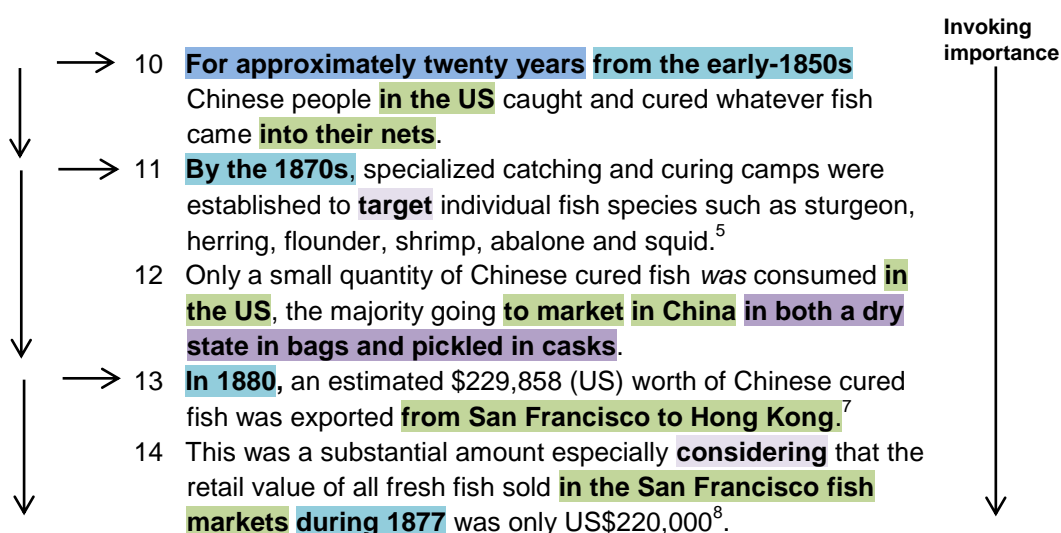


Figure 6.8: Marked Themes of Location: time invoke importance across clauses, Bowen (2013) clauses 10-14

Highly organised, temporal meanings that have a located quality shape the narrative to support research importance. The meanings prioritise time as the clauses unfold in a narrative that invokes research importance. In clause 10 the complex marked Theme *For approximately 20 years* (C. Extent: duration) sets up the broad time frame for location of information. However, time becomes immediately more specific and defined in *from the early-1850s* (Q. Location: time – located: determinate). In clause 11, the second marked Theme *By the 1870s* (C. Location: time – located: indeterminate) foregrounds achievement that is elaborated in clause 12. In clause 13, a third marked Theme *In 1880* (C. Location: time – located: determinate) anchors economic evaluation. As marked Themes in clauses 10, 11 and 13, C. Extent: duration and C. Location: time supply dominating contextualisation that acts interpersonally, within those clauses, and across the group of clauses, to position the reader to accept information in terms of the desired historical construct. It hardly matters that in clause 14 Location: time *during 1877* is not a marked Theme, because it is powered by the preceding contextual meanings.

The framework of temporal contextual meanings derives particular strength from their nature as graduation resources (gr/force/quantify/process/extent/scope/time). For example, if *For approximately 20 years from the early-1850s* is re-expressed without graduation as *Between about 1850 and 1870*, information is still effectively organised, but the effect is merely utilitarian. Similarly, *In 1880*, also a marked Theme, construes simple, located and determinate time, whereas *during 1877* evokes a significant stretch of time because *during* carries meanings of *throughout* that go beyond location *within* a time. Moreover, as a Qualifier, *during 1877* compresses endeavor and value into *amount* in clause 14.

Temporal meanings of quantification help maximise economic importance of the research, in clause 13 by *1880 + exports + \$229,858*, and in clause 14 for *1877 San Francisco + fish markets + only \$220,000*. These important economic evaluations are controlled by the final, and therefore strongest, temporal meaning. The placement co-patterns with Bowen's introduction to topic, which also ends with economic evaluations. This organisation of information, contextually enhanced, further impacts on the reader.

Two Manner processes augment the interpersonal effect. In clause 11 *target* (aim at precisely), reinforces specificity and authority, and in clause 14, *considering* (when thought about carefully), strongly pre-intensified by *especially*. In clause 12, complex meanings realise specificity, *in both a dry state in bags and pickled in casks*, (C. Manner: quality).

The contextual meanings realised by circumstances of Location: place are important. Without their physical and geographical orientation, the text loses essential meanings and much ability to effectively present relevant argument, for example, clauses 13-14:

- 13 **In 1880**, an estimated \$229,858 (US) worth of Chinese cured fish was exported ...
- 14 This was a substantial amount especially **considering** that the retail value of all fresh fish sold **during 1877** was only US\$220,000.

Also in clause 14, a cluster of contextual meanings supplies strong evaluative impact that supports topic importance. The interpersonal energy of the meanings in preceding clauses has optimised the environment for this evaluation. Table 6.10 shows the cluster at clause rank as a Manner process and embedded as downranked circumstances:

Table 6.10: Cluster of contextual meanings in Bowen (2013), clause 14

14.1			
This	was	a substantial amount	
Carrier	Pr: attributive	Attribute	
14.2			
especially	considering		
gr/force/intensify/process	3a Pr: mental, inf. w. C. Manner: quality Sense: when thought about <i>carefully</i>		
14.3			
that	the retail value of all fresh fish sold in the San Francisco fish markets during 1877	was	only US\$220,000.
	Carrier	Pr: attr.	Attribute
	in the San Francisco fish markets	during 1877,	
	1b D.C. Loc: place - physical: geographical	1b D.C. Loc: time - loc: det. gr/force/quantify/process/extent/scope/time	

The strength of this evaluation comes first from *considering* (Manner process = thought about *carefully*), intensified by the graduation item *especially*, which together argumentatively connect the two claims. Major argumentative impact is lost if they are absent and 14.1 and 14.3 are independent clauses:

This was a substantial amount. The retail value of all fresh fish sold in the San Francisco fish markets during 1877 was only US\$220,000.

Further, contextual meanings of Location: place and Location: time, as downranked circumstances, shape the Carrier very precisely. Their impact, notably that of Location: time, is magnified by the pre-modifier *only* (gr/force/intensify/attribute), which ostensibly downgrades the Attribute while actually amplifying and supporting argument.

To summarise, it is contextual meanings and patterns that ensure engagement and impact in this phase. Bowen's development is framed by marked Themes of Location: time. It is given geographical and physical particularity and relevance by contextual

meanings of Location: place, Manner: means and Manner: quality. Maximum force in the final evaluation is enabled by meanings of Location: place and Location: time, and a process infused with Manner: quality. Overall, contextualisation enables this phase to co-pattern with the introduction to topic, thus interpersonally optimising the environment for perception of research worth, relevance and interest.

6.2.3.2 Patrick (2011): clauses 11-12

Patrick's development evaluates the attitudes of education historians. Conglomerate and complex contextual meanings that present the research field as problematic signal that, for Patrick, this phase is high-stakes. In clause 11, conglomerate meanings, at and below constituent level, advantageously prepare for identification of the research opportunity (to be announced in clauses 14-15).

- 11 **Recently** several historians have attempted to shift the context of the historical debate **over the connections between knowledge and colonialism in New Zealand from one almost exclusively devoted to examining the 'textual outputs' of colonial knowledge.**

Clearly, without the contextual meanings, this clause would lose impact and meaning:

... several historians have attempted to shift the context ...

Table 6.11 plots the embedding of these dense and complex contextual meanings:

Table 6.11: Conglomerate embedded contextual meanings, Patrick (2011) clause 11

Recently	several historians	have attempted to shift	the context of the historical debate [over the connections between knowledge and colonialism in New Zealand]	from one [[almost exclusively devoted// to examining the 'textual outputs' of colonial knowledge.]]
5 Adjunct: temporal (Loc: time -loc: indet.) gr/force/quantify/process/ extent/distance/time	Actor	Pr: mat.	Goal	1a C. Loc: place – abstract
			[over the connections between knowledge and colonialism in New Zealand]	almost exclusively
			2a Q. Matter	1b D.C. Manner: quality gr/force/intensify/process
			between knowledge and colonialism [in New Zealand]	devoted¹// to examining the 'textual outputs' of colonial knowledge²
			2b Q. Location: abstract	3b Manner processes: ¹ wholly concerned with ² thoroughly looking at
			in New Zealand	
			2b Q. Loc: place - phys: geo.	

In clause 11 the marked Theme of C. Location: time *Recently* confirms transition from the recount in the introduction to topic by refocusing from the distant past to the near present, so construing temporal relevance for what is to come. Then, in the Goal, contextualisation is in layers, as 2b Q. Matter, 2b Q. Location: place – abstract and 2b Q. Location: place – physical: geographical. The embedding locks in precise meanings to compel specific understanding of the context as conflicted. At clause level, the process *shift* and *from one almost exclusively devoted to examining the ‘textual outputs’ of colonial knowledge* (C. Location: place: abstract) raises the expectancy of difference. Interpersonal charge is delivered below the clause by *devoted to examining the ‘textual outputs’ of colonial knowledge*, two embedded Manner processes that construe a thoroughly narrow focus. The construal is intensified by *almost exclusively* (D.C. Manner: quality), that, with the ‘scare quotes’, invokes high negative affect in relation to past research approaches, enhancing appreciation of the possibilities for new research.

The meanings prepare for the evaluation realised in clause 12 by the circumstance of Location: place – abstract, and scaffolds acceptance of its claim:

- 12 Instead, they **argue**, scholars need to recognize the importance of the institutional foundations of intellectual life **in the shaping of colonial knowledge** and of the sets of processes and practices that governed knowledge’s production and reception.

The two contextual meanings in this clause act interpersonally. *Argue*, (Manner process = reason strongly = flag) assigns vigour and authority to what is reported, to support the evaluation. Q. Location: place abstract keeps focus on a major aspect of the research.

In summary, in Patrick’s development, contextual meanings supply considerable interpersonal force in construing a basis for argument. As a marked Theme, the temporal Adjunct *Recently* creates temporal relevance across the phase. Meanings of Matter and Location: place ensure particular understanding of the past research approach and context. Meanings of Manner: quality enable subvert, yet severe, criticism of other historians. The embedding of contextual meaning in constituents is a major part of construction of negative assessment. Overall, contextual meanings construe present scholarship as unsatisfactory, interpersonally creating negative affect as insecurity: disquiet. They thus maximise the possibilities of positive reception for the research opportunity to be announced in clauses 14-16.

6.3 Phases of reviews of literature and other research

The review of literature and other research is that part of an introduction that collects, describes and critically examines writing and research in the field. Having a persuasive function, reviews of literature and other research seek to show knowledge and respect for other scholars while discounting their research, with the aim identifying the knowledge space that is to be filled with the writer's research, and of continuing the perception of the writer's research as important and unique. Contextual meanings assist discounting and discarding literature and have interpersonal impact when they dominate, intensify and focus meanings within and across stretches of text.

The reviews analysed here differ in discursive character and length. Gray's and Patrick's reviews are longer, more evaluative and more argumentative than those of Brooks, Bowen and Macpherson. The reviews are analysed as groups of clauses that form a coherent, purposeful assessment of literature, indicated by Themes, citations, tense changes, and specific allusions, descriptions or evaluations.

A significant feature, particularly in Gray, is the action of contextual meanings in assisting discounting of others' research via the 'burnish/tarnish' technique (Humphrey & Hao, 2013, pp.46-48). Burnishing refers to citation verbs and positive evaluations that acknowledge and position literature as interesting and authoritative, evoking positive appreciation. Tarnishing deploys a range of resources, including concessive and contrastive conjunctions and circumstances that realise contextual meanings, to construe irrelevance and inadequacy. It is argued that burnishing and tarnishing are important qualitative contextualisations that assist creation of the research space by strongly influencing negative appreciation of others' work.

6.3.1 Chemistry reviews of other research: Brooks et al (2013)

6.3.1.1 Brooks et al (2013), clauses 33-37

Brooks' review of other research follows the purpose-value phase, where contextualisation has positioned the research as groundbreaking, unique and successful. In this review, sprinkled contextual meanings assist a persuasive burnish/tarnish sequence as other research is positioned as unsuccessful, Figure 6.9:

33	Contrasting, (Ru9bpy) ₃ ²⁺ has been used to photoreduce Ag ⁺ to Ag metal but silver has a high work function, // its cation is easy to reduce	} Burnish
34	and Ag ⁰ lacks the energy density necessary of (sic) for a solar fuel .	} Tarnish
35	A dissimilar approach is the reduction of Zn ²⁺ to Zn metal by solar thermal ZnO decomposition .	} Burnish
36	At high temperatures achieved by concentrating sunlight equilibrium shifts and ZnO splits into its elemental constituents O² and Zn .	} Burnish
37	Though ZnO splitting can occur at 1100K , temperatures of 2300K or higher are generally required , and low metal yields caused by the reoxidation of Zn ⁰ are commonly observed during cooling process .	} Tarnish

Figure 6.9: Contextual meanings in burnishing/tarnishing other research, Brooks et al (2013), clauses 33-37

In clause 33, one piece of research, conversion of Ag⁺ to Ag metal by (Ru9bpy)₃²⁺, is acknowledged, then immediately tarnished by the conjunction *but*, ending with *of (for) a solar fuel*¹ (D.C. Cause: purpose)—the very purpose of Brooks' research.

In clauses 35-37, more research is similarly treated. In clause 35 contextual meanings burnish other research:

- *to Zn metal* (Q. Role: product)
- *by solar thermal ZnO decomposition* (Q. Manner: means)
- *At high temperatures* (marked Theme of C. Location: place – abstract) and
- *into its elemental constituents O² and Zn* (C. Role: product).

However, in clause 37, the counter-expectancy conjunction *though* signals tarnishing. This begins with *at 1100K* (C. Location: place – abstract) and is maximally extended by graduation, *generally* (C. Manner: quality = focus/valeur/specificity), *required* (Manner Process = demanded compulsorily) and *commonly* (Adjunct = force/quantify/process/frequency). Finally, *during cooling process* (C. Location: time- unlocated: determinate) is a time fused with process, a time defined by 'doing', which may not be calendar-locatable. It serves to contextualises the problems of other research as recurring. Thus, overall, by facilitating the burnish/tarnish pattern, contextual meanings downgrade others research, evoking negative appreciation and enhancing Bowen's own research. To sum up, it seems that even when merely sprinkled, providing a single marked Theme, and with little evaluation, contextualisation can interpersonally support a particular position.

¹ Meaning of the preposition *of* is taken to be *for the purpose of*, so classified as a circumstance of Cause: purpose

6.3.2 Education literature reviews: Gray (2010) and Macpherson & Owen (2010)

There is a marked difference between these reviews in length and character. Gray's Review occupies the major part of the Introduction. At times CD is high and heavily loaded with evaluation, indicating textual stress points. Macpherson's Review is short and CD is lightly sprinkled; still, contextual meanings act interpersonally support research value.

6.2.3.1 Gray (2010), clauses 11-37 and 40-43

It is argued that Gray's literature review is highly persuasive, seeking to portray the research as important, unique, and filling a knowledge deficiency, by construing concern and need and by emphasising inadequacies in other research. Contextual meanings make a contribution to discounting literature by assisting burnish/tarnish.

Analysis of this long literature review is organised around sub-phases² distinguished by differences in purpose and field:

- 1 Clauses 11-16 continue support for the importance of the research topic. CD is intense in claims about agreement on the importance of, and need for, communication skills. These clauses contain a cluster that includes a pair, and a dominating prosody of marked Themes.
- 2 Clauses 17-19 cover assessment of difficulties in higher education and research limitation CD is generously sprinkled.
- 3 Clauses 20-28 contain discussion of limitations in understanding of communication skills. There is sparser sprinkling.
- 4 Clauses 29-32 comment on limited scholarship. A pair of circumstances brings textual sharpness to negative assessment. CD is still relatively light.
- 5 Clauses 33-37 critically assess specific sources. CD is noticeably denser
- 6 Clauses 40-43 contain critical comments on New Zealand studies. CD is relatively dense. It includes four clusters, four pairs and an intensifying circumstantial prosody.

It is suggested that CD patterning reflects greater risks in clauses 11-16, which continue emphasis on topic importance, and in clauses 29-32 and 40-43, where significant sources are assessed. Appendix H3 (p.327) shows graphic representation of CD across Gray. Table 6.12 shows the patterning of CD and circumstantial types across Gray's literature review:

² Clauses 38-39 are not covered in this section because they contain the research space

Table 6.12: Patterns of contextual meanings in Gray's (2010) literature review

Gray (2010) clauses 11-37 and 40-43	
	Sub-phase 1
11	National and international studies consistently agree that accounting practitioners and professional groups consider communication skills in general to rank among the most important skills for Graduates to possess upon their entry into an accountancy career .
12	Studies also show that the acquisition of graduates with suitably strong communication skills represents a particular and ongoing concern to accountancy employers .
13	Professional bodies have responded to this concern in various explicit ways .
14	In Australia , the Australian Society of Certified Practising Accountants (ASCPA) and Institute of Chartered Accountants in Australia (ICAA) issued a joint statement in 1996 calling on all tertiary accounting programmes to explicitly teach a range of generic skills which was updated in 2005 .
15	In New Zealand , the <i>Chartered Accountants Journal</i> publishes a column on good writing and in the Professional Competence Examination part 2, which is the second stage of training to become a Chartered Accountant - NZICA specifically requires the student to "communicate effectively both verbally and in writing ".
16	Internationally , academics and practitioners agree that accounting students' writing and oral communication skills are two major areas needing more attention in the university curriculum , and a considerable body of scholarship has sought to make informed recommendations to the curricular offerings at university level accounting education .
	Sub-phase 2
17	Teaching communication in the disciplines , however, has to acknowledge the difficulty in transferring those skills from the classroom to the workplace .
18	Thomas (1995) criticizes the real-world applicability of the texts and approaches used to teach business communication in higher education ;
19	similarly, D'Aloisio (2006) argues for the need to relate university learning to the specific communication competencies required in corporate work settings .
	Sub-phase 3
20	The small number of international studies specifically focusing on the acquisition of communication skills by accountancy graduates have been limited in several ways .
21	Studies have often used umbrella terms, leaving the term <i>communication skills</i> undifferentiated.
22	For example, Zaid and Abraham (1994) studied the problems encountered by accountancy graduates early in their employment careers and reported a primary area of difficulty to be in "communication with others ".
23	Baker and McGregor (2000) compared the importance perceived in communication skills by a number of accountancy stakeholder groups; however, this study, too, uses only the broad term <i>communication skills</i> .
24	Second, within the smaller number of studies that identify and examine communication skills more specifically , the focus has tended to be on written communication skills .
25	Certain more in-depth studies have limitations of their own.
26	De Lange, Jackling, and Gut (2006) surveyed Australian accountancy graduates to find their ideas of the skill development they considered necessary for a successful career in accountancy .
27	A limit of this approach is that graduates' perceptions do not necessarily match the perceptions of accountancy employers wishing to hire new graduates.
28	And while the De Lange et al (2006) study found that students reported a significant skill deficiency in the specific areas of "inter-personal skills" and "oral expression," the range of possible skills falling into these two broad categories remained undifferentiated.
	Sub-phase 4
29	There remains a very limited amount of scholarship focusing on the topic of specific oral communication skills in accountancy .
30	A number of studies clearly support the position that accountancy employers want strong oral communication skills in the graduates they hire .
31	There is a similarly generally shared opinion that oral communication skills in accountancy graduates are not at the required level .
32	Kryder (1997) reports that many new accountants are "surprised and dismayed" to discover the communication skills required in the workplace .
	Sub-phase 5
33	However, few studies have identified and examined individual oral communication skills.
34	One such study, by Maes, Weldy, and Icenogle (1997), surveyed business employers on graduates' possession of 13 distinct oral communication skills , but they surveyed 150 American managers across a broad array of industries .
35	Maes et al (1997) and McLaren (1990) both included listening in their lists of desirable communication skills , and the importance of listening as a specific business communication skill has been examined more recently by Goby and Lewis (2000).
36	With no agreement on a catalogue of oral communication skills , other research has variously investigated conveying of expertise and giving intelligible explanations, giving formal presentations, and giving more casual presentations, across a range of business industries .
37	While Morgan (1997) identified 13 individual skill areas within oral communication activities in accountancy, in a study of accounting professionals in England and Wales , his study is exceptional in its specific focus .
38	
39	Clauses 48-49: Gap statements analysed in Section 64
	Sub-phase 6
40	Like De Lange et al (2006) in Australia , Rainsbury, Hodges, Burchell, and Lay (2002) surveyed New Zealand business students and graduates - but not employers - on their perceptions of the workplace importance of seven key skill areas
41	Oral and written communication was again presented as a single skill area within the seven .
42	In other New Zealand studies , Gardner, Milne, Stringer, and Whiting (2005) engaged with the particular issue of oral communication in accountancy students but examined it from the perspective of students' communication apprehension (CA) and the impact of their course of study in reducing student CA , rather than in a workplace context .
43	Several Otago University studies recounted the development of teaching programs integrating generic skills with accounting knowledge but drew on a skill-set articulated in the Society of Accountants' Admissions Policy rather than employer demand.

Sub-phase 1: clauses 11-16

Contextual meanings reinforce topic importance at the commencement of the review:

- 11 National and international studies **consistently** agree// that accounting practitioners and professional groups **consider** communication skills in general// to rank **among the most important skills for Graduates** to possess **upon their entry into an accountancy career**.

Consistently (Manner process = gr/force/intensify/) intensifies the process *agree and* capitalises on *National and international* (gr/force/quantify/thing), to authoritatively construe wide-focused importance. Further upgrading comes from *among the most important skills* (Attribute: circ. Location space – abstract) as a scoping resource with graduation, *the most* (force/intensify/attribute) and *important* (force/quantify/thing). Then, particular understanding is reinforced by *for Graduates* (Q. Cause: behalf), the process *possess, upon their entry* (D. C. Location: time – unlocated: determinate) and *into an accountancy career* (Q. Location: place: institutional: occupational).

It is suggested that the specificity achieved by the multi-contextual meanings in those two pairs necessitates only medium commitment of meaning potential and impact in *consider* (Manner process = *think conclusively*), which presents the views as convincing but preserves the impression of restraint in evaluating others' views. The conglomeration creates positive appreciation of communication skills as prosody, with, again, the professional workplace context the final and most emphatic meaning. Much meaning is locked into the Attribute: circ. The depth of contextual embedding is shown in Table 6.13:

Table 6.13: Embedded contextualisation creates positive positioning, Gray (2010) clause 11.3

... communication skills [in general]	[[to rank	among the most¹ important² skills [for Graduates // to possess [upon their entry into an accountancy career]]]
Actor	Pr: material	4b Attribute (circ: abstract: institutional – occupational) ¹ Gr/force/intensify attribute ² Gr/force/quantify/thing
		for Graduates // to possess [upon their entry into an accountancy career]
		2b Q. Cause: behalf
		upon their entry [into an accountancy career]
		1b D.C. Loc: time – unloc: det
		into an accountancy career
		2b Q. Loc: place – inst: occ

Positive appreciation →

The positivity generated in this clause enables greater impact for clause 12, in which contextual meanings as Q. Accompaniment: comitative, C. Angle: viewpoint and C. Manner means, sharpen the focus on professional importance:

- 12 Studies also show that the acquisition of Graduates **with suitably strong communication skills** represents a particular and ongoing concern **to accountancy employers**.
- 13 Professional bodies have responded to this concern **in various explicit ways**.

Clauses 12-13 lead into high-energy interpersonal impact in clauses 14-16 that contextualises comprehensive research need. Here, contextual meanings as circumstances of Location: place are multiple and robust scoping resources (force/ quantify/process/extent/scope/space). As marked Themes, they dominate clauses, and across the clauses they pulse out specific meanings that invoke both geographical and professional importance. The result is strongly framed messages, shown in in Figure 6.10:

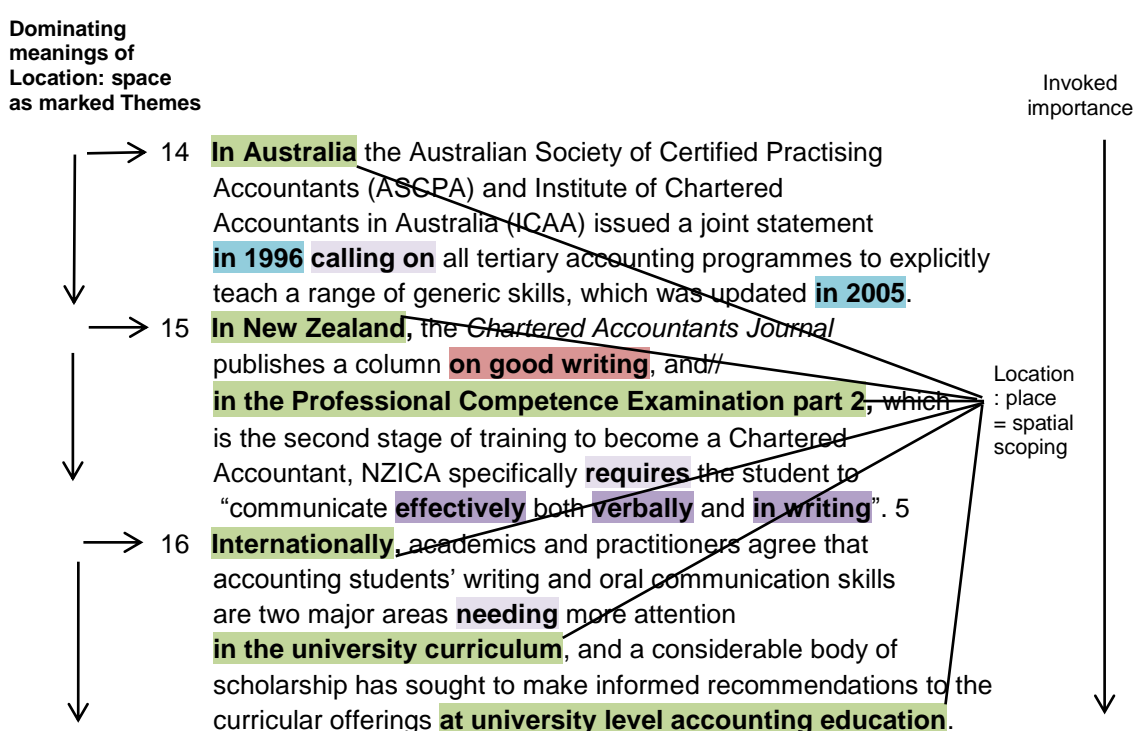


Figure 6.10: Contextual scoping by marked Themes and meanings of Location: place invoke wide importance for communication skills, Gray (2010) clauses 14-16

The contextual meanings are physical: geographical (*In Australia, In New Zealand, Internationally*), and semiotic (*in the Professional Competence Examination part 2*) and abstract (*at university level accounting education*). They work for two-dimensional, wide-focused contextual and professional understanding. Significantly, the final marked Theme, *Internationally*, summarises and maximises supportive scholarly and professional authority. Accumulated meanings of place emphasise *in the university curriculum* (Q. Location: place semiotic) and *at university-level accounting education* (Q. Location: place – abstract). Added interpersonal impact derives from the property of these circumstances

as graduation resources that spatially scope the areas of professional concern, geographically, semiotically and abstract.

Non-spatial contextual meanings add to perception of research authority and need. In clause 14, *in 1996* and *in 2005* (both C. Location: time – located: determinate) construe timeliness. *Explicitly* (C. Manner: quality) infers that teaching is deficient. In clause 15, on good writing (Q. Matter, containing *good* = high positive appreciation) highlights essential professional skill, which is re-emphasised by *effectively* (Manner: quality = gr/force/intensify/process) and particularised by *verbally* and *in writing* (both C. Manner: means). Further, Manner processes add to the interpersonal impact: *calling on* (asking emphatically and prominently) contextualises high professional attention to the communications deficiency, and *requires* (wants compulsorily) and *needing* (requiring compulsorily) implies that addressing it is not optional. The cross-clause effect is strongly interpersonal; contextual meanings realised by circumstances, Qualifiers and processes construe communication skills as essential, and by inference, the research, so continuing to build positive appreciation for it.

Sub-phase 2: clauses 17-19

Contextual meanings reinforce ideas of limitation and inadequacy in the field. A Qualifier and downranked circumstances of Location: place, as resources of graduation, spatially scope these negative values, shown in Figure 6.11:

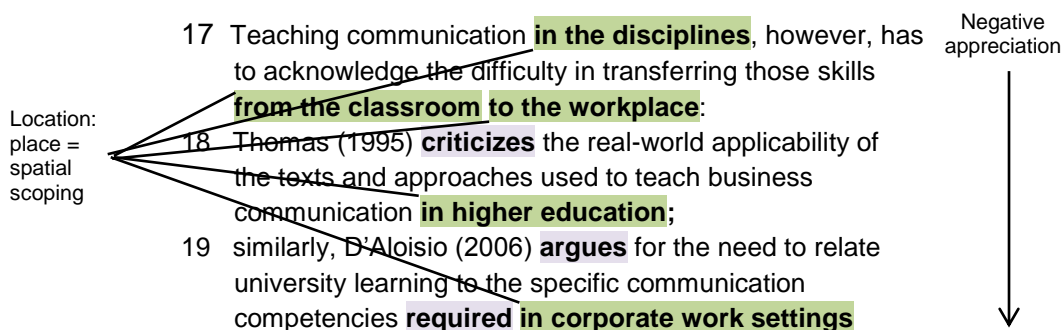


Figure 6.11: Spatial scoping construes wide-ranging problem, Gray (2010) clauses 17-19

The problem is contextualised as wide-ranging—in *disciplines*, *classroom*, *higher education* and *workplace*. Citation processes infused with Manner enhance the negativity: *criticizes* (= comments unfavourably on), *argues* (= reasons strongly) and *required* (= wanted compulsorily). Since these processes are tintured with the writer's attitudes (Stillar, 1998), they can be seen as interpersonally direct, and they work to align readers with the supportive literature as well as with Gray's viewpoint. The impact is accentuated by *similarly* (= en/contract/proclaim/concur). The here is negative appreciation as prosody, of both pedagogy and curriculum, foreshadowing assessments of deficiency in literature.

Sub-phase 3: clauses 20-28

Contextual meanings in clauses 20-24 further interpersonally support the idea of lack of understanding about the meaning of communication skills, and facilitate burnishing and tarnishing of literature, as Figure 6.12 shows:

- | | |
|---|--|
| <p>20 The small number of international studies specifically focusing on the acquisition of communication skills by accountancy graduates have been limited in several ways.</p> <p>21 Studies have often used umbrella terms, leaving the term communication skills undifferentiated.</p> <p>22 For example, Zaid and Abraham (1994) studied the problems encountered by accountancy graduates early in their employment careers and reported a primary area of difficulty to be in “communication with others”.</p> <p>23 Baker and McGregor (2000) compared the importance perceived in communication skills by a number of accountancy stakeholder groups; however, this study, too, uses only the broad term <i>communication skills</i>.</p> <p>24 Second, within the smaller number of studies that identify and examine communication skills more specifically, the focus has tended to be on written communication skills.</p> | <p>Negative appreciation</p> <p>} Burnish</p> <p>} Tarnish</p> <p>} Burnish</p> <p>} Tarnish</p> |
|---|--|

Figure 6.12: Locational contextualisation in literature evaluation, Gray (2013) clauses 20-24

The cluster of contextual meanings in clause 20 is interpersonally strategic. These meanings give force to the hyperTheme that presages disparagement of others' studies. Quantification in contextual meanings has a significant role in the assessment of others research in these clauses. Construal of deficiency begins with *small* (quantification downwards) in the first nominal group. *Small* is then contextualised as highly specialised by *focusing* (Manner process = pay attention to particularly, intensified by *specifically*). Then, within *on the acquisition of communication skills by accountancy graduates* (D.C. Location: place - metaphorical) is composed of a succession of prepositional phrases:

on the acquisition of communication skills by accountancy graduates

The phrases unfold with a rhythmical beat, with the professional emphasis on the last and strongest beat. In this clause also, contextual precision accentuates the assessment of studies as *limited* (quantification down) and that limitation quantified up by *in several ways* (Manner: means). This creates an even wider view of deficiency that pre-magnifies subsequent negative assessments of the understanding of communication skills.

In clauses 21-22 deficiency is elaborated and enhanced. In clause 21, *often* (C. Extent: frequency) foregrounds the Classifier *umbrella* (softening specificity) and the process *leaving undifferentiated*. This encourages perception of unfocused research as quite usual. In clause 22 the amount of vague research is quantified up by *for example*. Wasted effort

is construed by *studied* (Manner process = looked at carefully) and *early in their employment careers* (D.C. Location: time – located: indeterminate = graduation/force/quantify/process/extent/scope/time), and by *with others* (Q. Accompaniment: comitative). Overall, others' research is contextualised as limited and vague.

In clauses 23-24, contextual meanings realised by circumstances assist the burnish/tarnish sequence indicated in Figure 6.12. In clause 23 *compared* (Manner process = examined purposefully, i.e. for differentiation) and *in communication skills* (D.C. Location: place - abstract) burnish research and the contrastive conjunction *However* introduces negative evaluation. Tarnishing is completed in clause 24. Its marked Theme, *within the smaller number of studies that identify and examine communication skills more specifically* (C. Location: place – semiotic), is a graduation resource that spatially limits the possibility of relevance. Graduation here enables more detailed context: *the smaller number of* (force/quantify/thing) narrows the positivity of *examine* (Manner process = scrutinise thoroughly) and *specifically* (focus/intensify process). The marked Theme prepares for tarnishing in the circumstantial Attribute (intensified by italics): 'on *written communication skills*'. Thus, interpersonally, sprinkled and paired contextual meanings across these clauses, limiting the possibility of suitable studies, creating a prosody of negative appreciation as they enable more space for Gray's research.

Portrayal of limitation and inadequacy continues in clauses 25-28, through burnishing and tarnishing, again assisted by spatial scoping resources, shown in Figure 6.13:

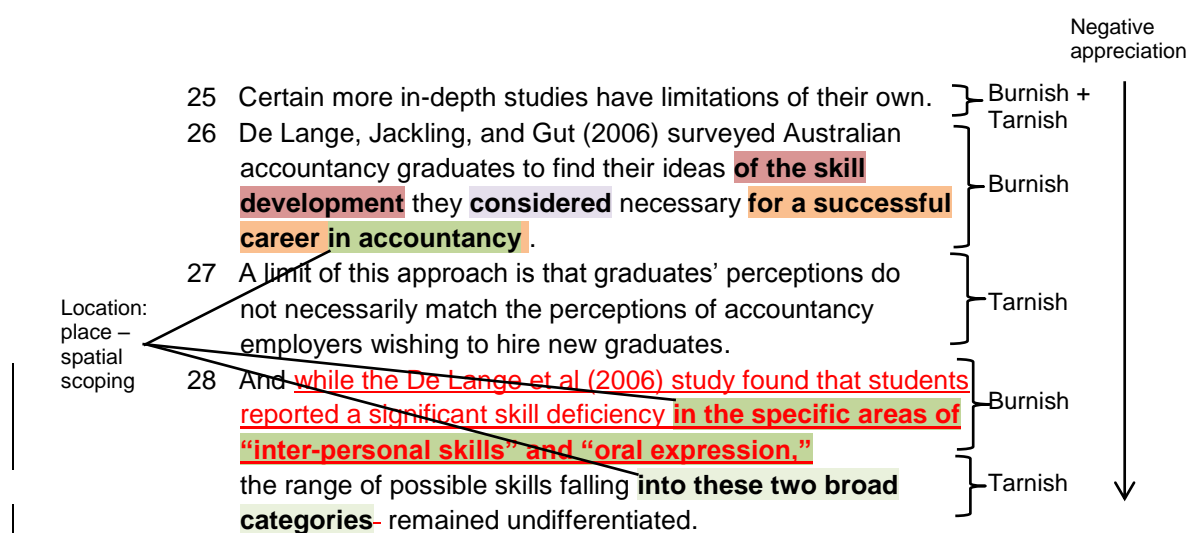


Figure 6.13: Spatial contextualisation assists burnishing/tarnishing, Gray (2010) clauses 25-28

As a hyperTheme, Clause 25 warns of inadequacy. It offers burnishing, *more in-depth studies*, with the favourable assessment *in-depth* intensified by *more*. However, the burnishing is offset by tarnishing, via *limitations* (Attribute: possession), which is upgraded by *of their own* (gr/focus/valeur/specificity).

Contextualisation helps to justify this warning by assisting further burnishing and tarnishing. In clause 28, De Lange et al (2006) is acknowledged but also problematised. In that clause, *in the specific areas of “inter-personal skills” and “oral expression,”* (C. Location: place – abstract = gr/force/quantify/process/extent/ scope/space) burnishes by locating research findings, but the research is tarnished because *into these two broad categories* (Attribute: circ. Location: place – abstract), a similar graduation resource, construes more vagueness. Further graduation upgrades this: *specific* (focus/valeur/ specificity) assigns special status to ‘interpersonal skills’ and ‘oral expression’, but their portrayal as *two broad* (force/quantify/thing) *categories* again removes definition and gives maximum impact to the Attribute *undifferentiated*, which echoes *undifferentiated* in clause 21. So, contextual meanings continue to portray the literature as limited and vague.

Sub-phase 4: clauses 29-32

In this sub-phase, citing supportive sources, Gray continues to build negative appreciation of knowledge in the field. Perception of inadequacy and strong desire for skills is reinforced by negative evaluations of literature about scholarship, graduate skills, skill levels and experiences of new graduates. The sub-phase begins with inadequacy contextualised as professional by a downranked circumstance and Qualifiers of Location: place, shown in Figure 6.14:

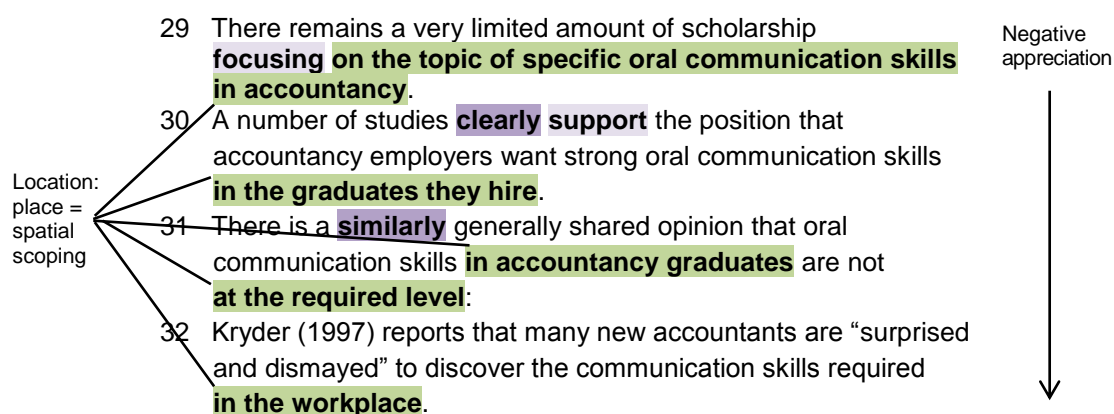


Figure 6.14: Negative appreciation spatially scoped across clauses, Gray (2010) clauses 29-32

Over the clauses, contextual meanings assist negative perceptions of knowledge in the field, and thus positive assessment of the need for Gray's research. In clause 29, *very* (gr/force/intensify/attribute) and *limited* (gr/force/quantify/thing) *amount of scholarship* recalls *limited* in clause 20. The reminder is amplified by contextual meanings: *focusing* (Manner process = paying attention particularly to), followed by a pair, *on the topic of specific oral communication skills* (D.C. Location: place – abstract), given emphasis by *specific* = gr/focus/valeur/specificity) and professional location by *in accountancy* (Q. Location: place – abstract).

In clause 30, the assertion of employer demand is strongly foregrounded: quantification in *A number of studies* upgrades *support* (Manner process = present information positively), and is intensified by *clearly* (C. Manner: quality). Then, in clause 31, [not] *at the required level* (Attribute: circ. = spatial: abstract) stresses lack of graduate communications. Its impact is assisted by foregrounding by *similarly* and *generally* (gr/focus/valeur/specificity), which extend negative perception of formal research.

In clause 32, heterogloss, as the reference to Kryder (1997), is a strong engagement resource. Quoting enables emotive lexis *surprised* (affect as insecurity: surge) and *dismayed* (affect as unhappiness: surge) that augments the importance of *in the workplace* (Q. Location: place – abstract: occupational). This again focuses attention on communication skills as professional necessity. Thus, negative appreciation is evoked with respect to knowledge in the field, further supporting Gray's research.

Sub-phase 5: clauses 33-37

This sub-phase continues to emphasise the lack of research into oral communication skills. CD is noticeably higher, tending to conglomerate and perhaps reflecting greater textual stress in discounting literature in the lead-up to the research space phase in clauses 38-39. Contextual meanings as circumstances are basic to successful discarding of other research. The burnish/tarnish pattern is shown in Figure 6.15:

- 33 However, few studies have identified and **examined** individual oral communication skills.
- 34 One such study, by Maes, Weldy, and Icenogle (1997), **surveyed** business employers **on graduates' possession of 13 distinct oral communication skills**, but they **surveyed** 150 American managers **across a broad array of industries**.
- 35 Maes et al (1997) and McLaren (1990) both included listening **in their lists of desirable communication skills**, and the importance of listening **as a specific business communication skill** has been **examined more recently** by Goby and Lewis (2000).
- 36 **With no agreement on a catalogue of oral communication skills**, other research has variously **investigated** conveying of expertise and giving intelligible explanations, giving formal presentations, and giving more casual presentations, **across a range of business industries**.
- 37 While Morgan (1997) identified 13 individual skill areas **within oral communication activities in accountancy in a study of accounting professionals in England and Wales**, his study is exceptional **in its specific focus**.
- } Burnish
} Tarnish
} Burnish
} Tarnish
} Burnish + Tarnish

Figure 6.15: Clusters of contextual meanings in burnishing/tarnishing, Gray (2010) clauses 33-37

In clause 33 refocusing is signaled by the contrastive conjunction *However*, and the scarcity of relevant research by *few* (gr/force/quantify/thing) preceding *examined* (Manner process = scrutinised carefully). As a hyperTheme for this sub-phase, clause 33 minimises expectation of the adequacy of others' research.

In clause 34 other research is contextualised as comprehensive by the process *surveyed* and as relevant by *on Graduates' possession of 13 distinct oral communication skills* (C. Matter). Relevance is quantified up and sharpened by graduation in *13* (force/quantify/thing) and *distinct* (focus/valeur/specificity). Then, the contrastive conjunction *but* signals the onset of tarnishing. The research is tarnished as unfocused and therefore lacking, by graduation in *across a broad array of industries* (C. Location: place – industrial: occupational = gr/force/quantify/thing), which intensifies geographic irrelevance construed by *150* (gr/force/quantify/thing) *American managers*.

In clauses 35-36, in light burnishing, a range of work on oral skills is acknowledged but construed as vague. In clause 35 Maes et al (1997) and McLaren (1990) are reported to place listening only *in their lists of desirable communication skills* (Location: place – semiotic). It is suggested that contextualisation here enables quite subtle tarnishing of

Goby & Lewis (2000). Their research focus is favourably contextualised by *As a specific (gr/focus/valeur/specificity) business communication skill* (Q. Role: guise) then burnished by *examined* (Manner process = scrutinised carefully) and graduation in *more* (force/intensify/process) *recently* (Adjunct: temporal (located: indeterminate) = force/quantify/process/extent/ scope/time), which conveys indeterminate but present timeliness. However, the text passes quickly over this source. It is suggested that the lack of social and geographical contextualisation, so prevalent for other sources, does imply negative evaluation of this text.

In clause 36, any positivity in preceding clauses is negated by the important marked Theme *With no agreement* (C. Accompaniment: comitative – negative) *on a catalogue of oral communication skills* (Q. Matter). The marked Theme maximises the scope for Gray’s inquiry while again contextualising other projects as inconclusive and unfocused: *variously* removes the quality of concentration from *investigated* (Manner process = looked into thoroughly), and *across a range of business industries* (C. Location: place – industrial: occupational) represents a wide (and therefore irrelevant) field of interest.

Clause 37 contains an example of conglomerate contextualisation evoking attitude. This is a sensitive clause, because it immediately precedes the research space phase. Here embedded contextual meanings of Location: place commit much meaning potential. They enable negotiation of what could be a difficult point—fair representation of exemplary and relevant research while precluding its incursion into one’s own research space, in this case, oral communication skills in accountancy in New Zealand. Research by Morgan (1997) is precisely contextualised by graduation as *13* (force/quantify/thing) and *individual* (focus/valeur/specificity). Embedded spatial meanings scope its relevance to further enhance Gray’s research. Depth of embedding is shown in Table 6.14:

Table 6.14: Conglomerate embedded contextual meanings scope other research, Gray (2010) clause 37.1

While	Morgan (1997)	identified	13 individual skill areas within oral communication activities in accountancy in a study of accounting professionals in England and Wales]
	Actor	Pr: material	Scope
			within oral communication activities [in accountancy in a study of accounting professionals in England and Wales]
			2a Q. Loc: place - abstract
			in accountancy [in a study of accounting professionals in England and Wales]
			2b Q. Loc: place – abstract: institutional– occupational
			in a study of accounting professionals [in England and Wales]
			2b Q. Loc: place - semiotic
			in England and Wales
			2b Q. Loc: place – physical: geo.

The conglomerate contextual meanings commit substantial meaning potential, scoping and shaping Morgan's work as focused and thorough. Protection of Gray's research space relies on the contrastive conjunction *While* and two meanings: geographical in the Qualifier *in England and Wales* and qualitative contextualisation in clause 37.2:

37.2 his study is exceptional **in its specific focus**

The Attribute *exceptional* (very high positive appreciation) is followed by *in its specific focus* (C. Manner: quality), with *focus* sharpened by *specific* (gr/focus/valeur/ specificity). Contextualisation both burnishes and tarnishes Morgan's (1997) work, pushing its special nature yet excluding it, all the while evoking positive appreciation. The way is clear for Gray's gap phase in clauses 38-39 (Section 6.4, p.105).

Sub-phase 6: clauses 40-43

Clauses 40-43 justify the research gap. CD is dense, with pairs and clusters. Again, the pattern of burnishing/tarnishing is facilitated by contextual meanings to create negative appreciation of these sources as prosody, Figure 6.16:

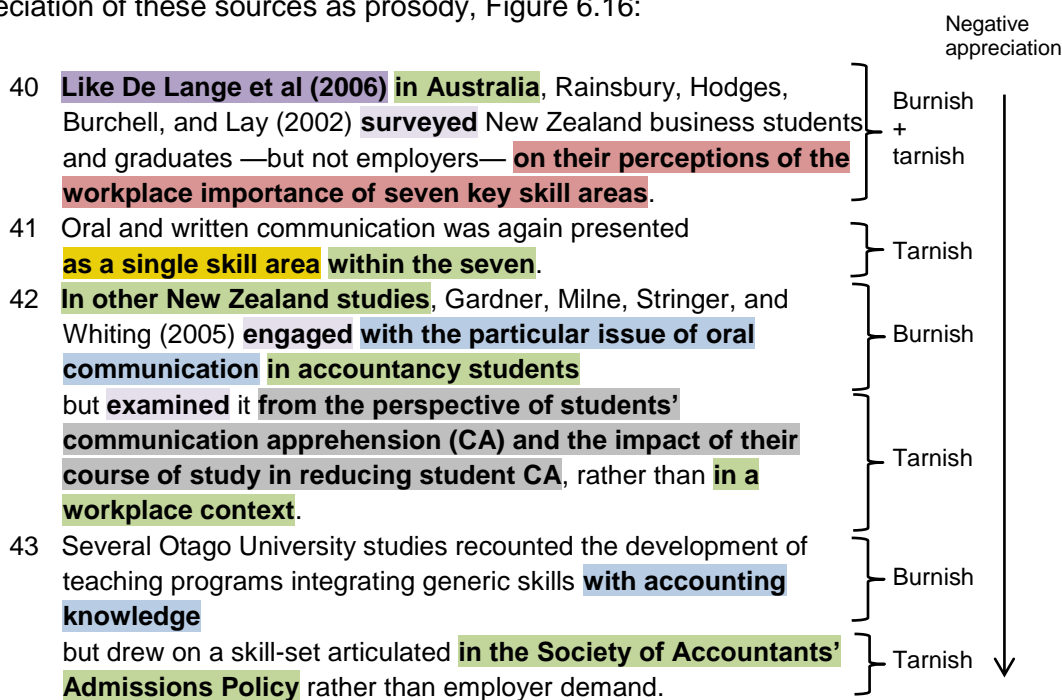


Figure 6.16: Contextual meanings assist burnishing/tarnishing, Gray (2010) clauses 40-43

Clauses 40-43 are dominated by the marked Theme of C. Manner: comparison and Q. Location: place, which contextualise geographic relevance. *Surveyed* further frames the research as comprehensive but also tarnishes: —*but not employers*—, intensified by the punctuation, conveys lack of direction. Burnishing is assisted by the rhythm of the sequence of prepositional phrases within C. Matter: *on their perceptions/ of the workplace importance/ of seven key skill areas*, and by evaluation items: *importance* (inscribed

importance), *seven* (gr/force/quantify/thing) and *key* (high positive appreciation). However, these work to accentuate tarnishing in clause 41 where lack of focus is intensified by *again* (repetition) and by *as a single skill area within the seven* (C. Role: guise and Q. Location: place). Graduation in these meanings emphasises lack of differentiation, via *single* (focus/valeur/specificity) and *the seven* (force/quantify/thing).

In clause 42 the burnish/tarnish pattern continues. First, the marked Theme *In other New Zealand studies* (C. Location Place – semiotic) stresses relevance. Research is quantified up by *other*, given vigour by *engaged* (Manner process = discussed analytically and argumentatively) and focused by *with the particular* (graduation/focus/valeur/ specificity) *issue of oral communication* (C. Accomp: comitative). Tarnishing begins with the conjunction *but* and *examined* (Manner process = scrutinised carefully). Wrong focus is then contextualised in *from the perspective of students' communication apprehension* (CA) and *the impact of their course of study in reducing student CA* (C. Angle: viewpoint) and *rather than in a workplace context* (C. Location: place – abstract).

In clause 43 contextualisation in the burnish/tarnish sequence is embedded but very simple. Table 6.15 offers a view of the embedded meanings:

Table 6.15: Qualifiers in a burnish/tarnish sequence, Gray (2010) clause 43:

43.1			} Burnish
Several Otago University studies	recounted	the development of teaching programs [[integrating generic skills with accounting knowledge]]	
Sayer	Pr: verbal	Verbiage	
		with accounting knowledge	}
		1b D.C. Accompaniment: comitative	
43.2			} Tarnish
but	drew on	a skill-set [[articulated in the Society of Accountants' Admissions policy]]	
	Pr: material	Scope	
		in the Society of Accountants' Admissions policy	
		1b D.C.C Loc: place - semiotic	}
43.3			
rather than	employer demand		}
	Scope		

In clause 43.1 *with accounting knowledge* (D.C. Accompaniment: comitative) assists burnishing by connecting teaching, skills and accounting knowledge. In clause 43.2, the strategic conjunction *but* and *in the Society of Accountants' Admissions policy* (D.C. Location: place – semiotic) set up clause 43.3 to represent a wrong choice. Over the clause, the research is contextualised as mis-focused, and thus invokes negative appreciation. The clause demonstrates that for interpersonal impact, contextual meanings need not be dense or at constituent/group level.

In summary, Gray's literature review shows contextual meanings are crucial in positioning a writer's work as unique and offering new knowledge. Contextual meanings frame other research as unfocused and inadequate. In invoking negative appreciation of others' research, they invoke positive appreciation of Gray's. Flexibility is enabled by their presence in a range of locations at constituent level and below. Finally, while CD is dense in the latter sub-phases, indicating argumentative risk, interpersonal power can derive from evaluation and placement even when CD is light.

6.3.3.2 Macpherson & Owen (2010), clauses 12-14

There is a coherent, albeit brief and descriptive, focus on literature. CD is light:

- 12 The development of critical thinking ability **at the level of tertiary education** has been a major area of research **in recent years**: for example, van Gelder (2005) has **reviewed** the efficacy of critical thinking courses:
- 13 Vesely and Sherlock (2005) have described pedagogical tools;
- 14 others (Deloach and Greenlaw 2005) have **considered** the efficacy of electronic discussions **in the development of critical thinking**.

The review supports research status by citing literature, rather than evaluating it. In clause 12, educational contextualisation stresses hierarchy (*at the level of tertiary education* = Q. Location: place abstract), with *tertiary* (gr/focus/valeur/specificity). *In recent years* (C. Location: time - located: indeterminate) emphasises present relevance via graded time in *recent* (gr/force/qu/thing) and evokes long-standing importance (quantifying up) with *years* (compare, for example, the lesser impact that would be achieved by a simple *recently*). The cited sources are also quantified up, by implication: in clause 12 by *for example* and in clause 14 by *others* (both gr/force/quantify/thing). Implying a number of sources, quantification amplifies the effects of the Manner processes *reviewed* (discussed critically) and *considered* (thought carefully about). Finally, in clause 14 *in the development of critical thinking* (Q. Cause: purpose³) summarises and recalls research focus. Thus, while sources are described rather than evaluated, contextual meanings experientially situate them within 'a major area of research', and interpersonally bestow importance and relevance on them, and on Macpherson's work, by association.

³ The prepositional phrase is deemed C. Cause: purpose. The preposition *in* is taken to mean *for*.

6.3.3 History literature reviews: Bowen (2010) and Patrick (2011)

Relatively high CD is a shared characteristic, despite differences in length. Bowen's clauses 15-16 contain two literature references. Clause 15 comments on complaints about Chinese fishing methods, though this is not subsequently pursued. Clause 16 summarises and evaluates literature to strongly support research authority and validity. In Patrick's review the first sub-phase supports the research gap statement and the second justifies the thesis. They are separated by the purpose phase. Table 6.16 shows CD patterns:

Table 6.16: Patterns of contextual meanings in history literature reviews

Patrick (2011)	
	<p>Sub-phase 1</p> <p>16 While a body of scholarly writing engaging with Gibbons' work has appeared over the past few decades, critiques of the approach taken by Gibbons and historians influenced by his ideas have also begun to surface.</p> <p>17 Chris Hilliard first pointed to some of the limitations of the cultural colonization approach in 2002, arguing that 'while hardly anything in New Zealand is unconnected with colonization, not everything is adequately explained by its colonial entanglements'</p> <p>18 In two recent articles Tony Ballantyne has criticized the tendency of historians of colonialism in New Zealand to concentrate on the products of the textual exchanges of a small national intellectual elite while ignoring the vast amount of everyday interactions and knowledge practices that went on 'under' the nation, centred on 'specific practices, institutions and sites'.</p>
	<p>Sub-phase 2</p> <p>20 A 'top-down' and textually focused approach similar to that criticized by Ballantyne in relation to histories of colonialism has also characterized histories of history in New Zealand education</p> <p>21 There has been an overwhelming focus on educational content usually in the form of nationally produced textbooks and curriculum topics, to the exclusion of pedagogy and educational practice.</p> <p>22 In general, while textbooks loom large in the historiography of history education, historians of education have failed to interrogate the limitations of textbooks as sources of information on what history education was 'like' in the past: by asking, for instance, how textbooks might have actually been used in classrooms, what their intended pedagogical outcomes were and what other strategies teachers might have employed alongside or instead of textbooks to convey historical content or skills to their pupils.</p> <p>23 The observations of Peter Taylor and Julian Thomas in relation to the historiography of history education in Australia also apply to New Zealand.</p> <p>24 Taylor and Thomas contend that Australian studies of history education have been preoccupied with identifying the political ideologies contained in history lessons—often condemning such lessons as 'unnecessarily or falsely' ideological—while 'ignoring' the ways in which the actual teaching of a course of study over time might have been less about producing political ideas or passing on a discrete quota of historical knowledge than about producing "kinds of persons with particular skills and capacities".</p>
Bowen (2010)	
15	As in Australia , there are documented complaints in the US about the methods the Chinese used to catch fish , though the validity of these complaints is questionable
16	Archival and archeological evidence from America's Chinese fishing history correlates with recent research from Australia to suggest material connections that provide an important basis for studying Chinese migrations during the nineteenth century .

CD reflects assertive quality, particularly in important evaluations. Bowen's clause 15 has two pairs, and clause 16 has a cluster of five meanings, including a pair and a process infused with Manner: quality. Patrick's review has clusters, pairs, clumps and 11 processes infused with Manner: quality.

6.3.3.1 Bowen (2010), clauses 15-16

In clause 15 contextual meanings of Manner and Location: place build similarity between the fishing industry in Australia and the US:

- 15 **As in Australia**, there are documented complaints **in the US about the methods the Chinese used to catch fish**, though the validity of these complaints is questionable.

Connection is established by *As [in Australia]* (C. Manner: comparison) as a marked Theme embedded with Q. Location: place – physical: geographical. The second geographical contextualisation, *in the US* (C: Location: place) is given more particular meaning by *about the methods the Chinese used to catch fish* (Q. Matter). However, this is somewhat of a *non-sequitur*, because fishing methods are not mentioned elsewhere.

Bowen's evaluation of literature that does have convincing impact is in clause 16:

- 16 Archival and archeological evidence **from America's Chinese fishing history** correlates **with recent research from Australia** to **suggest** material connections that provide an important basis for studying Chinese migrations **during the nineteenth century**.

The evaluation covers a variety of sources cited in the body of the RA. A cluster of contextual meanings presents the field and interpersonally supplies orientation, relevance, and audience appeal. Temporal and locational relevance stems from interaction between process and contexts. Contextualisation focuses on the US, the Chinese and Australia. Orientation is provided by *from America's Chinese fishing history* (Q. Location: place: semiotic) and *from Australia* (Q. Location: place - physical: geographical). The process *correlates* connects *America's Chinese fishing history* (distant time and place) with local present, construed by *with recent (gr/force/quantify/thing) research* (C. Accompaniment: comitative) and *from Australia* (Q. Location: place – physical: geographical). *Suggest* (Manner process = offer tentatively) interpersonally addresses expectations of caution and finely balances the assertion:

... *material (gr/focus/valeur/authenticity = real and solid) connections that provide an important (gr/force/quantify/thing = high status) basis for studying (Manner process = look carefully at = thoroughness) Chinese migrations ...*

Finally, *during the nineteenth century* (Q. Location: time – located: determinate), frames temporal scope. The result is brief but authoritative positioning of Bowen's research for a specialist history audience. Positive appreciation is largely driven by a range of contextual meanings, at and below clause level. CD is significant in this clause, possibly reflecting the risk of making a major claim in a very short section of text, and the need for immediate successful interpersonal impact.

6.3.3.2 Patrick (2011): clauses 16-18 and 20-24

Patrick's literature review pursues strong argument that disparages others' history research approaches and theories. It unfolds in two sub-phases. Sub-phase 1 follows the research space phase (clauses 14-15) and deals limitations of other research. Sub-phase 2 follows the thesis statement, and negatively evaluates pedagogical literature.

Sub-phase 1: clauses 16-18

CD ranges from sprinkled to clumped. The sub-phase evaluates literature that problematises theories of 'cultural colonization' cited in the gap statement (clauses 14-15). Negative appreciation of past research approaches is invoked, Figure 6.17:

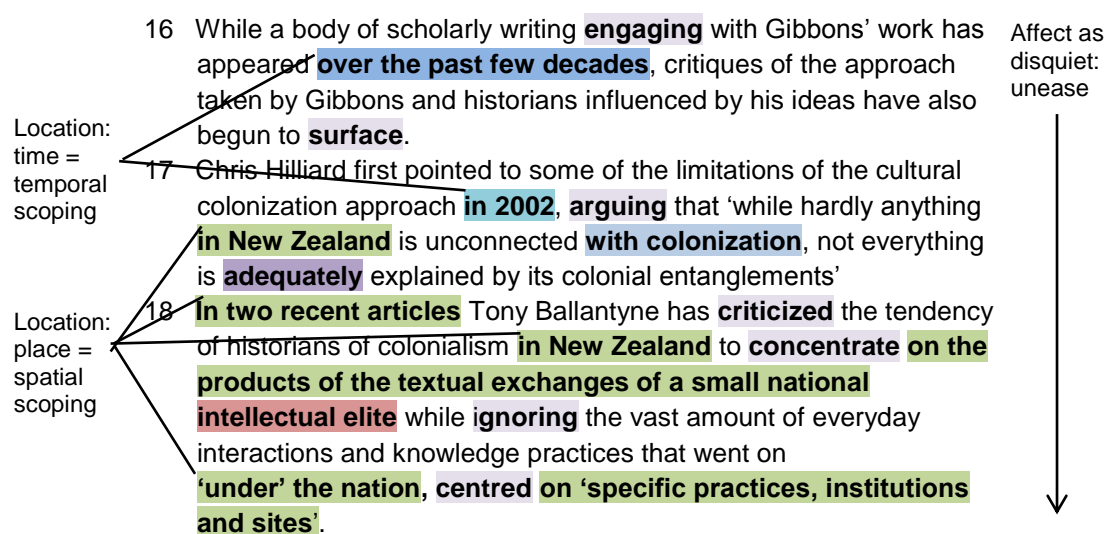


Figure 6.17: Affect as disquiet: unease across clauses as prosody, Patrick (2012) clauses 16-18

Patrick portrays the error of past research as large and vigorous. Then, contextually strong Manner processes cite sympathetic sources, to arouse doubt—affect as disquiet: unease. In clause 16 [cultural colonisation] sources are quantified as substantial (*a body of scholarly writing*), construed as energetic by *engaging* (Manner process = discussing *analytically* and *argumentatively*) and given long acceptance by *over the past few decades* (C. Extent: duration = gr/force/quantify/process/extent/scope/time). However, disparagement begins swiftly, with the status of *critiques* assisted by *surface* (Manner process = arise-significantly = flag), which particularly evokes affect as disquiet. In clause 17, the summary of Hilliard's criticism is contextualised as long-standing and local, by *in 2002* (C. Location: time – located: determinate), *first* (Adjunct of order), and *in New Zealand* (C. Location: place). Also, *not* and *adequately* (C. Manner: quality) assist criticism of theoretical deficiency. The sub-phase is brought to an interpersonally strong conclusion, by another summary of a supportive source and by a cluster of evaluative contextual meanings, on multiple levels, shown in Table 6.17:

Table 6.17: Conglomerate contextual meanings at multiple clause levels, Patrick (2011) clause 18

18.1

In two¹ recent² articles	Tony Ballantyne	has criticized	the tendency of historians of colonialism [in New Zealand [[to concentrate¹ [on the products of the textual exchanges of a small national intellectual elite]]]]]
1a C. Loc: place – semiotic ¹ gr/force/quantify/thing ² gr/force/quantify/thing	Behaver	3a Pr: behav. described unfavourably	Target ¹ 3b <u>exclusively</u> focus on
			in New Zealand
			2b Q. Loc: place – physical: geographical
			on the products of the textual exchanges of a small¹ national² intellectual elite
			1b D.C. Loc: place - abstract ¹ gr/force/quantify/thing ² gr/force/quantify/thing

18.2

while	ignoring	the vast amount of everyday interactions and knowledge practices [[that went on 'under' the nation // centred¹ on 'specific practices, institutions and sites']]].	
	3a Pr: mental willfully failing to consider	Phenomenon ¹ 3b <u>principally</u> concerned with	
		'under' the nation¹	on 'specific practices, institutions and sites
		1b D.C. Loc: place - abstract ¹ inscribed importance	1b D.C. Loc: place - abstract

The marked Theme *In two recent articles* (C. Location: place - semiotic) quantifies Ballantyne's work (Numerative *two* = gr/force/quantify/thing) and gives temporal relevance in *recent* (gr/force/quantify/thing). Four Manner processes flag disapprobation, intellectual neglect and limitation:

- *criticized* (written unfavourably about), evaluating the quality and purpose of Ballantyne's work to align with Patrick's viewpoint,
- *concentrate* (exclusively focus on),
- *ignore* (willfully fail to consider), and
- *centred* (principally concerned with).

In the Target, clumped CD concentrates meanings. Domestic locality is stressed by *in New Zealand* (C. Location: place). *Concentrate* unfavourably evaluates past (unsupportive) research, helped by meanings in in D.C. Location: place – abstract:

on the products of the textual exchanges of a small national intellectual elite

The meanings roll out in a rhythm that enhances perception of a restricted historical approach. The impact of its final, most intense, beat is quantified by graduation, *small*, implying exclusivity and resonating with *concentrate* and *centred*. Then, in clause 18.2, more negativity is flagged by *ignore* and upgraded by inscribed importance in *'under' the nation* (D.C. Location: place – abstract), with *nation* inscribing importance to New Zealand at this quite critical point of argument (compare, for example, the impact of *around the*

country in the narrative in clause 1). Finally, contextualisation of other research as narrow and limited is completed with *centred* and *on specific practices, institutions and sites* (D.C. Loc: place - abstract). This concludes the contextualisation of others' research as not well founded and the invocation of affect, as disquiet: unease across the sub-phase.

Sub-phase 2: clauses 20-24

Contextual meanings of place and flagged attitude in processes produce two pulses of negative appreciation of other research, Figure 6.18:

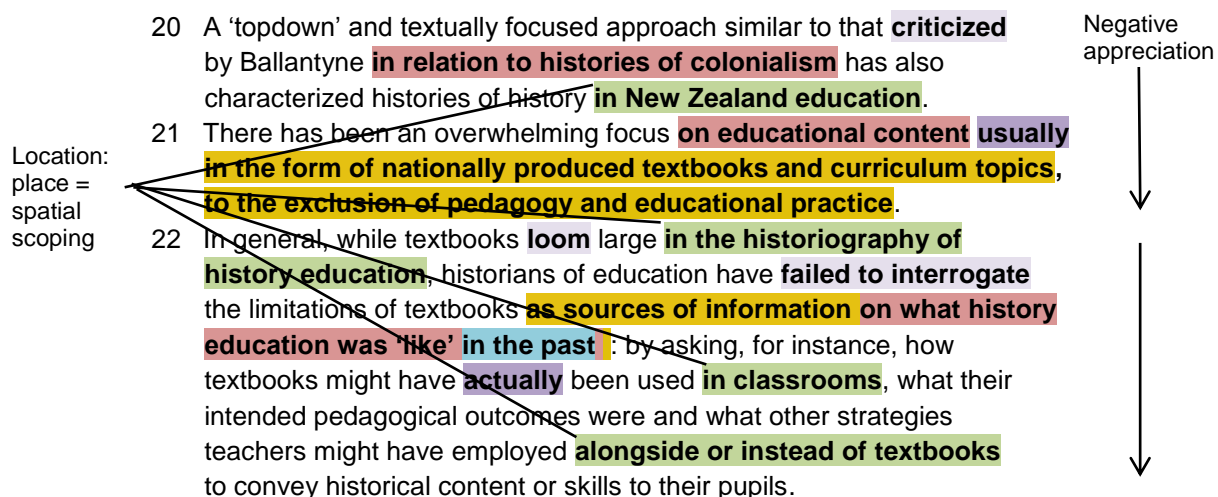


Figure 6.18: Negative appreciation spatially scoped across clauses, Patrick (2012) clauses 20-22

The first pulse stems from the hyperTheme in clause 20. It echoes Ballantyne's (2010) criticism in sub-phase 1: in effect, the negative effect of clause 18 is quantified by repetition of *criticized* (Manner process = described unfavourably), defined by *in relation to histories of colonialism* (D.C. Matter) and located *in New Zealand education* (Q. Location: place).

In clauses 21-22, contextual meanings fuel critical elaboration. In clause 21, *overwhelming* (gr/force/quantify/thing) foregrounds *focus* and *exclusion* (high negative appreciation) and construes the exclusion as substantial. Conglomeration as clumped meanings enhances this effect: *on educational content* (C. Matter), emphasises the issue; *usually* (C. Manner: quality) construes normality for *overwhelming*. *In the form of nationally produced textbooks and curriculum topics* (C. Role: guise) further raises the interpersonal temperature through *nationally* (gr/force/quantify/thing).

In clause 22 there is another pulse of negativity, as the message is interpersonally reinforced by flagged attitude in *loom* (Manner process = overwhelmingly dominate) further quantified up by *large*. Condemnation is construed by inscribed attitude in *failed*

(total negativity) and flagged attitude in *to interrogate* (Manner process = investigate closely in a scholarly manner). Doubts are cast on the use of textbooks by *actually* (Manner process = gr/focus/valeur/authenticity) and magnified by relative actualisation in the modalised process *might have employed*. Also, meanings of Location: place supply more specialised locations (historiography, classrooms, textbooks) that deepen and extend ideas of research deficiency.

In clauses 23-24 contextual meaning in C. Matter paired qualified by other contextual meanings keeps research deficiency in sharp focus:

- 23 The observations of Peter Taylor and Julian Thomas **in relation to the historiography of history education in Australia** also apply **to New Zealand**.
- 24 Taylor and Thomas **contend** that Australian studies of history education have been **preoccupied** with identifying the political ideologies contained **in history lessons**— **often condemning** such lessons as **'unnecessarily or falsely'** ideological— while **'ignoring'** the ways in which the actual teaching of a course of study **over time** might have been less **about producing political ideas or passing on a discrete quota of historical knowledge than about producing "kinds of persons with particular skills and capacities"**.

In clause 23 the problem (historiography of history education) is spatially amplified by *in Australia* (Q. Location: place), then locally focused by *in New Zealand* (C. Location: place). Clause 24 contains a large cluster of 11 contextual meanings, including a pair, all of them strong. The citation process *contend* (= argue strongly = en/contract/proclaim/pronounce) construes this supportive source as robust, so working for acceptance. Other Manner processes flag negativity in others' history studies – *preoccupied with identifying* (= focus exclusively on) and *ignoring* (= willfully neglecting). There is emphatic negative appreciation in the process *condemning* (= disapproving severely) and selection of the quotation '*unnecessarily or falsely*' (both 2c Manner intensifiers of the Attribute *ideological*). Deficiency is normalised by *often* (C. Extent: frequency = gr/force/process/frequency), and *over time* (C. Extent: duration). A final criticism of pedagogy comes as *less*, enhanced by meanings of Manner and Accompaniment: comitative. This opens the way for the statement of purpose/value in clause 25.

To sum up, contextual meanings in this review frame others' deficiency. Interpersonal power comes from clumping and deep embedding of these meanings (especially in key evaluations in clauses 19, 22, and 23), as prosody (in clauses 19 and 22) and from Manner processes (especially clause 24). Overall, there is strong negative appreciation of previous history research, and also of historians, for whom it is tinted with judgement.

6.4 Research space phases

The ‘research space’ is envisioned in a number of ways, for example, as the ‘warrant for research’ (Hood, 2012, p.69), as a claim of ‘novelty’ (Hyland, 2009, p.72) and as a niche, or gap (Swales & Feak, 2012, p. 330, p.348). This thesis defines the research spaces in these introductions as they are construed by evaluations of others’ research. It argues that contextual meanings are crucial in achieving convincing definitions of the research space.

6.4.1 Chemistry research spaces: Brooks et al (2013) and Kennedy et al (2013)

Unfolding of the research space differs markedly between the two texts. Brooks writes positively over 13 clauses in four sub-phases exhibiting varying CD. In contrast, in Kennedy the research space phase is compressed into two clauses and contextual meanings occupy almost half the text, in Table 6.18:

Table 6.18: Patterns of contextual meanings in chemistry research space phase

Brooks et al (2013)	
21	<p>Sub-phase 1 To make use of zinc as a renewable solar fuel, Zn^{2+} oxidised in the battery must be reduced back to Zn^0 by light.</p>
22	<p>Also a complementary reaction that oxidises hydroxide ions to oxygen has to be driven by photons concomitantly.</p>
23	<p>Sub-phase 2 A robust and efficient photosensitizer (PS) responsible for the initial absorption of a photon is critical for such a scheme.</p>
24	<p>Photo-induced electron transfer reactions will subsequently drive OH^- oxidation and Zn^{2+} reduction processes and thereby reverse the redox chemistry responsible for driving the ZN/air cell.</p>
25	<p>Sub-phase 3 Iridium complexes stand out as PSs because of their remarkable photophysical properties such as long lifetimes and photochemical robustness.</p>
26	<p>Furthermore, the highest occupied molecular orbital (HOMO) and the lowest unoccupied molecular orbital (LUMO) of cyclometalated iridium complexes can be tuned independently by modification of separate ligands, which allows the thermodynamics of electron transfer reactions to be fine-tuned.</p>
27	<p>Sub-phase 4 Cyclometalated Ir(III) complexes are used in organic light-emitting diodes (OLEDs) and as photocatalysts in many redox reactions including organic radical polymerization, cyclizations, aldehyde fluoromethylation, the water gas shift reaction, and more prominently, the reduction of H^2O and Co^{2+} for solar fuels.</p>
28	<p>In H^2 evolving, water reduction reactions, turnover numbers (TONs, moles product/moles PS) of the IR (III) PS have reached 10,000, which was achieved by the judicious design of the ligand sphere of these highly luminescent metal complexes.</p>
29	<p>The electrochemical and photochemical robustness of these phosphorescent materials is extraordinary and greatly facilitates the exploration of new photocatalytic systems relevant to the renewable energy field.</p>
Kennedy et al (2013)	
16	<p>A general, modular route to rigid, heteroligated aryl-aryl' palladium(II) and platinum(II) complexes, which is compatible with many functional ligands is highly desirable.</p>
17	<p>However, typical synthetic approaches to aryl-aryl' palladium(II) and platinum(II) complexes have failed so far resulting in dynamic mixtures which contain multiple species.</p>

6.4.1.2 Brooks et al (2013) clauses 21-29

Brooks' research space phase follows the development phase and precedes the review of others' work. It is a relatively leisurely exposition of 13 declarative clauses marked by positive appraisal. Four sub-phases are differentiated by shifts in field identified by changes of Theme. Brooks portrays the research space as opportunity. Positive evaluation of the research focus, iridium complexes, is crucial in this portrayal. Clause 27, where this takes place, is very significant. There, CD is suddenly very dense, in contrast to other clauses.

Sub-phase 1: clauses 21-22

Sub-phase 1 orients the reader to the research task and contextualises the research process as dynamic and vigorous:

- 21 To make use of zinc **as a renewable solar fuel**, Zn^{2+} oxidised **in the battery** must be reduced back **to Zn^0** by light.
- 22 Also a complementary reaction that oxidises hydroxide ion **to oxygen** has to be **driven** by photons **concomitantly**.

Contextual meanings provide interpersonal emphasis by graduation and invoked attitude. In clause 21, contextual meanings recall the promise in clause 20 '*of the great potential of zinc as a transportable, abundant solar fuel*' (development phase, Section 6.2.1.1, p?). The contextual resources here are *as a renewable solar fuel* (C. Role: guise), *in the battery* (C. Location: place – physical: chemical) and *to Zn^0* and *to oxygen* (both C. Role: product). In clause 22, *driven* (Manner process = impelled powerfully) contextualises the process as energetic, while *concomitantly* (C. Location: time – unlocated: determinate) construes that vigour as collective and systematic. Interpersonally, the text gains impetus and conviction from this combination of contextual meanings.

Sub-phase 2: clauses 23-24

Contextualisation in this sub-phase elaborates and builds expectations:

- 23 A robust and efficient photosensitizer (PS) responsible **for the initial absorption of a photon** is critical **for such a scheme**.
- 24 Photo-induced electron transfer reactions will **subsequently drive** OH^- oxidation and Zn^{2+} reduction processes and thereby reverse the redox chemistry responsible for **driving** the ZN/air cell.

In clause 23, positive interest is aroused by inscribed high positive appreciation of qualities in the topical Theme (*robust and efficient photosensitizer*) and *for the initial absorption of a photon* and *for such a scheme* (both C. Cause: purpose). Implied quantification in *for such a scheme* is simultaneously expansive and particular. In clause 24, *subsequently* (Adjunct: temporal (unlocated: indeterminate)) continues the sense of dynamic change while repetition of *drive* and *driving* maintains perception of the need for powerful and efficient research.

Sub-phase 3: clauses 25-26

Contextual meanings enable strongly positive evaluations of iridium photosensitisers:

- 25 Iridium complexes **stand out as PSs because of their remarkable photophysical properties such as long lifetimes and photochemical robustness.**
- 26 Furthermore, the highest occupied molecular orbital (HOMO) and the lowest unoccupied molecular orbital (LUMO) of cyclometalated iridium complexes can be tuned **independently** by modification of separate ligands, which allows the thermodynamics of electron transfer reactions to be fine-tuned.

Contextual meanings supply most of clause 25. The Manner process (*stand out* = exist prominently or conspicuously) signals research effectiveness. High positive appreciation comes from contextualisation of iridium complexes as PSs (C. Role: guise) in *because of their remarkable photophysical properties such as long lifetimes and photochemical robustness* (C. Cause: reason), through *remarkable*, *robustness* and *long* and upwards quantification in *such as* and *long*. In clause 26, an additional advantage is foregrounded by the conjunction *Further*, and conveyed by *independently* (C. Manner: quality), which modifies the process *tuned*. This contextualisation underwrites the third positive evaluation (*fine-tuning*). The logic and strong persuasive effect of these contextual meanings are indicated by their removal:

- 25 Iridium complexes ...
- 26 Furthermore, the highest occupied molecular orbital (HOMO) and the lowest unoccupied molecular orbital (LUMO) of cyclometalated iridium complexes can be tuned by modification of separate ligands ... which allows the thermodynamics of electron transfer reactions to be fine-tuned.

Sub-phase 4: clauses 27-29


This sub-phase concludes the evaluations that present research space as opportunity. It is suggested that in the sub-phase contextual meanings encourage high expectations by representing temporal quality as dynamic change:

- 27 Cyclometalated Ir(III) complexes are used **in organic light-emitting diodes (OLEDs) and as photocatalysts in many redox reactions including organic radical polymerization, cyclizations, aldehyde fluoromethylation, the water gas shift reaction, and more prominently, the reduction of H²O and Co²⁺ for solar fuels.**
- 28 **In H² evolving, water reduction reactions** turnover numbers (TONs, moles product/moles PS) of the IR (III) PS have reached 10,000, which was achieved by the judicious design of the ligand sphere of these highly luminescent metal complexes.
- 29 The electrochemical and photochemical robustness of these phosphorescent materials is extraordinary and **greatly** facilitates the exploration of new photocatalytic systems relevant **to the renewable energy field.**

In clauses 27-29, the variety of contextual meanings creates multi-dimensional positivity and usefulness for Ir(III) complexes. Conglomerate contextual meanings in clause 27 create strong positive appreciation. Occupying nearly all the clause, they indicate this is a point of argumentative importance, because, as the research space phase closes, they reinforce previous evaluations of wide Ir(III) effectiveness. Table 6.19 shows the variety and complexity of embedded meanings within the temporal contextual meaning:

Table 6.19: Complex temporal contextualisation, Brooks et al (2013), clause 27

27.1	Cyclo-metalated Ir(III) complexes	are used	in organic light-emitting diodes (OLEDs)
	Goal	Pr: mat.	1a C. Location: place - physical: locational
27.2	and	as photocatalysts	in many¹ redox reactions// including organic radical polymerization, cyclizations, aldehyde fluoromethylation, the water gas shift reaction, and more² prominently³, the reduction of H²O and Co² for solar fuels⁴.
	1a C. Role: guise	1a C. loc: time – unlocated: determinate ¹ gr/force/quantify/thing ² gr/force/quantify/thing ³ D.C. Manner: quality ⁴ D.C. Cause: purpose	

Positive appreciation 

This positivity and usefulness is grounded by *in organic light-emitting diodes (OLEDs)* (C. Location: place – physical: chemical) and *as photocatalysts* (C. Role: guise). Then it is principally contextualised by the complex of C. Location: time – unlocated: determinate. It is suggested here that the contextual qualities of this time (unlocated because it cannot be known when the process may occur, yet determinate because the process itself –*redox reaction*—determines the time's duration) remove the research from every-day notions of time and contextualise it as special, recurring and empirical—important scientific attributes. Positivity is expanded by the process *including* (implied quantification), then explicitly quantified by *many* (gr/force/quantify/thing) and *prominently* (D.C. Manner: quality), themselves gaining emphasis from *and*. Finally, *for solar fuels* (Q. Cause: purpose) recalls the topic focus. Interpersonally, these conglomerate meanings depict strong research effectiveness. Transitivity analysis of clause 27 is in Appendix C1 (pp. 183-184).

Clause 28 contains another example of unlocated yet determinate temporal contextualisation. The marked Theme *In H₂ evolving, water reduction reactions* (C. Location: time – unlocated: determinate) is a further example of temporal quality from time infused into events. It elaborates and builds on the multiplicity of uses in clause 27.

Then, in clause 29, contextual meanings within nominal groups and as an Attribute add to this positivity:

- *judicious* design of the ligand sphere
- *highly* luminescent metal complexes
- electrochemical and photochemical *robustness*
- *extraordinary*

These evaluations are immediately backed up by *greatly* (C. Manner: degree = gr/force/intensify/process), while *to the renewable energy field* (C. Matter) reprises the research field. Across the sub-phase, contextual meanings organise detailed information to create and intensify positive understandings of the research.

In summary, Brooks' research space is shaped as opportunity by a succession of good news announcements. While CD is sprinkled, contextual meanings conglomerate at a strategic points. They contain inscribed and flagged attitude that support strong positive evaluations in other clause constituents. It has been shown here that the contextual meanings raise positive expectations, optimise positive understanding of information and exclude alternative evaluations. They therefore make a strong—and in clauses 25 and 27, essential—contribution to construing the research space as research *adventure*.

6.4.1.1 Kennedy et al (2013), clauses 16-17

Kennedy's research space phase shows the substantial role of contextual meanings in creating positivity. The phase opens with restatement of the research aim, in clause 16:

- 16 A general, modular route **to rigid, heteroligated aryl-aryl' palladium(II) and platinum(II) complexes**, << which is compatible **with many functional ligands** >>, is highly desirable.

Here contextual meanings enable 'reselling' the research as well as defining the research space. While the lexical metaphor *route* encourages understanding of the research as a journey, *to rigid heteroligated aryl-aryl' palladium(II) and platinum(II) complexes* (Q. Location: place) defines the destination. Then, in the included clause, *with many functional ligands* (C. Accompaniment: comitative), upward quantification (*many* = gr/force/quantify/thing) raises expectation of varied usefulness. The 'reselling' coalesces in the Attribute (*highly desirable*) in which *highly* (gr/force/intensify/attribute) decisively enhances positivity.

Kennedy then moves to negatively assess others' research. Kennedy's introduction does not include a formal review: effective disparagement is achieved swiftly in this clause, in a way that also justifies the research space. Contrast with the 'ideal' described in clause 16 is signaled by the contrastive conjunction *However*:

17 However, typical synthetic approaches **to aryl-aryl' palladium(II) and platinum(II) complexes** have **failed so far** resulting in dynamic mixtures which contain multiple species.

Interpersonal push comes first from *typical* (Epithet), construing usuality. The Qualifier, Location: place, defines the approaches. Then, inscribed negative appreciation, through explicit meaning, in *failed* (Manner process = totally lacking success) excludes alternative views of others' research. *So far* (Temporal adjunct – unlocated: determinate, i.e., up till now) suggests imminent success for the writers, while infinitely extending back the unknown period of others' failure. Negative understanding of *dynamic* and *multiple* (Epithets) is mandated: applying to 'failed' research, they construe instability and impracticality. Contextual logic, focus and impact is evident when meanings are removed:

16 A general, modular route ... , which is highly desirable.

17 However, typical synthetic approaches ... resulting in dynamic mixtures, which contain multiple species

Thus, in Kennedy's introduction, contextual meanings at constituent level, laced with evaluation, frame positive understanding of the research area, enable absolute negative evaluation of others' work, and raise expectation of the present writers' success.

6.4.2 Education research space: Gray (2010)

6.4.2.1 Gray (2010), clauses 38-39

Gray's research space phase is sandwiched between sub-phases 5 and 6 of the literature review; it follows assessment of international literature and precedes that of New Zealand literature. Gray's explicit evaluation of her research space as a gap is quantified and intensified in the graduation item *marked*. Quite dense conglomerate contextual meanings suggests high stakes that are met with concentrated contextualisation:

38 Thus a marked gap exists **in the literature on oral communication skills in the accountancy workplace.**
 39 Further, **since McLaren's 1990 study**, the particular requirements **for communication skills in the New Zealand accountancy workplace** have not been **comprehensively examined.**

In clause 38, the gap's precise definition and location is provided by a three successive contextual meanings (a cluster): *in the literature* (C. Location: place: semiotic) embedded with *on oral communication skills* (Q. Matter) and *in the accountancy workplace* (Q.

Location: place – institutional: occupational). The meanings pulse out in a regular beat, with, as in previous phases, the most emphatic meaning of professional importance in the final and ‘loudest’ beat, highlighting Gray’s central concern:

Thus a marked gap exists **in the literature** **on oral communication skills** **in the accountancy workplace.**

It is argued that the conglomerate contextual meaning achieves exactitude that interpersonally satisfies readers’ expectation of appropriate definition of the gap. Without it, the clause would be ineffective and the location of the research gap could not be known.

In clause 39 the conjunction *Further* raises expectation of more important information. Then the gap is temporally contextualised by the marked Theme *since McLaren’s 1990 study* (C. Location: time – located: determinate). This has a two-fold interpersonal effect: it positions other research as temporally distant (and therefore lacking relevance), and, as a marked Theme, it adds a meaning of long-standing neglect to the remainder of the clause. *Requirements* is sharpened by *particular* (gr/focus/valeur/specificity) and the specialist context re-emphasised by *for communication skills* (Q. Matter) and *in the New Zealand accountancy workplace* (Q. Location: place – abstract: institutional: occupational). Deficiency is strongly construed by the negative *not* and flagged attitude in *examined* (Manner process = scrutinized thoroughly), then maximally widened by *comprehensively* (Manner: degree = gr/force/quantify/process/extent/ scope/space). An interpersonal counterpoint of qualities is constructed by *marked* (nature of the gap), *particular* (specificity of the skills) and *comprehensively* (further and generally undefined breadth and depth of neglect). The evaluation *not comprehensively examined* is strategically placed at the conclusion of the phase, where it attains maximum interpersonal strength. The importance of the contextual meanings can be seen when their deletion removes logical meaning:

38 Thus a marked gap exists.

39 Further, the particular requirements ...

In this phase, embedding of the variety of contextual meanings within constituents at multiple levels enables meanings to be locked into constituents beyond the level of argument. Transitivity analysis of this phase is in Appendix C3 (pp. 218-219). Table 6.20 shows how the embedded meanings cascade down within constituents:

Table 6.20: Conglomerate embedded contextual meanings, Gray (2010) clauses 38-39

38	Thus,	a marked gap	exists	in the literature [on oral communication skills in the accountancy workplace].			Negative appreciation ↓
		Existent	Pr: exist.	1a C. Loc: place -semiotic			
				on oral communication skills [in the accountancy workplace].			
				2a Q. Matter			
				in the accountancy workplace.			
				2b Q. Loc: place – abstract: institutional: occupational			
39	Further,	since McLaren's 1990 study, MT	the particular requirements	have not been	comprehensively	examined	
		C. Loc: time – located: determinate	Scope	Pr: mat...	C. Manner: degree gr/force/quantify/process /extent/scope/space	... erial scrutinised thoroughly	
			for communication skills				
			2a Q. Matter				
			in the New Zealand accountancy workplace				
			2b Q. Loc: place – abstract: institutional: occupational gr/force/quantify/process/ extent/ scope/space				

To sum up, clause 39 supports the claim of the ‘marked gap’. Together, the clauses have high interpersonal impact, deriving principally from the contextual meanings of Location: place, Location: time and Manner: degree that locate the gap, emphasise its location, depict it as significant and extensive, and create negative appreciation as prosody.

6.4.3 History research space phases: Bowen (2010) and Patrick (2011)

It is suggested that the substantial CD in these phases, shown in Table 6.21, further demonstrates the importance of precise meanings in brief texts when convincing persuasion is at stake. Both phases are two clauses only. Both commence with an evaluation of scholarship, and immediately move to identify the research space.

Table 6.21: Patterns of contextual meanings in history research space phases

Bowen (2010)		Patrick (2011)	
8	Chinese participation in Australia's early commercial fishing industry has not received the same attention as that in the United states of America (US).	14	New Zealand historians have long been attentive to the potential power of schooling — particularly the compulsory state primary school system— in the work of cultural transmission, such as in instilling imperial ideologies.
9	As will be shown, the Australian example mirrors the situation in the US where Chinese immigrants to the mid-nineteenth century gold rushes took up niche economic positions in labour-intensive work areas such as market gardening and fishing.	15	However, despite several decades of scholarly interest [(in the role of knowledge// in furthering colonization that followed Peter Gibbons' influential theorisations of 'cultural colonization', this avenue of investigation has yet to be taken up by historians of education in this country , although Gibbons himself signaled the possibilities for further research in this area.

6.4.3.1 Bowen (2010): clauses 8-9

In clause 8 Bowen presents the research space as deficiency by comparison:

- 8 Chinese participation **in Australia's early commercial fishing industry** has not received the same attention as that **in the United states of America (US)**.

Contextual meanings of Location: place are deployed. Local historical and geographical relevance is provided by *in Australia's early commercial fishing industry* (Q. Location: place – historical) as a Qualifier of *Chinese participation*. Then, evaluation as deficiency—[Australian] research (*has not received the same attention*)—is supplied by the location of attention *in the United States of America (US)* (D.C. Location: place – physical: geographical). The role of the Qualifier and circumstance here is experiential, but they create contextual meanings that generate negative appreciation of existing research.

Clause 9 elaborates the space and indicates confidence in the findings:

- 9 As will be shown, the Australian example **mirrors** the situation **in the US** where Chinese immigrants **to the mid-nineteenth century gold rushes** took up niche economic positions **in labour-intensive work areas such as market gardening and fishing**

in *As will be shown* acts as a marked Theme to direct positive reception of findings. The process *shown* (en/contract/proclaim/endorse) signals confidence in findings. *Mirrors* (Manner process = resembles exactly) invites further comparison of the Australian experience with the American, and indicates interesting and important findings. Orientation in the field is provided by varied locational meanings: *in the US* (Q. Location: place - physical: geographical), *to the mid-nineteenth century gold rushes* (Q. Location: place - historical), and *in labour-intensive work areas such as market gardening and fishing* (D.C. Location: place - abstract).

The importance of the locational meanings is evident when they are removed:

- 8 Chinese participation has not received the same attention as that ...
9 As will be shown, the Australian example ... the situation where Chinese immigrants took up niche economic positions.

The Location: place meanings enable the text to meet expectations of clear definition of the research space by facilitating comparison of the Australian and US research fields. In this way, they prepare for acceptance of the further elaboration in the development phase that follows (Section 6.2.3.1, p.73) and raise positive expectations about findings.

6.4.3.2 Patrick (2012): clauses 14-15

Patrick's research space phase is highly argumentative and the CD substantial. Existing research and historians are disparaged in clause 14, and the research space construed as a wide opportunity in clause 15. A variety of contextual meanings that are mostly realised by circumstances, assist argument and evaluation. They occupy significant proportions of the clauses and contain substantial evaluation.

Clause 14's primary effect is the disparagement of the approach of education historians by irony. This is achieved through contextual meanings of Location: time and Matter, and an enclosed clause. For clarity, the presentation below supplies text elided in the original:

- 14 New Zealand historians have (for) **long** been attentive **to the potential power of schooling** << —(that is, they have long been) **particularly** (attentive to) the compulsory state primary school system— >> **[in the work of cultural transmission, such as in instilling imperial ideologies].**

First, the research focus of New Zealand historians is temporally evaluated by *long* in (C. Extent: duration = gr/force/quantify/process/extent/scope/time). *Long* immeasurably stretches the temporal extent of existing research. While not a marked Theme, *long* nevertheless influences understanding of *to the potential power of schooling* (C. Matter). Then, *schooling* is interpersonally magnified from a classroom 'process' by the inscribed importance of *power* actualised by *potential* (gr/focus/fulfillment/actualisation). The enclosed clause has marked interpersonal impact. It delivers ironic criticism by implication; attention has been given to the 'wrong' schooling. As irony, it achieves higher emphasis for the message, which is further sharpened by *particularly* (C. Manner: quality = gr/focus/valeur/specificity). Finally, *in the work of cultural transmission, such as in instilling imperial ideologies* (Q. Location: place - abstract), culturally and politically contextualises this 'wrong' schooling. The interpersonal result of these contextual meanings is a naturalised view of existing research as historically mis-focused.

In clause 15, Patrick contextualises the research space as neglected opportunity:

- 15 However, **despite several decades of scholarly interest in the role of knowledge in furthering colonization** // that followed Peter Gibbons' influential theorizations of 'cultural colonization']], this avenue of investigation has yet to be taken up by historians of education **in this country**, although Gibbons himself signaled the possibilities **for further research in this area**.

The conjunction *However*, raises counter-expectancy and so enables maximum impact for the marked Theme *despite several decades of scholarly interest in the role of knowledge* (C. Contingency: concession) and *in furthering colonization* (Q. Location: place – abstract).

The marked Theme is highly persuasive because it completely dominates understanding of past research and because it contains significant evaluation of long neglect that radiates back to add to clause 15 to create a two-way prosody of negative appreciation of others' research. In the marked Theme, specifically, long neglect is flagged in *decades*, pre-quantified by *several*.

The research space is then reconstrued as opportunity (*this avenue of investigation*). This idea is then reinforced by the continuative *yet* (en/contract/disclaim/counter), and further criticism of historians is localised by *in this country* (C. Location: place – physical: geographical). Interpersonal heat increases with another counter-expectancy conjunction (*Although*) and more implied criticism of others is carried in the reference to Gibbons, intensified by *himself*. C. Cause: purpose *for further research* and Q. Location: place – abstract *in this area* work interpersonally to intensify argumentative weight: together, they refocus directly back on the research contextualised in the marked Theme.

So fundamental are these meanings that the research space is ineffectual without them:

- 14 New Zealand historians have been attentive ... the compulsory state primary school system—
- 15 However, this avenue of investigation has yet to be taken up by historians of education... although Gibbons himself signaled the possibilities ...

In summary, these clauses carry a strong interpersonal charge, largely due to contextual meanings. Contextualisation closely frames historical research in neglect. C. Location: time – unlocated: indeterminate maximises the temporal scope of neglectful research and C. Manner: quality in the enclosed clause facilitates implied criticism. Loss of the marked Theme from clause 15 removes much of the negative critical evaluation the criticism, the domestic nature of neglect is reprised and the argument is further intensified by the final contextual meanings. Interpersonally, these clauses are highly persuasive, partly because contextualisation contains significant inscribed attitude. It is also suggested that high CD (more than half the lexis) reflects the importance of argument and resolution in this phase.

To conclude, in the research space phases, contextual meanings work at constituent level and as Qualifiers to assist advantageous contextualisation of the research and disparagement of other research, by construing qualities in fields and research. The reader is pushed towards alignment not only by strategic deployment of contextual meanings, but by high CD and the strength of attitudinal commitment in some meanings.

6.5 Purpose-value phases

Statements of research purpose and value summarise research aims and objectives, and preview findings. High CD reflect high stakes: this may be the final opportunity to argue the worth of the research before methodology and discussion.

6.5.1. Chemistry purpose-value phases: Brooks et al (2013) and Kennedy et al (2013)

Both chemistry phases unfold in three stages: newness of purpose, description of findings and evaluation of research usefulness. Conglomeration is evident, particularly in clauses claiming newness (Brooks, clause 31 and Kennedy, clause 18), indicated in Table 6.22:

Table 6.22: Patterns of contextual meanings chemistry Purpose-value phases

Brooks et al (2013)		Kennedy et al (2013)	
30	This work describes the visible-photon driven reduction of Zn^{2+} to Zn^0 ($E_{red} = -0.76$ V vs NHE) by an iridium(iii) PS and catalyst system .	18	Herein we report a new method for the clean and quantitative synthesis of rigid platinum(II) WLA assemblies (Scheme 1: 2,3,6,7,8,9,) via partial abstraction of chloride in either protic or nonpolar solvents.
31	To our knowledge , this is the first published case of the photocatalysed reduction of a low redox potential metal ion by a transition metal complex .	19	Using this method, heteroligated tweezers, triple layer complexes, and binuclear macrocycles have been obtained from a variety of aryl-based hemilabile P,S, P,O, and P,N ligands.
32	In being so, this initial work demonstrates the feasibility of Zn^{2+} reduction by a molecular photocatalyst for eventual use as a solar fuel .	20	These complexes serve as models for functional, air-stable WLA systems .

Claims of newness are foregrounded by marked Themes supplied by circumstances and contain a variety of meanings that frame claims, especially Manner: means, Cause: purpose and Role: guise.

6.5.1.1 Brooks et al (2013): clauses 30-32

In clause 30, contextual meanings define the research purpose:

- 30 This work describes the visible-photon driven reduction of Zn^{2+} **to Zn^0 ($E_{red} = -0.76$ V vs NHE) by an iridium(iii) PS and catalyst system**.

Here *to Zn^0 ($E_{red} = -0.76$ V vs NHE)* (Q. Role: product) and *by an iridium(iii) PS and catalyst system* (Q. Manner: means) reinforce perception of the importance of the outcome, working for evaluations of relevance and worth without evaluative lexis.

In clause 31, a cluster of meanings enables hedging and precise definition of research:

- 31 **To our knowledge**, this is the first published case **of the photocatalysed reduction of a low redox potential metal ion by a transition metal complex**.

The marked Theme *To our knowledge* (C. Angle: viewpoint) not only delivers caution but builds interaction with the reader through the personal pronoun *our*. It works for favourable reception of the claim *first* (Epithet) *published case of the photocatalysed reduction of a low redox potential metal ion* (Q. Matter) *by a transition metal complex* (Q. Manner: means). Thus contextual meanings, occupying the greater part of the clause, frame the research and its findings as new, without overt attitude.

In clause 32, a clump of meanings summarise the research value:

32 In being so, this initial work **demonstrates** the feasibility of Zn²⁺ reduction **by a molecular photocatalyst for eventual use as a solar fuel**.

The dependent clause *In being so*, refers to the claim in clause 31. *Demonstrates* (Manner process = show evidentially) flags reliability. Finally, contextual meanings are embedded as Qualifiers deeply below the level of argument, shown in Table 6.23:

Table 6.23: Conglomerate embedded contextual meanings, Brooks et al (2013), clause 32.2

32.2		
this initial work	demonstrates	the feasibility of Zn ²⁺ reduction by a molecular photocatalyst for eventual use as a solar fuel .
Sayer	3a Pr: verbal shows evidentially	Verbiage
		by a molecular photocatalyst
		[for eventual use as a solar fuel] .
		2a Q. Manner: means
		for eventual use [as a solar fuel] .
		2b Q. Cause: purpose
		as a solar fuel .
		2b Q. Role: guise

Conglomeration indicates the importance of fine detail in this claim. Contextual meanings about method and value clump below constituent level and thus beyond argument:

- method, in *by a molecular photocatalyst* (Q. Manner: means)
- practical value in *for eventual use* (Q. Cause: purpose),
and
- value to industry *as a solar fuel* (Q. Role: guise).

The meanings complete the evocation of high appreciation for the research, as prosody across these clauses. To sum up, Brooks' purpose-value phase is an effective example of how contextual meanings tightly frame and attach inseparable meanings to constituents, so that, with minimal attitude, they strongly work for a favourable interpretation.

6.5.1.2 Kennedy et al (2013): clauses 18-20

Kennedy's purpose-value phase is interpersonally critical to the success of the introduction. In clause 18, the marked Theme and conglomerate contextual meanings (occupying nearly all the clause) produce a high-impact, concentrated interpersonal pulse:

- 18 **Herein** we report a new method **for the clean and quantitative synthesis of rigid platinum(II) WLA assemblies (Scheme 1: 2,3,6,7,8,9,) via partial abstraction of chloride in either protic or nonpolar solvents**.

Table 6.24 shows the cascade of densely embedded contextual meanings:

Table 6.24: Conglomerate embedded contextual meanings shape research purpose and value, Kennedy et al (2013) clause 18

18	Herein	we	report	a new method [for the clean and quantitative synthesis of rigid platinum(II) WLA assemblies (Scheme 1: 2,3,6,7,8,9,) via partial abstraction of chloride in either protic or nonpolar solvents].
	1a C: Location place - semiotic	Sayer	Pr: verbal	Verbiage
				for the clean ¹ and quantitative synthesis of rigid platinum(II) WLA assemblies (Scheme 1: 2,3,6,7,8,9,) [via partial abstraction of chloride in either protic or nonpolar solvents].
				2a Q. Cause: purpose ¹ Appreciation: high +
				via partial abstraction of chloride [in either protic or nonpolar solvents].
				2b Q. Manner: means
				in either protic or nonpolar solvents].
				2b Q. Loc: place - phys: chem. gr/force/quantify/thing

First, the dominating marked circumstantial Theme *Herein* (Location: place – semiotic) refocuses from the research to the paper. Then, following the core message *we report*, the research outcome (*a new method*) is heavily loaded with meanings of success by layers of Qualifiers that work interpersonally in three ways:

- the conglomerate contextual meanings act as graduation that interpersonally boosts the effect of *new* (Epithet)
- in *clean* (in Q. Cause: purpose) inscribed high positive appreciation explicitly evaluates the research
and
- *in either protic or nonpolar solvents* (Q. Location: place – physical: chemical), either (quantification) construes a doubly useful outcome.

Thus, contextual meanings work interpersonally through structure by inscribed attitude and by graduation. They focus attention into the research article itself, and construe it as innovative and useful (see also Figure 5.3, p.34).

In clauses 19-20 contextual meanings continue to encourage positive evaluation. CD remains high, indicating the importance of this elaboration of the findings:

- 19 Using this method, heteroligated tweezers, triple layer complexes, and binuclear macrocycles have been obtained **from a variety of aryl-based hemilabile P,S, P,O, and P,N ligands.**
- 20 These complexes serve **as models for functional, air-stable WLA systems.**

In clause 19, *a variety of* (gr/force/quantify/thing) assists favourable assessment of the findings. This is accentuated by the listing of products. In clause 20, contextual meanings construe high research value: *as models* (C. Role: guise) inscribes excellence, and *for functional, air-stable WLA systems* (Q. Cause: purpose) carries high positive appreciation.

In summary, in Kennedy's purpose-value phase, contextual meanings frame core messages, deliver important meanings as marked Theme and clause constituents, and, as Qualifiers, embed those meanings in constituents. Despite only moderate evaluation, there is convincing contextualisation of research and results as unique and attractive.

6.5.2 Education purpose-value phases: Gray, (2010) and Macpherson & Owen, (2010)

Pairs of contextual meanings enabling precise description appear in both these phases. However, Gray's presentation, which precedes the literature review, is detailed and staged, while Macpherson's brief statement succinctly concludes the Introduction. Table 6.25 indicates the contrast in patterning that may reflect differences in argumentative risk:

Table 6.25: Patterns of contextual meanings in education purpose-value phases

Gray (2010)		Macpherson & Owen (2010)	
9	This project seeks to investigate the importance of oral communication skills for students intending to begin an accountancy career in New Zealand as perceived by chartered accountancy professionals.	25	In view of the importance of the development of such critical thinking skills for effective professional practice , it is appropriate to test the level at which first-year students in a new graduate medical degree possess such skills.
10	Thus, my research objectives were the following: 1. to determine how much importance New Zealand accountancy employers place on oral communication skills in their graduate hires 2. to determine what specific kinds of oral communications are required by New Zealand accountancy employers 3. to determine the degree to which accountancy employers are finding the required oral communication skills in new graduated accountancy students.		

6.5.2.1 Gray (2010): clauses 9-10

It is suggested that Gray's precise description of research purpose and objectives, creates an optimum environment for literature evaluation. Clauses 9-10 have clusters, including pairs, and a new contextual sub-type, Location: place – physical people. It is suggested that this sub-type reflects the human nature of educational research.

In clause 9 contextual meanings assist the declaration of purpose:

- 9 This project **seeks to investigate** the importance of oral communication skills for students intending to begin an accountancy career **in New Zealand** as **perceived** by chartered accountancy professionals.

Particular understanding of purpose is created by *seeks to investigate* (Manner process = *try determinedly to look at thoroughly*) and *perceived* (Manner process = *discerned particularly*). The infusion construes caution and diligence in Gray's research, and works for positive appreciation of it. Also, *in New Zealand* (D.C. Location: place – physical: geographical) reinforces the research's local relevance.

Clause 10 elaborates by describing specific objectives:

- 10 Thus, my research objectives were the following:
1. to determine how much importance New Zealand accountancy employers place **on oral communication skills in their graduate hires**
 2. to determine what specific kinds of oral communications are **required** by New Zealand accountancy employers
 3. to determine the degree to which accountancy employers are finding the required oral communication skills **in new graduated accountancy students**.

Locational contextual meanings focus attention not only on the research, but on *who* it concerns: The research is about skills; *on oral communication skills* (D.C. Location: place – abstract), but the Qualifier, *in their Graduate hires* is Location: place – physical: people. Relevance is expressed by *specific* (gr/focus/valeur/specificity), which accentuates the impact of *required* (Manner process = wanted compulsorily). Finally, that this research is about communication as a human, as well as a professional skill, is re-emphasised by *in new graduated accountancy students* (C. Location: place – physical: people). Here, *new* carries a meaning of 'lacking experience', invoking judgement (low negative capacity) of the students, reinforcing need for research. These 'people' contextualisations suggest that a wide gaze is needed to capture the spread of contextual meaning. These meanings help understanding Gray's research as vital and so enhance its status.

In summary, though CD is relatively light, the interpersonal effect of the contextual meanings is to depict Gray's research as deep and careful, emphasise its educational and social focus and construe its necessity.

6.5.2.2 Macpherson & Owen, (2010): clause 21

The interpersonal stakes are high because the purpose-value phase concludes the introduction. Contextual meanings occupy almost two thirds of it. Strategically, they direct acceptance of its core message:

- 21 **In view of the importance of the development of such critical thinking skills for effective professional practice**, it is appropriate to test the level at which first-year students **in a new graduate medical degree** possess such skills.

The marked Theme *In view of the importance of the development of such critical thinking skills* (C. Angle: viewpoint) *for effective professional practice* (Q. Cause: purpose) is powerful. It not only constructs a summary of preceding clauses that reinforces favourable understanding of their argument (particularly in the development phase: definition of critical thinking, clauses 5-11; consequences of critical thinking failures, clauses 15-20; see Section 6.2.2.2, p.?), but carries this understanding forward into the remainder of the paper. This two-way contextualisation is illustrated also in Figure 5.2 (p.34).

The marked Theme's messages that support the status of the research and its necessity are conveyed by inscribed appreciation— *importance*, *critical* (quantified up by *such*) and *effective*). *Then, in a new graduate degree* (C. Location: place – institutional: educational) keeps the need for research into *new*, that is, what is untried, to the fore. Without these contextual meanings, occupying a significant proportion of the clause, meaning and impact is lost:

... it is appropriate to test the level at which first-year students possess such skills.

Overall, therefore, the contextual meanings mandate acceptance of the research worth, bringing the introduction to an interpersonally powerful conclusion.

6.5.3 History purpose-value phases: Bowen, (2010); Patrick, (2011)

While CD is merely sprinkled in the opening clauses, as these phases unfold, clusters, pairs and clumped circumstances construct positivity and authority, with optimum interpersonal impact. Meanings of Location: place are prevalent, as Table 6.26 shows:

Table 6.26: Patterns of contextual meanings in history purpose-value phases

Bowen (2010)		Patrick (2011)	
17	This article offers an overview of Chinese fish-curing operations in colonial Australia .	13	Sub-phase 1 In this piece , I extend this critique to the domain of education, specifically (to) history education .
18	It uses primary documents and field research to supplement the limited discussion in Australia's written histories and scholarly works .	19	Sub-phase 2 This article examines how a nationally controlled state school system deriving its institutional frameworks and practices from British patterns interacted with a set of imported pedagogical theories which prioritized local knowledge, and were then translated into local-level teaching practices in primary schools .
19	The likely internal structure of Chinese fish-curing establishments such as ownership, management arrangements and labour requirements is examined along with a range of questions concerning the activities of Chinese fish curers in colonial Australia .	25	Sub-phase 3 In this spirit I aim to return history textbooks to their proper place in early twentieth-century classrooms by considering their rise and fall relative to other methodologies for transferring historical knowledge and capacities to schoolchildren .
20	Ultimately it is demonstrated that Chinese people generated far greater wealth from Australia's colonial fishing industry than has been previously realized.		

6.5.3.1 Bowen, (2010): clauses 17-20

Contextual meanings facilitate positive recollection of previous information and set up expectations. CD is at first sparse, but then forms a clump and a cluster, reflecting the need for precise definition in this short, high-stakes phase.

In clauses 17-18 spatial contextualisation works for sympathetic reading:

- 17 This article **offers** an overview of Chinese fish-curing operations **in colonial Australia**.
- 18 It uses primary documents and field research to supplement the limited discussion **in Australia's written histories and scholarly works**.

In clause 17, *offers* (Manner process = provides tentatively) affords caution in self-assessment of the writer's own research. *In colonial Australia* (C. Location: place – historical) is a significant example of non-concrete location. It is suggested that Location: place - historical represents a place that once existed as a socio-political-physical entity. In clause 18, *in Australia's written histories and scholarly works* (C. Location: place – semiotic) experientially locates this place's remaining 'existence' as semiotic. The state of existing research into it must therefore be 'second-hand'. Further, others' research is construed as small by *limited* (inscribed negative appreciation). In contrast, *primary* (inscribed importance) conveys first-hand relevance for the present research. The

interpersonal effect, therefore, is one of confidence in the worth of the research, as the contextualisation in *primary* counteracts the caution construed in *offers*.

Clause 19 reinforces clause 17. *Examined* (Manner process = scrutinised thoroughly) construes the research as detailed and careful. Its scope is quantified up by *along with a range of questions concerning the activities of Chinese fish curers* (C. Accompaniment: comitative), where *along* is an intensifier. Finally, *in colonial Australia* (Q. Location: place – historical) locks in more relevance. So, in this clause, the writer's research is positioned as detailed, comprehensive and substantial, largely by contextual meanings.

In clause 20 a cluster of contextual meanings sets up even more favourable expectations:

20 **Ultimately** it is **demonstrated** that Chinese people generated far greater wealth **from Australia's colonial fishing industry** than has been **previously** realized.

The marked Theme *Ultimately* (Adjunct: temporal – unlocated: indeterminate = gr/force/quantify/process/extent/scope/time) is very important for endowing the research with high significance. *Ultimately* construes the temporal qualities of limitless, open and 'ultra', definable only in terms of the event it relates to, in this case, 'demonstration of Chinese fishing wealth'. This contextualisation has an unknowable immensity, and the research, as directed effort, and findings, may be perceived as sharing this immensity. The interpersonal effect is to greatly boost the research status. The findings are further upgraded by a number of lexical items:

- *demonstrated* (Manner process = shown evidentially = flagged attitude = en/contract/proclaim/endorse)
- *far* (gr/force/intensify/attribute)
- *greater* (gr/force/quantify/thing),
and
- *wealth* (inscribed importance).

Then, *from Australia's colonial fishing industry* (Q. Location: place - historical) recontextualises these values back into the research field. Finally, *previously* (Adjunct: temporal – unlocated: determinate = gr/force/quantify/process/extent/scope/time) looks limitlessly into the past, from the present. With the process *realised*, it creates the impression of long-standing neglectful thinking by others, and the promise of new and different understanding.

The argumentative importance of the contextual meanings is evident if they are removed:

- 17 This article ... an overview of Chinese fish-curing operations
- 18 It uses primary documents and field research to supplement the limited discussion
- 19 The likely internal structure of Chinese fish-curing establishments such as ownership, management arrangements and labour requirements is...
- 20 it is that Chinese people generated far greater wealth than has been ... realized.

In summary, the contextual meanings operate at clause level as marked Theme and constituents, embedded as Qualifiers, and as containers of inscribed and flagged attitude. Their interpersonal action raises expectations of meaningful and important findings.

6.5.3.2 Patrick (2011): clauses 13, 19 and 25

Patrick's purpose-value phase consists of three logogenetically disrupted clauses. These clauses are analysed as though they were a coherent phase, with each clause treated as a sub-phase. While each clause is located in a different argumentative context, their Themes and processes are consistent with the objectives of an integrated phase, that is, contextualising past research approaches as lacking, stating the research question to be addressed, and further contextualising the research as a moral enterprise. In achieving this, the three clauses act as a coherent phase.

Sub-phase 1: clause 13

The context of clause 13 is clause 12.2, which sets up past research approaches as lacking. In it, Patrick refers to historians who argue that

'... scholars need to recognize the importance of the institutional foundations of intellectual life in the shaping of colonial knowledge and of the sets of processes and practices that governed knowledge's production and reception.'

In Clause 13, Patrick states how she addresses this problem. Contextual meanings realised by C. Location: place situate her purpose. For clarity, elided lexis is inserted:

- 13 **In this piece**, I extend this critique **to the domain of education**,
(and) specifically (*I extend it to*) **history education**.

The marked Theme *in this piece* (C. Location: place - semiotic) refocuses from the research field to the research article to provide context for *I extend this critique* (statement of purpose, given a degree of specific interpersonal impact by its personal pronoun). Then, *to) history education* (C. Location: place – semiotic) denotes the specialised research area.

Sub-phase 2: clause 20

This sub-phase states the research question. A conglomerate of six contextual meanings as a significant proportion of the clause indicates that this is an important statement requiring precision:

- 19 This article **examines** how a nationally controlled state school system deriving its institutional frameworks and practices **from British patterns** interacted **with a set of imported pedagogical theories which prioritized local knowledge, and were then translated into local-level teaching practices in primary schools** .

The sub-phase follows negative appraisal of existing research in the literature review (clauses 16-18; 6.3.3.2, p.96). Primary interpersonal impact comes from *examines* (Manner process = scrutinises thoroughly), Patrick's qualitative assessment of her research, which flags it as detailed and careful. Then, major aspects of the inquiry are contextualised:

- *from British patterns* (D.C. Location: place – abstract) construes colonial influence as extensive, systematic and lasting in *patterns* (message: usuality)
- *with a set of pedagogical theories which prioritized local knowledge and which were then translated ...* (D.C. Accompaniment: comitative), including quantification (*a set of*) that magnifies not only the number of theories, but their possible significance in the 'interaction'
- *prioritized* (flagged, Manner process = arranged purposefully, i.e. in order of perceived importance), embedded in D.C. Accompaniment: comitative, evaluates Patrick's view of how the theories were applied and
- *into local-level teaching practices* (D.C. Role: product) and *in primary schools* (Q. Location: place – physical: locational) locate the results of prioritisation in education practice.

These contextual meanings work interpersonally to recall and reinforce the unfavourable critique of historians in the research space phase. The invoked negative appreciation boosts positive appreciation of Patrick's own research.

Sub-phase 3: clause 25

Circumstances construe the research as morally desirable. The argumentative risk is substantial because this clause concludes the Introduction. CD is dense - a conglomerate of five meanings occupying most of the clause:

- 25 **In this spirit** I aim to return history textbooks **to their proper place in early twentieth-century classrooms** by **considering** their rise and fall **relative to other methodologies for transferring historical knowledge and capacities to schoolchildren**.

The moral context is Patrick's reference to Taylor & Thomas (1991)⁴ in clauses 23-24:

The observations of Peter Taylor and Julian Thomas in relation to the historiography of history education in Australia also apply to New Zealand. Taylor and Thomas contend that Australian studies of history education have been preoccupied with identifying the political ideologies contained in history lessons—often condemning such lessons as ‘unnecessarily or falsely ideological’—while ‘ignoring’ the ways in which the actual teaching of a course of study over time might have been less about producing political ideas or passing on a discrete quota of historical knowledge than about producing “kinds of persons with particular skills and capacities”.

The marked Theme *In this spirit* (C. Manner: quality) draws on the viewpoint of Taylor & Thomas (1991) to construe Patrick's research as seeking truth. As inscribed high positive appreciation, *spirit* evokes ethical purity and loftiness. Construal of moral rectitude continues with *to their proper place* (C. Location: place – abstract). As inscribed high positive appreciation, *proper* carries not only locational but also moral propriety that the research will establish *in early twentieth-century classrooms* (Q. Location: place – historical), another non-concrete place no longer in existence. Next, *considering* (Manner process = thinking carefully) flags thoroughness. Interpersonally, these contextual meanings are strategic: only after this construction of rightness and diligence is the research focus stated: [the rise and fall of textbooks] *relative to other methodologies for transferring historical knowledge and capacities to schoolchildren* (Q. Matter).

The fundamental role of contextual meanings in creating logic, purpose and persuasion is evident when they are removed:

I aim to return history textbooks ... by ... their rise and fall.

Tightly framing the core message, the meaning of Manner: quality controls understanding as marked Theme. Further, the contextual meanings are inextricably locked into constituents in processes and as Qualifiers, below argument, shown in Table 6.27:

⁴ Patrick's (2011) Reference List item: Peter Taylor and Julian Thomas, 'History in a Moral Regime', paper presented at Histories in Cultural Systems conference, Australian National University, 1991, paraphrased in Chris Healy *From the Ruins of Colonialism: History as Social Memory*, Cambridge, 1997, p.107.

Table 6.27: Contextual meanings locked into constituents, Patrick (2011) clause 25

Positive appreciation

25.1

In this spirit	I	aim to return	history textbooks	to their proper¹ place [in early twentieth-century classrooms]
1a C. Manner: quality Inscribed attitude	Actor	Pr: material	Goal	1a C. Loc: place – abstract ¹ Appreciation: high + gr/focus/quantify/process/extent/scope/space
				in early twentieth-century classrooms
				2a Q. Loc: place – historical gr/focus/quantify/process/extent/scope/space

25.2

by	considering	their rise and fall [relative to other methodologies for transferring historical knowledge and capacities to schoolchildren].
	3a Pr: mental Examined carefully	Phenomenon
		relative to other methodologies [[for transferring historical knowledge and capacities to schoolchildren]].
		2a Q. Matter



In summary, in Patrick's disrupted purpose-value statement, contextual meanings work interpersonally to construe research as redressing neglect and seeking a morally righteous outcome. The meanings operate as marked Themes, as containers of inscribed and flagged attitude, and in a Qualifier. They produce very strong statements of purpose and objectives and construe high 'moral' value for research as well as creating the perception of significant findings. The result is positive appreciation as clause prosody.

In summary, these purpose-value phases of the dataset again illustrate the flexibility and varied functions of contextual meanings as effective interpersonal tools. In these phases contextual meanings consolidate and enhance claims of relevance and importance made in the introductions to topic and research space phases. As marked Themes contextual meanings mandate particular focuses and understandings of claims. Infused in processes, meanings of Manner work for sympathetic evaluations of the writer's research and negative evaluations of others' research. When Qualifiers, contextual meanings shape constituents by inseparably attaching meanings below the level of argument. They enable values to be expressed concisely, enhancing the impression of authority. As types, the most prominent meanings are Angle viewpoint, Cause: purpose, Role: guise, Role: product, and Manner: means, reflecting the functioning of these phases in conveying summaries of existing knowledge and justifying investigation.

7 Conclusion: the persuasive power of contextual meanings

This thesis has argued that contextual meanings—meanings of extent, space, time, manner, cause and condition—deliver interpersonal impact by enhancing and enriching ideational meanings. Located within SFL (particularly Halliday & Matthiessen, 2004), the thesis has argued that though contextual meanings are essentially circumstantial, their realisation is lexicogrammatically varied. At group/constituent rank they frame information and argument, and are realised by Circumstance and processes infused with meanings of Manner, typically Manner: quality. Below constituent rank, contextual meanings shape participants and are realised as Qualifiers of nominal groups, and as downranked processes and circumstances in embedded clauses. They are also realised by circumstantial Attributes and Adjuncts.

A major aim of the thesis was pedagogical. It was felt that understanding of the diverse grammatical realisations of contextual meanings would provide further insight into how academic introductions positively position research and would also provide models to support students struggling to effectively foreground work. Accordingly, the thesis studied six academic chemistry, education and history article introductions. Analysis of their contextual meanings indicates that these meanings are rhetorically persuasive in varied ways. It is argued here that contextual meanings frame and shape participants, clauses, groups of clauses, and phases of the Introductions to induce, even direct, reading viewpoints and evaluations. The analysis shows how contextual meanings come together in different ways and densities, referred to as contextual density (CD). In each introduction, CD patterning seems to reflect the presence of important risks, such as audience engagement, significant research claims and definitions, when precise contextualisation is necessary for effective persuasion. CD patterning and peaks are shown across each introduction in the graphs in Appendix H (pp. 325-330).

Findings bear out the value of the discourse semantic approach to capture meanings at and below constituent rank. While this analysis is not quantitative, of the 470 contextual meanings identified in the dataset, only 238, or just over half, are at constituent rank. Meanings by rank are tabulated in Appendix I (p.331). Thus, without scrutiny below the clause, much evidence of contextual shaping of participants and the conglomeration of meanings at sensitive points would have been unavailable. Summaries of findings will now be presented, with examples from the dataset in order to demonstrate this finding.

7.1 Framing information and argument in marked Themes

Contextual meanings as marked Themes cohesively and persuasively organise information and argument in this dataset. In the introductions to topic phases, marked Themes interpersonally engage audiences and establish research importance. They reinforce this in development phases. In reviews of others' work, they establish locational, temporal and semiotic relevance for the writers' research. The marked Theme may not only dominate a clause, but may persist in its influence across a discourse, particularly, for example, in Kennedy, clause 1, where it builds audience solidarity, shown in Table 7.1:

Table 7.1: Contextualisation across discourse by marked Theme: Kennedy, clause 1

Within the discipline¹ of coordination chemistry	the weak-link approach (WLA)	has emerged	as a powerful ¹ means [[to assemble complicated supramolecular structures (Scheme 1)]].
1a C. Location: place - abstract ¹ Appreciation +	Scope	Pr: mat.	C. Role: guise ¹ G/force/quantify/thing Invoked + Appreciation →
Frame			
Invoked positive affect	→		
Persisting solidarity	→		

The marked Theme frames the research within the *discipline*, (inscribed positive appreciation; compare, for instance, more neutral meaning in *subject*) that indirectly addresses academic readers, building solidarity and positioning them to accept the claim in C. Role: guise. Positive affect is invoked as clause prosody. This reading zone of solidarity and positivity not only dominates the clause but also continues across the discourse.

Contextual framing also imposes coherence, for example, in Bowen, clauses 6-7:

- 6 **At a time** [[when most Melbourne and Sydney-based European fishermen were earning approximately £50 per year]] Chinese people working in Australia were earning that much every day.
- 7 **During the 1860s**, one Chinese fish dealer— and there were many— earned over ten times more from fish sales annually than both Melbourne's and Sydney's European fish markets combined.

The marked Themes of C. Location: time – unlocated: determinate form a dominating and organising prosody. They launch other prosodies that amplify economic value of the topic and directly enhance information reception and processing (see also Figure 6.2, p.53).

A further example of contextual framing by marked Theme is in Gray, clauses 14-16. Successive marked Themes of C. Location: place – physical: geographical and semiotic compel two-dimensional, wide-focused contextual and professional understanding of the

importance of communication skills in accountancy. The marked Themes maximise supportive scholarly and professional authority, as indicated in Figure 7.1:

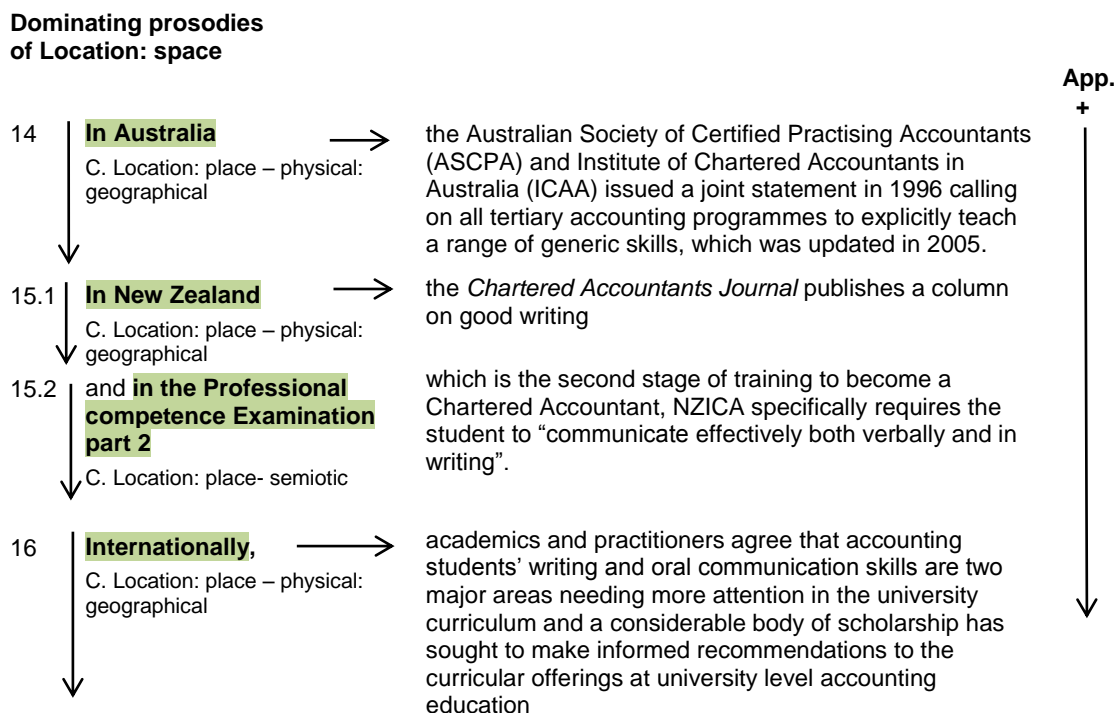


Figure 7.1: Marked Themes of C. Location: place dominate clauses and across clauses to create a ‘reading zone’ of positive appreciation of communication skills, Gray (2010) clauses 14-16

Contextual framing works through each clause and across the group of clauses, construing communication skills as essential over a range of spatial contexts. The frame is gradually widened and the effect is strongly interpersonal; positive appreciation of communication skills is constructed across the clauses and, by inference, the research.

A marked Theme can also frame retrospectively, for example, in Macpherson, clause 21:

- 21 **In view of the importance of the development of such critical thinking skills for effective professional practice,** it is appropriate to test the level at which first-year students in a new graduate medical degree possess such skills.

This is a risk point: the end of the Introduction. At stake is research justification. The marked Theme of C. Angle: viewpoint and Q. Cause: purpose reaches back to summarise what has been argued and forward to work for positive reading of the remainder of the paper. Here, it is the contextual meanings that supply conviction (also shown in Figure 5.2, p.34).

7.2 Strategically shaping participants by contextual conglomeration

Conglomeration is associated with clustering and clumping. Participants are shaped strategically when contextual meanings conglomerate, or collect together, as Qualifiers and Qualifiers-within-Qualifiers of nominal groups or downranked circumstances in embedded clauses. Embedding may be shallow or deep, and is associated with pairs, clusters and clumps of contextualisation. Meanings are locked in, beyond argument, often committing significant meaning potential that serves a particular purpose. For example, in Brooks, clause 5.1, a pair of shallowly embedded Qualifiers provide precision to meet the challenge of portraying research as significant, shown in Table 7.2:

Table 7.2: Shallow embedding of Qualifiers, Brooks (2013) clause 5.1

... [[storing photon energy as chemical potential in solid fuels]]	is	of particular interest ...
Carrier	Pr: attr.	Attribute
	as chemical potential [in solid fuels]	
	2a Q. Role: guise	
	in solid fuels	
	2b Q. Loc: place – phys: chem.	

When much is at stake, such as in a claim of research result, conglomeration may occur as clumping and deep embeddings of contextual meanings, such as in Kennedy, clause 18, Table 7.3:

Table 7.3: Deeply embedded contextual meanings frame achievement, Kennedy et al (2013) clause 18

Herein we report	a new method [for the clean and quantitative synthesis of rigid platinum(II) WLA assemblies (Scheme 1: 2,3,6,7,8,9,) via partial abstraction of chloride in either protic or nonpolar solvents].
	Verbiage
	for the clean and quantitative synthesis of rigid platinum(II) WLA assemblies (Scheme 1: 2,3,6,7,8,9,) [via partial abstraction of chloride in either protic or nonpolar solvents].
	2a Q. Cause: purpose
	via partial abstraction of chloride [in either protic or nonpolar solvents].
	2b Q. Manner: means
	in either protic or nonpolar solvents].
	2b Q. Loc: place - physical: chemical

It is suggested that this precision invokes positive appreciation with minimal evaluation (only *clean* = inscribed positive appreciation). Table 7.3 shows a variety of contextual meanings at several levels that define the research outcome. It is suggested that this precision reflects high stakes, requiring the most effective shaping of the outcome.

In Bowen, clause 8, strategic shaping is provided by the embedded contextual meanings in the definition of the research gap, shown in Table 7.4 below. In this evaluation, the Scope contains contextual meaning realised by a downranked circumstance:

Table 7.4: Contextual meaning as downranked circumstance, Bowen (2010) clause 8

Chinese participation [in Australia's early commercial fishing industry]	has not received	the same attention [[as that (which was received) in the United States of America (US).]]
Recipient	Pr: material	Scope
in Australia's early commercial fishing industry		in the United States of America (US).
2a Q. Loc: place - historical		1b D.C. Loc: place – physical: geographical

It is the embedded contextual meanings that carry definition and impact. Q. Location: place – historical precisely situates the topic. Then, downranked C. Location: place in the embedded clause construes deficiency. Without them this clause loses focus and impact.

7.3 Boosting meaning potential

The analysis shows that contextual meanings have interpersonal impact when they raise the commitment of meaning potential (Hood, 2008, p.356), that is, the strength, of meaning in one instance of language compared with another. Contextual meanings commit more meaning potential when they conglomerate and/or contain evaluation.

7.3.1 Boosting meaning potential by conglomeration

Contextual meanings generate interpersonal impact when they conglomerate as three or more successive meanings (for example, Gray clause 37, Table 6.14, p.90, and Table 7.5 below). Ideational meaning piles up, raising meaning potential and creating subjectified meaning. In this dataset the subjectified meaning is typically either direct positive appreciation of research, or affect as insecurity: disquiet, relating to perception of research need or deficiency, which indirectly promotes positive appreciation for the writers' research, for instance, in Brooks, clause 32.2, shown in Table 7.5:

Table 7.5: Commitment of meaning potential by conglomerate contextual meanings invokes positive appreciation of research, Brooks et al (2013) clause 32.2

the feasibility of Zn ²⁺ reduction by a molecular photocatalyst for eventual use as a solar fuel .			
Verbiage			
	2a Q. Manner: means	2b Q. Cause: purpose	2b Q. Role: guise
	Meaning potential →		
	Positive appreciation →		

The meanings, as Qualifiers, are beyond the level of argument. They significantly raise meaning potential, to enhance the research. There is no overt evaluation but the meanings and accumulate to construe research value and evoke positive appreciation.

Table 7.6 shows other conglomerate contextual meanings and their effects, within and across clauses:

Table 7.6: Examples of conglomerate contextual meanings and their effects

Dataset	CI	Prosodically arranged contextual meanings	Interpersonal effects
Kennedy (2013)	2-3	Unlike the symmetry-interaction approach (SIA) and directional bonding approach (DBA) which lead to static, rigid structures the WLA results in dynamic complexes that may be toggled between rigid and flexible states via the introduction and removal of elemental anions or small-molecule “effectors” . Functional units (such as catalytic sites, redox-active moieties, host-guest recognition sites, and fluorophores) may be incorporated into the ligands in such a way that the structural change results in a marked change in the properties of the complex.	Raises meaning potential across clauses. Positive ‘marketing’ of research by construing outcome as sequence of: ¹ Limitation (others’ work); ² Solution (present research); and ³ Advantage (own result). Invokes positive appreciation across clauses.
	18	Herein we report a new method [for the clean and quantitative synthesis of rigid platinum(II) WLA assemblies (Scheme 1: 2,3,6,7,8,9,) via partial abstraction of chloride in either protic or nonpolar solvents .	Commits more meaning potential to <i>method</i> . Portrays innovative and useful research. Invokes positive appreciation.
Gray (2010)	14-16	In Australia ... In New Zealand ... in the Professional Competence Examination part 2 ... Internationally ...	Marked Themes raise meaning potential across clauses. Construe extensive research relevance.
	37	While Morgan (1997) identified 13 individual skill areas within oral communication activities in accountancy in a study of accounting professionals in England and Wales his study is exceptional in its specific focus.	Heavy commitment of meaning potential to skill areas, enables exclusion of this research.
Patrick (2011)	10	However, local histories produced by schools << this article contends >> also need to be understood in the context of a set of imported pedagogical theories and educational practices that had less to do with a colonial context // than with the aim of developing particular Qualities and capacities in children through the medium of locally based lessons .	Heavy commitment of meaning potential to context for understanding school-level history research. Invokes negative affect as insecurity: disquiet.
	11	Recently, several historians have attempted to shift the context [of the historical debate over the connections between knowledge and colonialism in New Zealand] from one almost exclusively devoted //to examining the ‘textual outputs’ of colonial knowledge .	Heavy commitment of meaning potential to context of historical debates. Completes transit to research. Significantly raises interpersonal temperature.
	18	In two recent articles Tony Ballantyne has criticized the tendency of historians of colonialism in New Zealand to concentrate on the products of the textual exchanges of a small national intellectual elite while ignoring the vast amount of everyday interactions and knowledge practices that went on ‘under’ the nation, centred on ‘specific practices, institutions and sites’	Strong commitment of meaning potential in relation to process <i>concentrate</i> and to knowledge practices in summary of supportive source. Enhances writer’s criticism of existing history research approaches.
	21	There has been an overwhelming focus on educational content usually in the form of nationally produced textbooks and curriculum topics , to the exclusion of pedagogy and educational practice ⁷	Commitment of meaning potential to <i>focus</i> enhances writer’s criticism of existing history research approaches.
	24	Taylor and Thomas contend that Australian studies of history education have been preoccupied with identifying the political ideologies contained in history lessons—often condemning such lessons as ‘unnecessarily or falsely’ ideological— while ‘ignoring’ the ways in which the actual teaching of a course of study over time might have been less about producing political ideas or passing on a discrete quota of historical knowledge than about producing “kinds of persons with particular skills and capacities”	Heavy commitment of meaning potential across clause by four Manner processes (flag) and of less by Q. Matter and D.C. Accomp: com. Strong criticism of existing history research approaches in summary of supporting source.

7.3.2 Boosting meaning potential through evaluation

Much meaning potential is committed in contextual meanings through APPRAISAL resources. Here the analysis relies on APPRAISAL theory (Hood, 2010; Martin & White, 2005). This dataset contains contextual meanings that:

- inscribe (explicit meaning) and invoke (indirect meaning) attitude as appreciation, affect and judgement
- flag (indicate strongly) or afford (indicate less strongly) attitude, in processes infused with Manner, typically quality
- upgrade or downgrade the significance of information by graduation, mostly as intensification and quantification.

7.3.2.1 Inscribing and invoking attitude

Inscribed attitude refers to explicit and directly subjectified meaning. In the dataset, inscription in contextual meanings promotes a positive view of research. Inscription may achieve this indirectly by invoking negativity, for example, in Gray, clauses 1-2:

- 1.2 ... accountancy Graduates [[entering the workplace]] often begin their careers **with inadequate oral communication skills**.
- 2 Practitioners and professional associations as well as academics are conscious **of this need**:

Inadequate in C. Accompaniment: comitative and *need* in C. Manner inscribe high negative appreciation of graduates' skills. They invoke affect as insecurity: disquiet – uneasy and thus indirect positive appreciation of the research across the clauses.

Or inscription in contextual meaning may construe positive opportunity, Brooks, clause 27:

- 27 Iridium complexes stand out as **PSs because of their remarkable photo-physical properties such as long lifetimes and photochemical robustness**.

Inscribed positive appreciation as *remarkable* and *robustness* in C. Cause: reason encourages the conviction that the research will be successful.

Invoked attitude that derives from less explicit or metaphorical contextual meaning, can be nevertheless interpersonally strong, as in Patrick's Purpose-Value statement:

- 26 **In this spirit** I aim to return history textbooks **to their proper place [in early twentieth-century classrooms]**

High positive appreciation, in *spirit* (in C. Manner: quality) and *proper* (in C. Location: place – historical: institutional), invokes positive judgement as sanction: propriety. Research is contextualised as morally just. Further, contextualisation is retrospective because the meaning in the marked Theme refers back into preceding argument.

7.3.2.2 Flagging and affording attitude in Manner processes

Processes infused with contextual meaning, typically Manner: quality, flag or afford attitude, depending on the strength of meaning potential. In this dataset, Manner processes make a major interpersonal contribution. They positively contextualise the writer's own research directly, or indirectly by negatively evaluating the quality or capacity of others research. Across the 148 clauses analysed, there were 87 instances of processes infused with Manner (listed in Appendix E, pp. 312-316). Manner processes tend to occur more often in the education and history Introductions, which are strongly argumentative (notably Gray and Patrick), mostly at constituent rank, shown in Table 7.7:

Table 7.7: Manner processes in the dataset

	Dataset	3a Processes	3b Processes	Total
Chemistry	Brooks et al (2013)	6	2	8
	Kennedy et al (2013)	4	0	4
Education	Gray (2010)	23	10	33
	M&O (2010)	7	1	8
History	Bowen (2012)	7	1	8
	Patrick (2011)	18	8	26
	Total	65	22	87

Most of the Manner processes flag attitude: that is, emphatically encourage or compel, particular reading. While they are less common in the chemistry texts, a fine example is in Brooks, clause 25:

25 Iridium complexes **stand out as PSSs because of their remarkable photophysical properties such as long lifetimes and photochemical robustness.**

Stand out foregrounds the promise of success. The meaning of showing up *strongly* strengthens the effects of *remarkable* and *robustness*. With C. Role: guise and C. Cause: reason, significant meaning potential is packed into a statement that justifies an important aspect of the research, creating high positive appreciation as a clause prosody.

Commitment of strong contextual meaning potential in citation verbs is a major persuasive resource in reviews of other work, for example, this burnish/tarnish sequence in Gray, shown in Figure 7.2:

42 **In other New Zealand studies**, Gardner, Milne, Stringer, and Whiting (2005) **engaged with the particular issue of oral communication in accountancy students** but **examined it from the perspective of students' communication apprehension (CA) and the impact of their course of study in reducing student CA**, rather than **in a workplace context**.

} Burnish
} Tarnish

Figure 7.2: Meaning potential in a manner citation process assists burnishing/tarnishing of other research, Gray (2010) clause 42

Engaged (discussed analytically and argumentatively) and *examined* (scrutinised thoroughly) both flag attitude. First, *engaged* contextualise others' research (represented by C. Accompaniment: comitative and C. Location: place – people) as vigorous and painstaking. Then, *examined* works strongly with the other contextual meanings in C. Angle: viewpoint and C. Location: place – abstract to influence negative appreciation of this research (see also Section 6.2.3.1, p.73).

Another example of a Manner process that flags attitude is in Bowen, clause 9:

- 9 ... the Australian example **mirrors** the situation in the US where Chinese immigrants to the mid-nineteenth century gold rushes took up niche economic positions in labour-intensive work areas such as marked gardening and fishing.

Mirrors (resembles exactly) is unique in the dataset, because it is infused with Manner: comparison. In this instance, *mirrors* signals purposeful research with the promise of findings that match Australian events with a much larger and economically more important entity, thus invoking positive appreciation of research importance.

Afforded attitude is less plentiful. When found, it evaluates the writer's research, where

- caution might be expected (for example, in claims about research aims)
- strong contextualisation is not needed (such as in a simple summary);
and/or
- strong, strategic contextual meaning is supplied in a subsequent clause.

However, wherever it appears, afforded attitude is still contextually strategic because it encourages sympathetic reading. Table 7.8 lists instances of afforded attitude:

Table 7.8: Contextual meanings as afforded attitude in Manner processes

Dataset	CI	Text	Meaning	Interpersonal effect
Kennedy (2013)	1	Within the discipline of coordination chemistry the weak-link approach (WLA) has emerged as a powerful means to assemble complicated supramolecular structures (Scheme 1).	arose <u>significantly</u>	Caution precedes high positive evaluation of research approach
Gray (2010)	1	A number of international research projects, supported by a wealth of anecdotal evidence, suggest that accountancy graduates entering the workplace often begin their careers with inadequate oral communication skills.	state <u>tentatively</u>	Cautious evaluation of evidence (strong contextualisation elsewhere in clause)
	9	This project seeks to investigate the importance of oral communication skills for students intending to begin an accountancy career in New Zealand as perceived by chartered accountancy professionals.	tries <u>determinedly</u>	Cautious statement of aim. Strong contextualisation not needed.
	11	National and international studies consistently agree that accounting practitioners and professional groups consider communication skills in general to rank among the most important skills for graduates to possess upon their entry into an accountancy career.	think <u>carefully & conclusively</u>	Cautious evaluation of evidence (strong contextualisation elsewhere in clause).
	16.3	... a considerable body of scholarship has sought to make informed recommendations to the curricular offerings at university level accounting education	tries <u>determinedly</u>	Positive evaluation of academic quality and effort.
	22	For example, Zaid and Abraham (1994) studied the problems encountered by accountancy Graduates early in their employment careers	looked at <u>carefully & purposefully</u>	Strong evaluative contextualisation not needed in this clause
	23	Baker and McGregor (2000) compared the importance perceived in communication skills by a number of accountancy stakeholder groups;	examined <u>purposefully; differentiation</u>	Strong evaluative contextualisation not needed in this clause.
	26	De Lange, Jackling and Gut (2006) surveyed Australian accountancy Graduates to find their ideas of the skills development they considered necessary for a successful career in accountancy.	thought <u>carefully & conclusively</u>	Strong evaluative contextualisation not needed – appears in next clause.
Bowen (2010)	16	Archival and archeological evidence from America's Chinese fishing history correlates with recent research from Australia to suggest material connections that provide an important basis for studying Chinese migrations during the nineteenth century.	state <u>tentatively</u>	Cautious evaluation of evidence yet to be cited.
Patrick (2011)	3	Afterwards, W. B. Harris, a lecturer at the Christchurch Teachers' Training College, and H.C.D. Somerset, an expert in rural education and the author of the celebrated <i>Littledene</i> , a study of a New Zealand rural community, reflected upon some of the competition's results.	thought <u>carefully about</u>	Strong evaluative contextualisation not needed in this clause.

7.3.2.3 Graduation in contextual meanings

Graduation in contextual meanings is a major source of interpersonal power in the dataset. Graduation is understood here as Hood's (2010, p.105) and Martin & White's (2005, p. 38) networks, (see Figure 2.4, p.15). In the dataset, graduation generally works as force (intensifying attributes and processes and quantifying processes through frequency and spatial and temporal scoping) and focus (imposing specificity).

7.3.2.3.1 Intensification

Contextual meanings of Manner: quality and degree are the means of intensification in the dataset. They occur mostly in circumstances, processes and in Attributes, and work in varied ways to create positive views of the writer's research, as seen in Table 7.9:

Table 7.9: Positive positioning of writer's research by intensification in contextual meanings

Dataset	CI	Text	Role	Positioning
Brooks et al (2013)	19	... which lowers the practical specific energy density just slightly to 1.084 kWh/kg.	1a C. Manner: degree intensifies process	Positive construal of zinc sets up positive claim in next clause.
Gray (2010)	12.2	... the acquisition of Graduates with suitably strong communication skills represents a particular and ongoing concern to accountancy employers.	Intensifiers in 2a Accomp: comitative	Reinforces research relevance re concerns of audience about skill levels
	15.4	... NZICA specifically requires the students// "to communicate effectively both verbally and in writing".	1 C: Manner: quality adds to process	Reinforces perception of serious professional concern.
	14.1	In Australia, the Australian Society of Certified Practising Accountants (SCPA) and Institute of Chartered Accountants in Australia (ICAA) issued a joint statement in 1996 [[that was calling on all tertiary accounting programs to explicitly teach a range of generic skills]] ...	1a D.C. Manner: quality adds to process.	Reinforces perception of serious professional concern.
	24	Second, within the smaller number of studies [[that identify// and examine communication skills more specifically]] the focus has tended to be on written communication skills.	1a D.C. Manner: quality adds to process in C. Loc: place –semiotic.	Construes research into communication skills as irrelevant.
Patrick (2011)	6	Kairakau School, Harris and Somerset wrote, was 'the centre of a community [[which had suddenly become history-conscious']]	1a D.C. Manner: quality adds to process.	Quote construes interest in community history as abnormal.
	11	Recently, several historians have attempted to shift the context of the historical debate over the connections between knowledge and colonialism in New Zealand from one [[almost exclusively devoted to examining the 'textual outputs' of colonial knowledge]].	1a D.C. Manner: quality adds to process	Intensifies criticism of history research approach in previous clause: construes other research as limited and superficial.
	21	There has been an overwhelming focus on educational content, [[(that is) usually in the form of nationally produced textbooks and curriculum topics, to the exclusion of pedagogy and educational practice.	1a D.C. Manner: quality defines Q. Matter.	Construes normalcy of educational resources positioned negatively by the writer.

7.3.2.3.2 Quantification

Quantification in contextual meanings substantially aids persuasion in this dataset

(Appendix F, pp. 317-321) by upscaling or downscaling, as in Brooks, clause 4,

4 ... they [*solar fuels*] promise abundant energy [[that could potentially supplement// or replace coal or petroleum **on a massive scale**]].

Here, quantification by upscaling in the downranked C. Manner: degree as the Epithet *massive* greatly magnifies research potential, invoking high positive appreciation.

Contextual downscaling may also support research indirectly, by creating unfavourable perception of others' research, for instance, in Patrick, clause 18.1:

19 In two recent articles Tony Ballantyne has criticized the tendency of historians of colonialism in New Zealand [[to concentrate **on the products of the textual exchanges of a small national intellectual elite**]] ...

The quantification *small*, as Epithet in a nominal group in D.C. Matter, downscales the research scope of other historians. It achieves emphatic disparagement of *national intellectual elite* and so indirectly positions the writer's research as egalitarian, focused and well motivated.

7.3.2.3.2.1 Spatial scoping

Quantification as scoping provides strong framing of clauses and around participants that restricts the potential for uncertainty in meanings. It is suggested that quantification is an effective reading 'limitation' (Kress, 1985, p.42). In framing, quantification bounds both spatial and temporal milieus, and so dictates a particular 'viewscope' of what is being discussed. In this dataset spatial scoping as meanings of Location: place and Extent: distance is realised by circumstances, downranked circumstances, Qualifiers and circumstantial Attributes. Scoping as Location: place includes a variety of meanings between concrete and abstract. Figure 7.4 shows examples in the dataset that meet classifications of Location: place proposed by Dreyfus & Jones (2011); the fan reflects the non-linearity of these places:

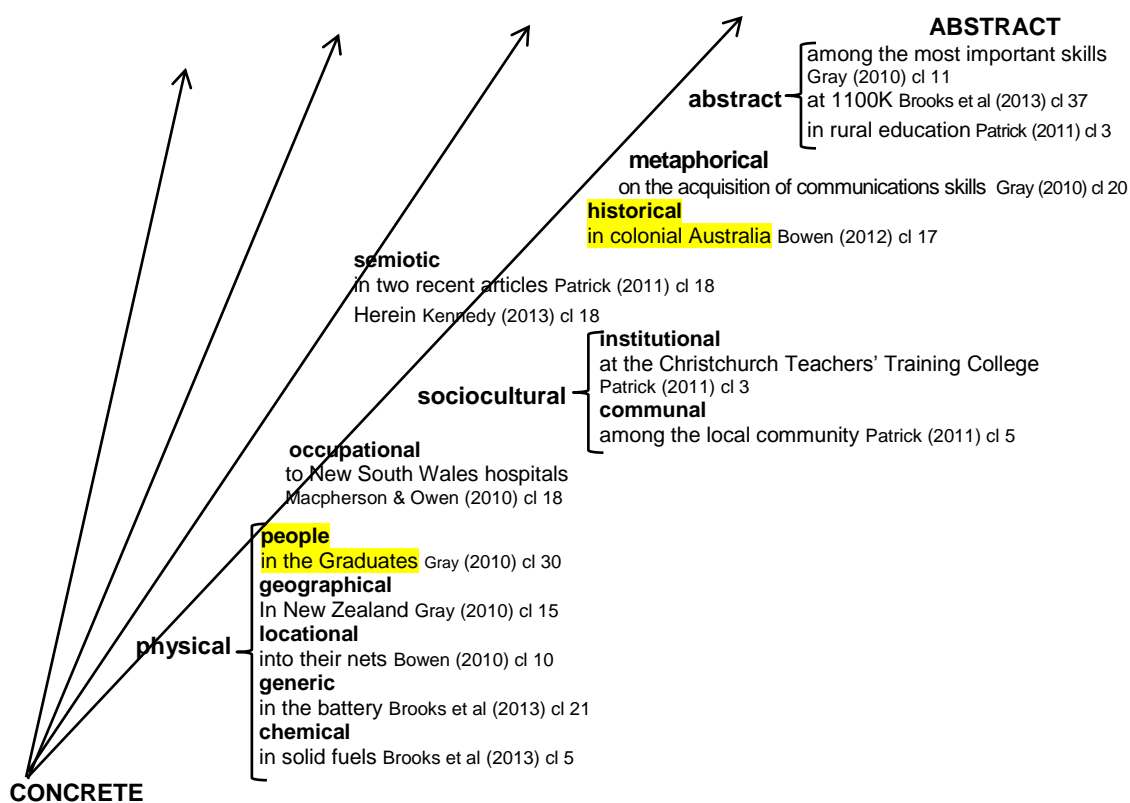


Figure 7.3: Map of locational contextualisation in the dataset, showing the complexity of places between abstract and concrete (after Dreyfus & Jones, 2011, p. 77)

Classifications of Location: place beyond those of Halliday & Matthiessen (2004, p. 262-3) are useful because, while working for particular understandings, they reflect the infinite complexity of the human experiential world and so serve complex linguistic analysis. Thus, analysis of the history Introductions suggests the addition of both Location: place - historical and Location: place – physical: people to Dreyfus & Jones' (2011) map, indicated in Figure 7.3, above. Historical places locate an entity in geographical or locational places as well as temporal places, and temporal places can be packaged as periods, (Martin, 2003; Martin, Maton & Matruglio, 2010). Table 7.10 lists historical places in Bowen and Patrick:

Table 7.10: Location: place – historical in Bowen (210) and Patrick (2011)

Dataset	CI	Location: place - historical	Sub-type
Bowen (2010)	8	in Australia's early commercial fishing industry	abstract:
	9	to the mid-nineteenth century gold rushes	abstract
	17,19	in colonial Australia	geographical
	20	from Australia's colonial fishing industry	abstract
Patrick (2011)	25	in early twentieth-century classrooms	educational

The notion of Location: place – historical experientially acknowledges the past. Once, these places were *present*, existing places. Now they must be understood only through memory or visual and written records. Their non-concrete nature and present semiotic 'location' suggests representational proximity to abstract and semiotic places, shown in Figure 7.4 above.

Examples of Location: place – physical: people appear in in Gray and Patrick, perhaps emphasising the concern of the disciplines of education and history with humans as much as with abstract argument. They are listed in Table 11:

Table 11: Location: place – physical: people in Gray (2010 and Patrick (2011)

Dataset	CI	Location: place - historical
Gray (2010)	8	in new Graduates
	10	in their Graduate hires
	30	in the Graduates
	42.1	in accountancy students
Patrick (2011)	10	in children

Much quantification as spatial scoping appears in marked Themes, where it directs reading and supports writers' research in varied ways, indicated in Table 7.12:

Table 7.12: Strategic spatial scoping as marked Themes

Dataset	Cl	Text	Spatial context	Scoping
Brooks et al (2013)	36	At high temperatures achieved by concentrating sunlight equilibrium shifts ...	Abstract: generic	Scope problem of others' research
Kennedy et al (2013)	1	Within the discipline of coordination chemistry the weak-link approach (WLA) has emerged as a powerful means to assemble complicated supra-molecular structures (Scheme 1).	Abstract: generic	Scope field to build audience solidarity for acceptance of research
	18	Herein we report a new method...	Semiotic	Scope success within research
Gray (2010)	2	In New Zealand , accountancy job advertisements regularly specify both oral and written communication skills;	Phys: geog.	Scope local geographic relevance
	14	In Australia , the Australian Society of Certified Practising Accountants (SCPA) and Institute of Chartered Accountants in Australia (ICAA) issued a joint statement in 1996 calling on all tertiary accounting programs to explicitly teach a range of generic skills.	Phys: geog.	Scope and strengthen local geographical relevance of topic while continuing to build its professional importance
	15.1	In New Zealand , the chartered Accountants Journal publishes a column on good writing	Phys: geog.	
	15.2	and in the Professional Competence Examination part 2 ... NZICA specifically requires the students ...	Semiotic	
	16	Internationally , academics and practitioners agree that accounting students' writing and oral communication skills are two major areas needing more attention in the university curriculum.	Phys: geog.	
	24	Second, within the smaller number of studies that identify and examine communication skills more specifically the focus has tended to be on written communication skills.	Semiotic	Frame others' literature as limited
	42	In other New Zealand studies , Gardner, Milne, Stringer and Whiting (2005) engaged with the particular issue of oral communication in accountancy students	Semiotic	Frame literature to be disparaged
Macpherson & Owen (2010)	17	In Australia , patient harm results from 1 in 10 hospital admissions.	Phys: geog.	Frame and stress local relevance
Bowen (2012)	3	In each of these regions fishing has historically played a major economic role	Phys: geog.	Frame topic as significant
	15	As in Australia , there are documented complaints in the US about the methods the Chinese used to catch fish ...	Phys: geog.	Build relevance for local research
Patrick (2011)	4	In some areas of the country , they reported, the competition had prompted participating schools to document the local histories of their districts for the first time.	Phys: geog. Q. C. M: comp.	Frame recount, build topic significance
	13	In this piece , I extend this critique to the domain of education, specifically history education.	Semiotic	Focus on research aim

The spatial scoping shown in Table 7.12 organises information to push research relevance and importance to audiences, for example, in Kennedy, clause 1 to an academic audience; in Gray, clauses 14-16, to academic, professional and particular geographic audiences. Further, semiotic meanings help the audience refocus *into* the research—its aim or outcome (Kennedy, clause 18 and Patrick, clause 13).

Spatial scoping in other clause locations is also interpersonally effective: for instance, it delivers relevance and high positive evaluation at important points, for example, at the commencement of Gray's literature review, evaluation in a circumstantial Attribute builds research status, shown in Table 7.13:

Table 7.13: Scoping boosts research status, Gray (2010), clause 11:

11	National and international studies consistently agree// that accounting practitioners and professional groups consider communication skills in general [[to rank	among the most important skills [for graduates// to possess upon their entry¹ into an accountancy career²]]].
		4b Downranked Attribute (circ.- Location: place – abstract) ¹ 1b D.C. Location: time – unloc: det. ² 2b Location: place – institutional: occupational

The preposition *among* encloses Gray's topic of communication skills in an Attribute that is given maximum status as *the most important*. Embedded temporal and spatial meanings emphasise Gray's concern and invoke affect: disquiet that encourages research support.

Contextual spatial scoping also assists perception of other research as lacking or irrelevant, for example, in Gray, Table 7.14 (see also Table 6.14, p.90):

Table 7.14: Narrow spatial scoping of literature by conglomerate meanings, Gray (2010) clause 37

37.1	While	Morgan (1997)	identified	13 individual skill areas within oral communication activities¹ in accountancy² in a study of accounting professionals³ in England and Wales⁴,	37.2	his study is exceptional in its specific focus.
		Actor	Pr: mat.	Scope ¹ 2a Q. Loc: place – abstract ² 2b Q. Loc: place - abstract ³ 2b Q. Loc: place – semiotic ⁴ 2b Q. Loc: place - physical: geo.		

This narrow, multi-locational, conglomerate scoping is deeply embedded and commits substantial meaning potential. In clause 37.1 two abstract, and semiotic and geographic meanings supply complex, precise contextualisation to burnish Morgan's work as targeted. Then, in 37.2 it is tarnished as not locally relevant. In this way, contextualisation construes fairness while protecting Gray's research space.

Varied spatial scoping can also promise interesting research, Table 7.15:

Table 7.15: Multi-scoping shapes research space, Bowen (2011) clause 9.2

the Australian example	mirrors	the situation [in the US¹ [[where Chinese immigrants to the mid-nineteenth century gold rushes² took up niche economic positions in labour-intensive work areas such as marked gardening and fishing³]]]].
Actor	Pr: mat.	Scope ¹ 2a Q. Loc: place - phys: geo. ² 2b Q. Loc: place - historical: abstract ³ 2b Q. Loc: place - abstract

Here, 2a and 2b Qualifiers of different spatial types lock meanings into the Scope, ensuring precise definition of research and implying it will be rigorous and interesting.

Spatial scoping can also construe particularity or vagueness that enhances the writer's research or discounts that of others', seen in Gray in clauses 34.2 and 36, in Table 7.16:

Table 7.16: Spatial scoping contextualises other research as unfocused, Gray (2010) clauses 34.2 & 36

Cl	Text	Supports Gray's research
34.2	.. they [others] surveyed 150 American managers across a broad range of industries.	Scopes lack of focus in others' research
36	other research has variously investigated conveying of expertise ... across a range of business industries	

Here the lack of focus delivered by the preposition *across* and the graduation item *broad* (focus/valeur/specificity) contextualises the other research as irrelevant.

7.3.2.3.2 Temporal scoping

Temporal scoping frames, or bounds, beginnings, continuations and ends. It strategically magnifies or reduces events and processes. It is delivered by meanings of Location: time, Manner: quality, Extent: frequency and Extent: duration. Analysis in the dataset shows temporal scoping by circumstances, downranked circumstances, Adjuncts, Qualifiers and one circumstantial Attribute. The thesis proposes four qualities of temporal 'boundedness': located: determinate; located: indeterminate; unlocated: determinate; and unlocated: indeterminate. There are degrees of locatedness and determinateness within these qualities. Figure 7.4 models locatedness and determinacy, with examples from the dataset. Square brackets indicate boundedness;

[= bounded by past,] = bounded by present, [] = complete boundedness.

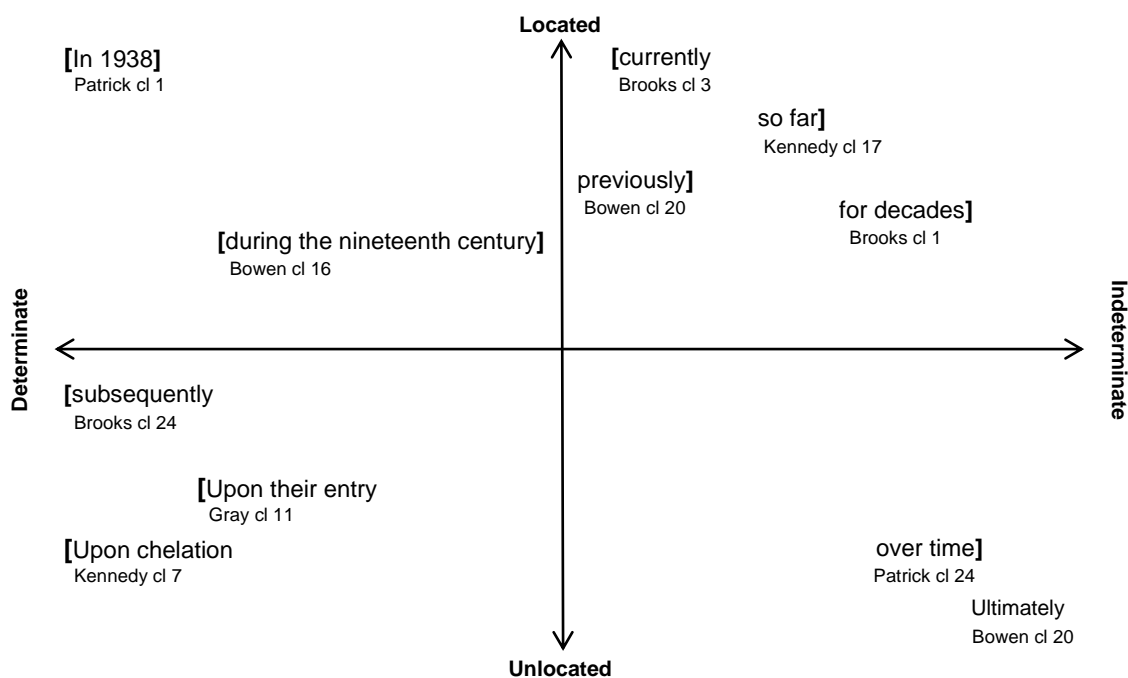


Figure 7.4: A model for temporal determinacy and boundedness

Models of temporal qualities in the dataset are shown in Appendix G (pp. 322-324).

In the dataset, temporal qualities work, directly or indirectly, to create meanings that support a positive view of the writer's research, as examples below indicate.

1 Located: determinate

Located: determinate quality is essentially that of calendar and clock temporality. It can supply narrow or wide contextual scoping. For example in Macpherson, contextualisation as moderately precise temporal scoping by located: determinate time helps evoke affect as insecurity: anxiety. With statistics supplying a numerical context, it contextualises substantial negative health outcomes over a defined period:

- 17 In Australia, patient harm results from 1 in 10 hospital admissions and 2% of these lead to death or serious disability.
- 18 There were 1.5 million admissions to New South Wales hospitals **in 2003/4**.

2 Located: indeterminate

Indeterminate temporal scoping can work strongly to positively position research, as in Brooks, clause 3:

- 3 Many direct and indirect solar power conversional schemes are **currently** the subject of intense research.

The beginning or end of located: indeterminate temporal scoping is known, but not both. Thus quantification in *currently* (Adjunct: temporal = located: indeterminate) is quite located in the present, but defined only by that boundary. *Currently* construes the dynamic quality of time as Halliday (1994, p.153) conceptualised it—moving, 'carrying the observer with it in its current'. It construes immediacy and vigour and evokes positive expectation. The effect is a substantial aggrandisement of the field at the beginning of the discourse, which positively positions readers to accept subsequent research claims.

Located: indeterminate temporal quality can operate interpersonally across clauses, for example, in Gray:

- 3 a number of New Zealand media outlets have **recently** been publicizing a significant rise in demand for communication skills...
- 4 and there is **presently** a lack of well-grounded empirical data concerning precisely what skills are sought by employers in specific fields
- 5 In addition, formal studies of communication competences **to this point** have tended to the quite general ...

The contextual time-scope is progressively reduced, construing urgent need for Gray's research. *Recently* and *to this point* stop at 'now', but their stretch into the past cannot be known. *Presently* (similar to *currently*) is dynamic and invites interest (see also Figure 6.4, p.68).

Limited temporal determination may also portray others' research deficiency, as in Patrick:

- 14 New Zealand historians have **long** been attentive to the potential power of schooling— particularly the compulsory state primary school system— in the work of cultural transmission, such as in instilling imperial ideologies ...

Long stops at the present. It naturalises a view of others' research as historically mis-focused and invokes negative appreciation.

3 Unlocated: determinate

Unlocated: determinate temporal contextualisation is grounded in events, and these are temporally unlocatable. In this dataset, unlocated: indeterminate temporality is understood through the co-text. It fuses temporality and process to establish effectiveness of the writer's research and the failure of others' work, Table 7.17:

Table 7.17: Interpersonal effects of unlocated: determinate temporal contextualisation

Dataset	CI	Unlocated: determinate temporal contextualisation	At stake	Action	Invoking ...
Brooks et al (2013)	24	Photo-induced electron transfer reactions will subsequently drive OH ⁻ oxidation and Zn ²⁺ reduction processes.	Relevance of photo-sensitiser	Support photo-sensitiser	Positive appreciation & acceptance
	27	Cyclometalated Ir(III) complexes are used in organic light-emitting diodes (OLEDs) and as photo-catalysts in many redox reactions [[including organic radical polymerization, cyclizations, aldehyde fluoro-methylation, the water gas shift reaction, and more prominently, the reduction of H²O and Co² for solar fuels]] .	Usefulness of Iridium (III) complexes	Presents varied uses	Positive appreciation & acceptance
Macpherson & Owen (2010)	19.2	... error associated with failure of cognitive function (e.g. failure to synthesise/ and/or act on information) is second only after 'failure in technical performance of an indicated procedure' as the most frequent cause of preventable medical error.	Value of critical thinking in medical practice	Construe absolute lack of success	Affect-insecurity: disquiet, indirect positive appreciation

In Brooks clauses 24 and 27 positive outcomes are scoped within chemical events. In Macpherson, negative consequence is defined in absolute terms that boost perceptions of the need for research. These instances demonstrate the ability of this temporal meaning to attach expectations to events and consequences.

4 Unlocated: indeterminate

Unlocated: indeterminate contextualisation can produce powerful interpersonal impact.

For example, *Ultimately* (Bowen, clause 20) represents an unknowable part of the future in which an event will take place:

- 20 **Ultimately** it is demonstrated that Chinese people generated far greater wealth from Australia's colonial fishing industry than has been previously realized.

Ultimately is unsurpassable and, as scoping, boundlessly magnifies the importance of Bowen's findings, an effect strengthened by its role as a marked Theme.

Scoping by temporal marked Themes in the dataset illustrates the varied temporal qualities as supporting the writers' research, by portraying it as the successful result of a finite process; foregrounding and building importance by organising historical recounts and preambles; and assisting disparagement of others' work, shown in Table 7.18:

Table 7.18: Temporal scoping by marked Themes

Dataset	CI	Temporal marked Theme	Sub-type	Function/effect
Brooks et al (2013)	28	In (during) H² evolving, water reduction reactions turnover numbers (TONs, moles, product moles PS) of the IR (III) PS have reached 10,000	Unlocated: determinate	Research success scoped in process
Kennedy et al (2013)	7	Upon chelation [to a d ⁸ metal center (e.g., rhodium(I), palladium(II))] and in the absence of coordinating anions, the favoured cis geometry of the phosphine ligands promotes the clean formation of bimetallic macrocyclic assemblies while preventing the formation of polymeric and oligometric by-products.	Unlocated: determinate	Research success scoped in completion of process
Grey (2010)	39	Further, since McLaren's 1990 study , the particular requirements for communication skills in the New Zealand accountancy workplace have not been comprehensively examined.	Located: determinate	Local research deficiency scoped as longstanding
Macpherson & Owen (2010)	1	In 2004 , the Australian National University (ANU), Canberra, Australia, launched a graduate-entry medical degree	Located: determinate	Authoritative interest in topic. Contextual certainty in recount.
	2	In 2005 , the Medical Education Unit commissioned research on the ability of students enrolled in that course in the area of critical thinking.	Located: determinate	
Bowen (2010)	6	At a time when most Melbourne and Sydney-based European fishermen were earning approximately £50 per year , Chinese people working in Australia were earning that much every day.	Unlocated: determinate	Scopes periods of growing significance of economic worth of Chinese fishing to enhance topic significance.
	7	During the 1860s , one Chinese fish dealer—and there were many—earned over ten times more from fish sales annually than both Melbourne's and Sydney's European fish markets combined.	Located: determinate	
	10	For approximately 20 years [from the 1960s] Chinese people in the US caught and cured whatever came into their nets.	Located: determinate	
	11	By the 1970s , specialised catching and curing camps were established ...	Located: indeterminate	
	13	In 1880 an estimated \$229,858 (US) worth of Chinese cured fish was exported from San Francisco to Hong Kong.	Located: determinate	Favourable expectations about findings
	20	Ultimately it is demonstrated that Chinese people generated far greater wealth from Australia's colonial fishing industry than has been previously realized.	Unlocated: indeterminate	
Patrick (2012)	1	In 1938 the New Zealand Education Department gave notice to its teachers of a Centennial Competition to be held in 1940 ...	Located: determinate	Contextual certainty in recount as example of necessity for research
	2	By the time the competition closed 70 schools entries had been received.	Unlocated: determinate	Research is timely & interesting
	11	Recently several historians have attempted to shift the context of the historical debate...	Located: indeterminate	

These temporal marked Themes bring coherence and strength to representations of research success. Bowen's located: determinate and located: indeterminate meanings situate the topic's economic significance. Patrick's located: determinate scoping (clause 1) locates a historical recount and *Recently* (clause 11) transfers the reader from recount

into argument. The marked Themes *In H2 evolving, water reduction reactions* (Brooks, clause 28) and *Upon chelation* (Kennedy, clause 7) place known successful outcomes within an event that has unknowable, and therefore limitless, possibilities for recurrence.

Temporal scoping by meanings of Extent: frequency in this dataset work interpersonally by construing positive normalcy for the writer's research and negative normalcy for others' research over time. They are typically realised by circumstances and downranked circumstances of Manner: quality and Extent: frequency, and by frequency supplied by an Epithet within an Attribute, shown in Table 7.19:

Table 7.19: Contextual normalcy construed by scoping as frequency

Dataset	CI	Instance	Role	Normalcy in ...
Brooks et al (2013)	6	This approach alleviates the complications created by the seasonal and diurnal fluctuations// commonly observed in solar energy conversion systems.	1a D.C. Manner: quality	Problems in others' work
	8, 9	Specifically, H ² is often identified as a promising candidate // but storage requirements partially offset the high gravimetric densities desired for transportation applications.	1a C. Extent: frequency	Mis-focus of others' work
	12	Metals are an often -overlooked alternative to energy-dense liquid and gaseous solar fuels	2c Extent: frequency in Attribute	Neglect in research field
	47	and low metal yields caused by the reoxidation of Zn ⁰ are commonly observed during cooling process.	1a C. Manner: quality	Problem of others' research
Kennedy et al (2013)	8	A reaction often used in conjunction with the WLA is the halide-induced ligand rearrangement (HILR) reaction, in which a ligand-sorting process between electron-rich and electron-poor hemi-labile ligands leads exclusively to heteroligated structures.	1a C. Extent: frequency	Success of closely associated research approach
Gray (2010)	1	... Graduates entering the workplace often begin their careers with inadequate oral communication skills.	1a C. Extent: frequency	Communicative skill deficiency
	3	In New Zealand, accountancy job advertisements regularly specify both oral and written communication skills;	1a C. Extent: frequency	Research need
	15	National and international studies consistently agree that accounting practitioners and professional groups consider communication skills in general to rank among the most important skills for Graduates to possess upon their entry into an accountancy career.	1a C. Manner: quality	Authoritative agreement on importance of communication skills
	27	Studies have often used umbrella terms leaving the term communication skills undifferentiated.	1a C. Extent: frequency	Lack of focused research
Bowen (2010)	6	At a time when most Melbourne and Sydney-based European fishermen were earning approximately £50 per year ¹ // Chinese people working in Australia were earning that much every day ² .	¹ 1b D.C. Extent: frequency ² 1a Extent: frequency	Substantial difference in Australian and Chinese earnings
	7	During the 1860s, one Chinese fish dealer—and there were many— earned over ten times more from fish sales annually than both Melbourne's and Sydney's European fish markets combined.	1a C. Extent: frequency	Economic importance of Chinese fishing industry
Patrick (2011)	25	Taylor and Thomas contend that Australian studies of history education have been preoccupied with identifying the political ideologies contained in history lessons — often condemning such lessons as 'unnecessarily or falsely' ideological— ...	1a C. Extent: frequency	Deficiency in others' history research approaches.

In all these clauses, high normality is construed for events and processes. The meanings of Manner: quality (*commonly* and *consistently*) can be understood as *often*. The meanings of normalcy in Brooks and Kennedy support research opportunity. In Gray they

position oral communications skills as normally deficient, important, and poorly understood. In Bowen normalcy is construed for a substantial difference between the earnings of Chinese and Australian fishermen. In Patrick, deficient research is positioned as normal. Thus, in construing negative values in others' research as normal, meanings of frequency are interpersonally important in construing research necessity.

Temporal meanings of Extent: duration construe sustainability over time. There are two instances only, both in the history texts. They invoke positive appreciation of research, because construal of sustainability enhances topic importance, as per Table 7.20:

Table 7.20: Sustainability construed by contextual meanings of duration

Dataset	CI	Instance	Sustainability in ...
Bowen (2011)	10	For approximately 20 years [from the early 1850s] Chinese people caught and cured whatever came into their nets	Chinese industrial vigour
Patrick (2012)	24	... (they [other historians] have been) 'ignoring' the ways// in which the actual teaching of a course of study over time might have been less about producing political ideas// or passing on a discrete quota of historical knowledge than// about producing "kinds of persons with particular skills and capabilities".	Others' research deficiency

In Brooks, the invocation of research worth by the marked Theme is relatively direct. In Patrick the effect is less direct, because it derives from disparagement of others' research. In both instances interpersonal impact is strong.

7.3.2.3.2.3 Specificity

Meanings of specificity soften or sharpen values attached to processes and participants. In the dataset, contextual specificity is delivered by and within circumstances, downranked circumstances and Qualifiers. The meanings of specificity mostly convey limitation or deficiency in others' work, indirectly enhancing the writer's research. The exception is Gray, clause 35.2, where specificity flags positive evaluation that supports the topic. Table 7.21 sets out contextual meanings of specificity:

Table 7.21: Interpersonal effects of meanings of specificity

Dataset	CI	Text	Role	Sharpens value of ...
Kennedy et al (2013)	12	... the sensitivity of rhodium(I) WLA complexes to air limits their compatibility with certain reaction environments .	1a C. Accomp: comitative	Research problem
Gray (2010)	4.2	... there is presently a lack of well-grounded empirical data [concerning precisely¹ what skills [[are sought by employers in specific fields²]] .	¹ 1b D.C. Manner: quality ² 1b D.C. Loc: place - abstract	Others' research deficiency
	6	What does this (<i>lack of formal studies of accountants' communications skills</i>) actually mean for a given industry?	1a C. Angle: viewpoint	Impact of deficiency
	24	... within the smaller number of studies [[that identify// and examine communication skills more specifically]] the focus has tended to be on written communication skills.	1b D.C. Manner: quality	Limitations of literature
	28	And while the De Lange et al (2006) study found// that students reported a significant skill deficiency in the specific areas of "interpersonal skills" and "oral expression" ,// the range of possible skills failing into these two broad categories remained undifferentiated.	1a C. Loc: place - abstract	Limitation of analysis in a literature source
	29	There remains a very limited amount of scholarship [[focusing on the topic of specific oral communication skills in accountancy]] .	1b D. C. Loc: place - abstract	Lack of focused research
	35.2	... the importance of listening [as a specific business communication skills] has been examined more recently by Goby and Lewis (2000).	2a Q. Role: guise	Relevance of listening
Patrick (2011)	14	New Zealand historians have long been attentive to the potential power of schooling—<< (<i>that is they have long been</i>) particularly (<i>attentive to</i>)>> the compulsory state primary school system—in the work of cultural transmission ...	1a C. Manner: quality	Perception of mis-focused research
	18.2	... (<i>they [other historians] have been</i>) 'ignoring' the ways// in which the actual teaching of a course of study over time might have been less about producing political ideas// or passing on a discrete quota of historical knowledge// than about producing "kinds of persons with particular skills and capacities ".	1a C. Accomp: comitative	Negative view of education history research approach

7.4 Managing argumentative risk by conglomeration

Analysis of this dataset suggests that argumentative risk is reflected by high CD, that is, conglomerate contextual meanings in a clause, or group of clauses, graphed in Appendix H, pp. 325-330). Though risks vary from writer to writer, this analysis indicates that issues such as reader engagement, research value or definition of a research aim or space are commonly at stake. Analysis indicates that contextual meanings conglomerate at points such as these, and may even occupy most of a clause. In such clusters and clumps, various contextual meanings, often containing evaluation, support, combine and interact with one another to produce the precise, strong framing of arguments and participants and limitation of alternate understandings necessary to achieve the introduction's social purpose.

For example, in Brooks' research space phase, in clause 27, the value of research into iridium complexes is at stake. Five disparate contextual meanings realised by ranking and downranked circumstances and graduation position the research as practical and useful. Temporal meaning (unlocated: determinate) is dense and complex, embedded with intensification, Manner: quality and Cause: purpose, shown in Table 7.22:

Table 7.22: Conglomerate contextual meanings support research value, Brooks et al (2013) clause 27

Cyclo-metalated Ir(III) complexes	are used	in organic light-emitting diodes (OLEDs)	and	as photo-catalysts	in many ¹ redox reactions [[including organic radical polymerization, cyclizations, aldehyde fluoromethylation, the water gas shift reaction, and more ² prominently ³ , the reduction of H ² O and Co ² for solar fuels ⁴]].
Goal	Pr: mat.	C. Loc: place - physical: generic; G/force/quantify/process/extent/scope/space		C. Role: guise	C. Loc: time – unloc: det. ¹ G/force/quantify/thing ² /G/force/intensify/process ³ D.C. Manner: quality; G/force/intensify/process ⁴ D.C. Cause: purpose

Clause 27 has the highest CD in Brooks' research space phase, indicating the importance of the claim, shown in Figure 7.5:

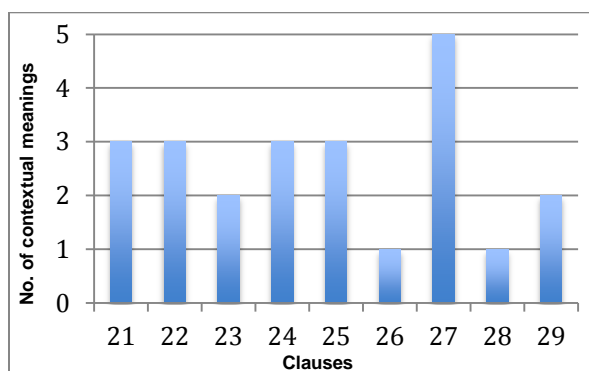


Figure 7.5: CD peak, Brooks et al (2013), research space phase, clause 27

The significance of CD in clause 27 is further indicated when it is compared with other clauses across the introduction. Only clause 37, which concludes the phase, displays similarly dense CD, in Figure 7.6. Full representation is in Appendix H1 (p. 325):

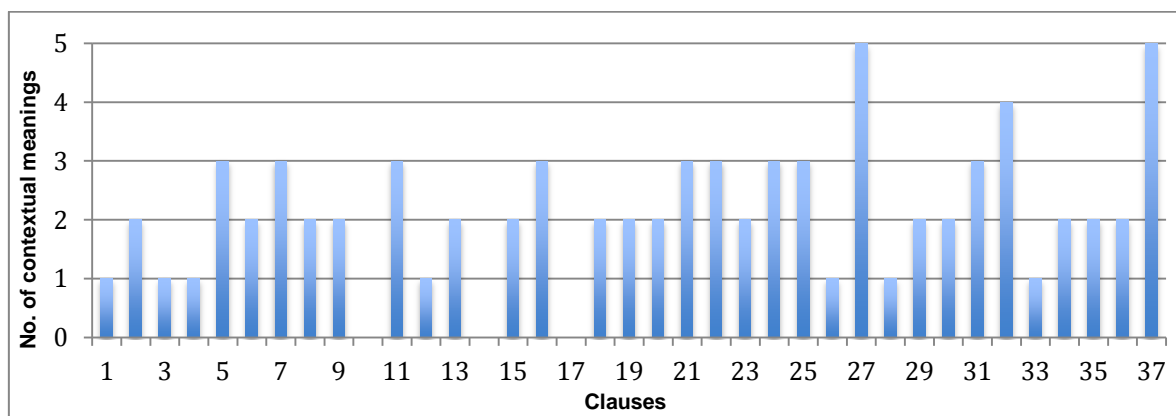


Figure 7.6: CD peaks indicate significance of clauses 27 and 37, Brooks et al (2013)

Risk management by high CD is also demonstrated in Patrick. Clauses containing critical negative evaluations of others' approaches and summaries of supportive literature contain clusters and clumps of contextual meanings. Peaks are shown in Figure 7.7:

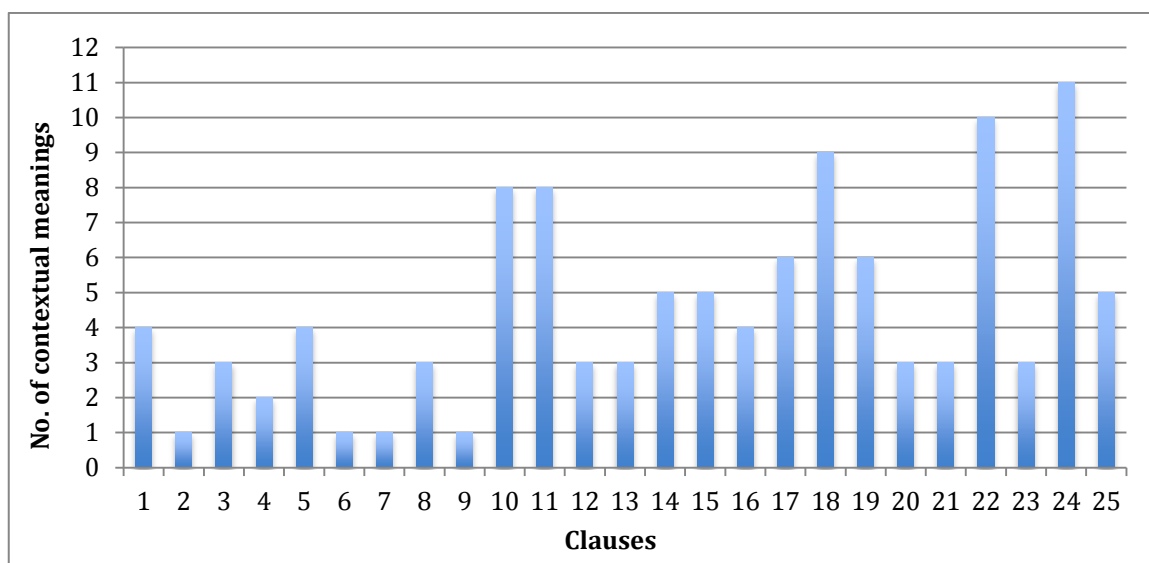


Figure 7.7: CD peaks correlate with important argumentative occasions, Patrick (2011)

Clauses with CD peaks that indicate significant points in Patrick's argument are:

- 10: argument for different understanding of context of local histories
- 11: context of recent history debate
- 18: summary of supportive source
- 22: criticism of other historians' research approach
- 24: summary of supportive source

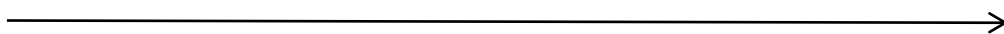
Full representation is in Appendix H6 (on p. 330).

Dense, complex contextualisation also indicates an important stress point in Gray at the commencement of the development phase. At stake is the need for research, Table 7.23:

Table 7.23: High CD brings logic to development phase, Gray (2010) clause 3

3.1					3.2		
A number of New Zealand media outlets	have	recently	been publicizing	a significant rise [in demand ¹ for communication skills ² among employers ³]	and	voicing	a concern that universities are not producing sufficiently literate graduates.
Sayer	Pr: ver...	Adjunct: temp. (loc: indet.) gr/force/quantify/ process/extent distance/time	... bal Manner Pr: reporting widely & prominently	Verbiage ¹ 2a Q. Matter ² 2b Matter ³ 2b Matter gr/force/quantify/process/ extent/scope/space		Pr: verbal Manner: expressing emphatically & urgently	Verbiage

Neg. affect:
insecurity: anxiety



Six clustered and clumped contextual meanings push research justification. The temporal Adjunct (located: indeterminate) contextualises close concern (see also Table 6.8 and Figure 6.4, p.68). The processes flag public attention, construing importance. The pair of meanings in the Verbiage precisely define the problem. In all, the strong contextualisation creates negative affect: insecurity – anxiety as clause prosody. That this clause contains one of the two highest contextual peaks in Gray is an indication of high stakes posed by appropriate framing of research early in this discourse. Contextual density across Gray’s introduction is shown in Appendix H3, (on p. 327).

Gray’s research space offers a further example of complex, conglomerate, multi-level contextualisation, shown in Table 7.24:

Table 7.24: Complex contextualisation defines research space, Gray (2013) clauses 38-39

38					
Thus	a marked gap	exists	in the literature [on oral communication skills ¹ in the accountancy workplace ² .		
	Existent	Pr: Ex.	1a C. Loc: place – semiotic G/force/quantify/extent/scope/space ¹ 2a Q. Matter ² 2b Q Loc: place – abstract; G/focus/quantify/extent/scope/space		
39					
Further,	since McLaren’s 1990 study,		the particular requirements [for communications skills ¹ in the New Zealand accountancy workplace ²]	have not been	comprehensively examined
	C. Loc: time – loc: det.		Scope ¹ 2a Q. Matter ² 2b Q. Loc: place – abstract; gr/force/quantify/extent/scope/space	Pr: mat.	C. Manner: degree ... erial.

Contextualisation in this clause creates a cross-clause conglomeration of negative appreciation of others’ research that indirectly supports Gray’s research and prepares for subsequent unfavourable evaluation of New Zealand literature.

7.5 Summary of findings, limitations and usefulness of the research

This thesis has shown that ideational meaning can be richly and intensely charged by contextualisation, to substantial persuasive effect. In this dataset, contextual meanings strategically frame and shape ideas, events and entities. Interpersonally, they create approval for the writer’s research, directly by generating strong positive positioning, or indirectly by unfavourably representing others’ work.

7.5.1 Contextual enrichment of meanings

Contextualisation enriches and enhances ideational meanings by inserting or infusing meanings of space, time, manner, cause, accompaniment, role, matter, and angle. Though these meanings were viewed as realised by Circumstance (Halliday & Matthiessen, 2004, p. 262-3), this analysis indicates their realisation ranges beyond

Circumstance at clause rank to below or within constituent rank. Indeed, in this disparate means of realisation lies the power to persuasively frame and shape participants and processes. At clause rank, contextual meanings are indeed realised by Circumstance, but also infused in processes. In the position of marked Themes, they frame and foreground information, dominating clauses and groups of clauses, but also radiating forwards and retrospectively to influence acceptance of whole texts. Below the clause, including in embedded clauses, contextual meanings in downranked circumstances, Qualifiers, Qualifiers-in-Qualifiers, Attributes and Adjuncts compel particular understandings that serve the social purpose of the text.

In addition, much interpersonal strength derives from contextual meanings that contain evaluation. In circumstances, Qualifiers, Qualifiers-in-Qualifiers, and Attributes, APPRECIATION, AFFECT and JUDGEMENT inscribe or invoke attitude. Processes infused with contextual meaning (typically Manner: quality but also, in this dataset, comparison and quantification) may afford or flag attitude. Contextualisation may also intensify and quantify (upscale or downscale) the significance of ideas and entities. Understanding of events, entities and processes may also be strongly scoped, temporally or spatially, or sharpened or softened by specificity.

Contextual meanings also influence reception of a text by boosting meaning potential. This may be through evaluative content, infusion in processes, or conglomeration as three or more successive meanings at clause rank or as Qualifiers. In this way several complex meanings may surround or be attached to, and thus design understanding of, an important process or participant.

High CD, that is, conglomerate meanings in a clause or group of clauses, is shown to be an indication of argumentative risk, where precise meaning and/or persuasion works to maximise the possibility of aligned reading. The analysis shows that CD is more likely to be sprinkled (one contextual meaning in a clause) at times of relatively little stress (for example, in general descriptions or summaries) but increases (paired, clustered or clumped meanings) to supply precision in important arguments, claims and definitions. In clusters and clumps, multiple contextualisations may be packed into one constituent, one clause or even in multiple clauses, raising the commitment of meaning potential, with potent interpersonal effect.

The analysis also reveals opportunities for more delicate classifications of temporal and spatial meanings, in line with Halliday's (1985, p. xiii) recognition of the 'inexhaustibility' of

language. Variation in the temporal qualities of locatedness and determinacy, that is, boundedness, has been shown to influence perception of research originality, effectiveness and value, especially in the history and science Introductions. Further, analysis of spatial meanings suggests historical and people types can be added to Dreyfus & Jones' (2011) model for extended classifications of Location: place.

The thesis has thus shown that, in this dataset, the interpersonal power of contextualisation is instrumental in achieving persuasion because it enables the Introductions to set the scene for sympathetic reading by portraying the research as important, original and successful. It concludes that whether the contextual meanings are simple or complex, thin or conglomerate, they are always strategic, always directed to achieve maximum advantage for the research.

7.5.2 Limitations of the research

In studying the working of ideational meanings at the interface of the discourse semantic and lexicogrammatical strata, the thesis has concentrated on how contextualisation creates persuasion. It has not examined the ideational role of contextual resources, or explored the register variable of field. The dataset is very small, and thus the analysis cannot provide evidence of representational language, or disciplinary differences in language. In a more extensive analysis, a larger dataset, including engineering, IT and philosophical texts, and more texts from each discipline, could have yielded more indications of the various kinds of risk faced by research writers in different disciplines, to support a discussion. As it stands, the thesis represents a first step into exploring how contextual meanings work persuasively. There is opportunity for more work to cross reference how these resources intersect with the workings of APPRAISAL resources to position the reader. While appraisal analysis has been carried out on specific contextual resources (Appendix D, pp259-302), a full APPRAISAL of the corpus would enable deeper exploration of how contextual meanings function interpersonally: this could be the next stage of research.

The examination of contextual patterning in relation to argumentative risk is also very basic. There has been little consideration of contextual meanings within nominal groups. Also, while CD peaks have been mapped and related to risks, the graphs in Appendix H (pp. 325-330) are somewhat simplistic; more detailed visual representations and comparisons of the contextual combinations and ranks of meanings within the peaks and

between texts and disciplines could give more insight into the ebb and flow of persuasive dynamics realised in the texts.

Further, exploration of the sub-types of contextual meaning is limited, particularly of the qualities and variability of temporal contextualisation, especially in relation to semi-bounded and unbounded meanings and their interpersonal effects. In addition, contextual meanings at the various levels of structure and points as the texts unfold has been only briefly discussed. There are thus many possibilities for the future examination of contextual meanings and their involvement in persuasion in academic and other texts.

7.5.3 Designing student resources

Perhaps the most valuable outcomes of the thesis are insight into the value of genre theory and pedagogy, and ideas for developing resources to assist students to build well contextualised introductions. While modeling staging and language in introductions is helpful, grammatical functionality needs to be explicitly shown, especially for international students challenged by the requirements of Australian academic discourse, particularly undergraduates. To promote clear thinking about purposes and arguments in introductions, these students need specifically designed resources that will explicitly model contextualisation, as different contextual requirements relate to different stages and content of assignments. Resources should assist students to understand the concept of contextualisation, model realisation of contextual meanings and include exercises to practice deploying them. It is hoped that the detailed, multi-level analyses in this thesis might inform the development of helpful models and exercises that will assist them in writing formal assignments.

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APPENDICES

APPENDIX A: Original texts of introductions

APPENDIX A1: Introduction to Brooks, Basore & Bernard, (2013)

Photon-Driven Reduction of Zn_{2+} to Zn Metal

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INTRODUCTION

Human energy consumption has been rising for decades. The resulting economic conditions and the environmental consequences of this growth will provide an opportunity for renewable energy applications to thrive. Many direct^{1,2} and indirect³ solar power conversion schemes are currently the subject of intense research, since they promise abundant energy that could potentially supplement or replace coal or petroleum on a massive scale.⁴ Consequently, storing photon energy as chemical potential in solar fuels is of particular interest for replacing hydrocarbons for mobile applications. This approach alleviates the complications created by the seasonal and diurnal fluctuations commonly observed in solar energy conversion systems. Unlike photovoltaic energy, solar fuels are independent of the electrical grid, allowing them to be stored and transported easily as a mobile fuel. Specifically, H_2 is often identified as a promising candidate,^{5,6} but storage requirements partially offset the high gravimetric energy densities desired for transportation applications. To illustrate, gaseous H_2 has a 39.4 kWh/kg theoretical specific energy density, but a safe, 700 bar tank system for mobile H_2 use has a theoretical specific energy density of 1.89 kWh/kg, which further drops because of losses from compression and fuel cell mass.⁷

Metals are an often-overlooked alternative to energy-dense liquid and gaseous solar fuels. Despite this oversight, zinc and aluminum are well suited for this application because they can utilize established Zn/air and Al/air batteries which are efficient, lightweight, and consume only these reactive metals and air. The very negative reduction potential of Al renders it an extremely efficient candidate for energy storage, but its reactivity will greatly complicate the photocatalytic production of this metal. Consequently, zinc is a more appealing prospect for a fuel cycle involving a mechanically rechargeable metal/air battery employing the relevant electrode reactions shown in Scheme 1.

Neglecting the mass of the O_2 oxidant, zinc has a theoretical specific energy density of 1.35 kWh/kg.⁸ Without the need for compression, only the battery is used for storage, which lowers the practical specific energy density just slightly to 1.084 kWh/kg.⁹ The lightweight and remarkable 98% coulombic discharge efficiencies¹⁰ of the Zn/air battery exemplify the great potential of zinc as a transportable, abundant solar fuel.

To make use of zinc as a renewable solar fuel, Zn_{2+} oxidized in the battery must be reduced back to Zn_0 by light. Also, a complementary reaction that oxidizes hydroxide ions to oxygen has to be driven by photons concomitantly. A robust and efficient photosensitizer (PS) responsible for the initial absorption of a photon is critical for such a scheme. Photoinduced electron transfer reactions will subsequently drive OH^- oxidation and Zn_{2+} reduction processes and thereby reverse the redox chemistry responsible for driving the Zn/air cell. Iridium complexes stand out as PSs because of their remarkable photophysical properties such as long lifetimes and photochemical robustness.¹¹ Furthermore, the highest occupied molecular orbital (HOMO) and the lowest unoccupied molecular orbital (LUMO) of cyclometalated iridium complexes can be tuned independently by modification of separate ligands, which allows the thermodynamics of electron transfer reactions to be fine-tuned.^{12,13} Cyclometalated Ir(III) complexes are used in organic light-emitting diodes (OLEDs)¹⁴ and as photocatalysts in many redox reactions including organic radical polymerizations,¹⁵ cyclizations,¹⁶ aldehyde fluoromethylations,¹⁷ the water gas shift reactions,¹⁸ and more prominently, the reduction of H_2O and CO for solar fuels.^{19,20} In H_2 evolving, water reduction reactions, turnover numbers (TONs, moles product/moles PS) of the Ir(III) PS have reached 10,000, which was

achieved by the judicious design of the ligand sphere of these highly luminescent metal complexes.²¹ The electrochemical and photochemical robustness of these phosphorescent materials is extraordinary and greatly facilitates the exploration of new photocatalytic systems relevant to the renewable energy field.

This work describes the visible-photon driven reduction of Zn^{2+} to Zn^0 ($E_{red} = -0.76$ V vs NHE) by an iridium(III) PS and catalyst system. To our knowledge, this is the first published case of the photocatalyzed reduction of a low redox potential metal ion by a transition metal complex. In being so, this initial work demonstrates the feasibility of Zn^{2+} reduction by a molecular photocatalyst for eventual use as a solar fuel. Contrasting, $[Ru(bpy)_3]^{2+}$ has been used to photoreduce Ag^+ to Ag metal,²² but silver has a high work function, its cation is easy to reduce, and Ag^0 lacks the energy density necessary of a solar fuel. A dissimilar approach is the reduction of Zn^{2+} to Zn metal by solar thermal ZnO decomposition. At high temperatures achieved by concentrating sunlight, equilibrium shifts and ZnO splits into its elemental constituents O_2 and Zn .²³ Though ZnO splitting can occur at 1100 K, temperatures of 2300 K or higher are generally required, and low metal yields caused by the reoxidation of Zn^0 are commonly observed during cooling process.²⁴

APPENDIX A2: Introduction to Kennedy et al, (2013)

General Strategy for the Synthesis of Rigid Weak-Link Approach Platinum(II) Complexes: Tweezers, Triple-Layer Complexes, and Macrocycles

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INTRODUCTION

Within the discipline of coordination chemistry, the weak-link approach (WLA)^{1,6} has emerged as a powerful means to assemble complicated supramolecular structures (Scheme 1). Unlike the symmetry-interaction approach (SIA)^{7,11} and directional bonding approach (DBA),^{12,26} which lead to static, rigid structures, the WLA results in dynamic complexes that may be toggled between rigid and flexible states via the introduction and removal of elemental anions or small-molecule “effectors”. Functional units such as catalytic sites, redox-active moieties, host-guest recognition sites, and fluorophores may be incorporated into the ligands in such a way that the structural change results in a marked change in the properties of the complex.^{27,33} Allosteric regulation of this type resembles the behavior of many enzymes, and examples of this aspect of biomimicry are otherwise rare in coordination chemistry.^{6,34,37}

The WLA for the synthesis of macrocyclic complexes employs symmetric homoditopic ligands that possess rigid cores and two hemilabile^{38,41} phosphino-chalcoether (P,X; X = S, O, Se) or phosphine-amine (P,N) moieties (Scheme 1).^{2,3,5,6} Upon chelation to a d₈ metal center [e.g., rhodium(I), palladium(II)] and in the absence of coordinating anions, the favored cis geometry of the phosphine ligands promotes the clean formation of bimetallic macrocyclic assemblies while preventing the formation of polymeric and oligomeric by-products.¹ A reaction often used in conjunction with the WLA is the halide-induced ligand rearrangement (HILR) reaction,^{5,42,45} in which a ligand-sorting process between electron-rich and electron-poor hemilabile ligands leads exclusively to heteroligated structures, thus allowing for an extra level of complexity to be incorporated into WLA architectures (2, 3, 6, 7, 8, and 9, Scheme 1).

Functional allosteric enzyme mimics synthesized via the WLA rely on the precise positioning of active groups that are incorporated into the hemilabile ligand. This is achieved by using rigid ligands in which the weakly coordinating atom (Scheme 1) is bound directly to an aryl group. In the case of rhodium(I), rigid, heteroligated aryl-aryl complexes may be synthesized cleanly and reliably using P,S-aryl and P,O-aryl ligands as the strong and weak binders, respectively. However, the sensitivity of rhodium(I) WLA complexes to air limits their compatibility with certain reaction environments, and accordingly, a recent focus of our work has been the expansion of the WLA to include the chemistry of more stable d₈ metals such as nickel(II), palladium(II), and platinum(II).^{32,43,44,46,50} We have demonstrated that heteroligated tweezers and triple-layer complexes form cleanly and spontaneously with palladium(II) and platinum(II) when alkyl- and aryl-based hemilabile ligands are used in combination (e.g., Scheme 2; compound 22).^{43,44,46,47} One shortcoming of this assembly technique is that alkyl-based ligands are inherently flexible and thus unsuitable for the construction of rigid architectures in which supramolecular properties are controlled with structural changes. A general, modular route to rigid, heteroligated aryl-aryl palladium(II) and platinum(II) complexes, which is compatible with many functional ligands, is highly desirable. However, typical synthetic approaches to aryl-aryl palladium(II) and platinum(II) complexes have failed so far, resulting in dynamic mixtures which contain multiple species. Herein we report a new method for the clean and quantitative synthesis of rigid, platinum(II) WLA assemblies (Scheme 1; 2, 3, 6, 7, 8, 9) via partial abstraction of chloride in either protic or nonpolar solvents. Using this method, heteroligated tweezers, triple layer complexes, and binuclear macrocycles have been obtained from a variety of aryl-based hemilabile P,S, P,O, and P,N ligands. These complexes serve as models for functional, air-stable WLA systems.

APPENDIX A3: Introduction to Gray (2010)

SPECIFIC ORAL COMMUNICATION SKILLS DESIRED IN NEW ACCOUNTANCY GRADUATES

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A NUMBER OF international research projects, supported by a wealth of anecdotal evidence, suggest that accountancy graduates entering the workplace often begin their careers with inadequate oral communication skills. Practitioners and professional associations as well as academics are conscious of this need: In New Zealand, accountancy job advertisements regularly specify both oral and written communication skills; oral competency is stressed on the Web site of the New Zealand Institute of Chartered Accountants (NZICA); and oral communication is part of the assessment structure of the second stage of training towards becoming a Chartered Accountant. A number of New Zealand media outlets have recently been publicising a significant rise in demand for communication skills among employers and voicing a concern that universities are not producing sufficiently literate graduates. However, these reports are mainly anecdotal, and there is presently a lack of well-grounded empirical data concerning precisely what skills are sought by employers in specific fields.

In addition, formal studies of communication competencies to this point have tended to the quite general, utilising the umbrella term *oral communication skills* or the even vaguer term *generic skills*. What does this actually mean for a given industry? What skills, specifically, do accounting employers want? What might the reported lack of oral communication skills in new graduates mean for university accountancy educators?

This project seeks to investigate the importance of oral communication skills for students intending to begin an accountancy career in New Zealand, as perceived by chartered accountancy professionals.

Thus, my research objectives were the following:

1. To determine how much importance New Zealand accountancy employers place on oral communication skills in their graduate hires
2. To determine what specific kinds of oral communication skills are required by New Zealand accountancy employers
3. To determine the degree to which accountancy employers are finding the required oral communication skills in newly graduated accountancy students

LITERATURE REVIEW

National and international studies consistently agree that accounting practitioners and professional groups consider communication skills in general to rank among the most important skills for graduates to possess upon their entry into an accountancy career (Albin & Crockett, 1991; Borzi & Mills, 2001; Hock, 1994; Johnson & Johnson, 1995; LaFrancois, 1992; Morgan, 1997). Studies also show that the acquisition of graduates with suitably strong communication skills represents a particular and ongoing concern to accountancy employers (Courtis & Zaid, 2002; McLaren, 1990; Zaid & Abraham, 1994). Professional bodies have responded to this concern in various explicit ways. In Australia, the Australian Society of Certified Practising Accountants (ASCPA) and Institute of Chartered Accountants in Australia (ICAA) issued a joint statement in 1996 calling on all tertiary accounting programmes to explicitly teach a range of generic skills, which was updated in 2005 (Sin, Jones, & Petocz, 2007). In New Zealand, the *Chartered Accountants Journal* publishes a column on good writing (Christie, 2006), and in the Professional Competence Examination part 2, which is the second stage of training to become a Chartered Accountant, NZICA specifically requires the student to “communicate effectively both verbally and in writing.”

Internationally, academics and practitioners agree that accounting students’ writing and oral

communication skills are two major areas needing more attention in the university curriculum (Albrecht & Sack, 2000; Henderson, 2001; Simons & Higgins, 1993), and a considerable body of scholarship has sought to make informed recommendations to the curricular offerings at university level accounting education (see, e.g., Henderson, 2001; Sin et al., 2007; Usoff & Feldmann, 1998). Teaching communication in the disciplines, however, has to acknowledge the difficulty in transferring those skills from the classroom to the workplace: Thomas (1995) criticises the real-world applicability of the texts and approaches used to teach business communication in higher education; similarly, D'Aloisio (2006) argues for the need to relate university learning to the specific communication competencies required in corporate work settings (see also Beaufort, 1999; Cooper, 1997; Davies & Birbili, 2000; Kemp & Seagraves, 1995).

The small number of international studies specifically focusing on the acquisition of communication skills by accountancy graduates have been limited in several ways. Studies have often used umbrella terms, leaving the term *communication skill* undifferentiated. For example, Zaid and Abraham (1994) studied the problems encountered by accountancy graduates early in their employment careers and reported a primary area of difficulty to be in "communication with others." Baker and McGregor (2000) compared the importance perceived in communication skills by a number of accountancy stakeholder groups; however, this study, too, uses only the broad term *communication skills*. Second, within the smaller number of studies that identify and examine communication skills more specifically, the focus has tended to be on *written* communication skills (Albrecht & Sack, 2000; Ashbaugh, Johnstone, & Warfield, 2002; English, Bonanno, Ihnatko, Webb, & Jones, 1999; Hall, 1998; Ng, Lloyd, Kober, & Robinson, 1999; Webb, English, & Bonanno, 1995).

Certain more in-depth studies have limitations of their own. De Lange, Jackling, and Gut (2006) surveyed Australian accountancy graduates to find their ideas of the skill development they considered necessary for a successful career in accountancy. A limit of this approach is that graduates' perceptions do not necessarily match the perceptions of accountancy employers wishing to hire new graduates. And while the De Lange et al. (2006) study found that students reported a significant skill deficiency in the specific areas of "inter-personal skills" and "oral expression," the range of possible skills falling into these two broad categories remained undifferentiated. There remains a very limited amount of scholarship focussing on the topic of specific oral communication skills in accountancy. A number of studies clearly support the position that accountancy employers want strong oral communication skills in the graduates they hire (see, e.g., Albrecht & Sack, 2000; McDonald, 2007; Morgan, 1997). There is a similarly generally shared opinion that oral communication skills in accountancy graduates are not at the required level: Kryder (1997) reports that many new accountants are "surprised and dismayed" to discover the communication skills required in the work-place. However, few studies have identified and examined individual oral communication skills. One such study, by Maes, Weldy, and Icenogle (1997), surveyed business employers on graduates' possession of 13 distinct oral communication skills, but they surveyed 150 American managers across a broad array of industries. Maes et al. (1997) and McLaren (1990) both included listening in their lists of desirable communication skills, and the importance of listening as a specific business communication skill has been examined more recently by Goby and Lewis (2000). With no agreement on a catalogue of oral communication skills, other research has variously investigated conveying of expertise and giving intelligible explanations (Smythe & Nikolai, 2002), giving formal presentations (Wardrope, 2002), and giving more casual presentations (Zaid & Abraham, 1994), across a range of business industries. While Morgan (1997) identified 13 individual skill areas within oral communication activities in accountancy, in a study of accounting professionals in England and Wales, his study is exceptional in its specific focus.

Thus, a marked gap exists in the literature on oral communication skills in the accountancy workplace. Further, since McLaren's 1990 study, the particular requirements for communication skills in the New Zealand accountancy workplace have not been comprehensively examined. Like De Lange et al. (2006) in Australia, Rainsbury, Hodges, Burchell, and Lay (2002) surveyed New Zealand business students and graduates—but not employers—on their perceptions of the workplace importance of seven key skill areas. Oral and written communication was again presented as a single skill area within the seven. In other New Zealand studies, Gardner, Milne, Stringer, and Whiting (2005) engaged with the particular issue of oral communication in accountancy students but examined it from the perspective of students' communication apprehension (CA) and the impact of their course of study in reducing student CA, rather than in a workplace context. Several Otago University studies recounted the development of teaching programs integrating generic skills with accounting knowledge but drew on a skill-set articulated in the Society of Accountants' Admissions Policy rather than employer demand (see, e.g., Adler & Milne, 1994; Milne, 1999; Milne & McConnell, 2001).

APPENDIX A4: Introduction to Macpherson & Owen (2010)

Assessment of critical thinking ability in medical students

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Introduction

In 2004, the Australian National University (ANU), Canberra, Australia, launched a graduate-entry medical degree. In 2005, the Medical Education Unit commissioned research on the ability of students enrolled in that course in the area of critical thinking. The aim of the research was to monitor students' critical thinking skills as they experienced a range of educational styles including problem-based learning in the first year of their graduate medical studies.

Research into the success or otherwise of learning and teaching strategies associated with the development of critical thinking ability is important both in terms of educational efficiencies and in terms of producing capable medical graduates. Critical thinking comprises 'a set of skills and strategies for making reasonable decisions about what to do or believe' (Rudinow and Barry 1999). These skills are integral to effective clinical decision-making. Beyer's (1987) classification provides a framework for developing an understanding of the various components of thinking, and the role that critical thinking plays. Beyer describes three key components, all of which have to be present for clear thinking to occur: cognitive (thinking) operations; domain (subject) knowledge; and attitude. Domain-specific knowledge is the body of knowledge that a student acquires when studying, for example, medicine or law. Attitudes important to the development of sound thinking skills, Beyer suggests, include respect for evidence, healthy scepticism and curiosity, and desire (motivation) to solve a problem. Cognitive operations include three over-arching strategies of conceptualising, problem-solving and decision-making; and these strategies are underpinned by critical thinking skills such as detecting fallacious arguments, identifying inferences and determining relevance. The development of critical thinking ability at the level of tertiary education has been a major area of research in recent years; for example, van Gelder (2005) has reviewed the efficacy of critical thinking courses; Vesely and Sherlock (2005) have described pedagogical tools; others (Deloach and Greenlaw 2005) have considered the efficacy of electronic discussions in the development of critical thinking.

Developing students' critical thinking ability is of central importance as it underpins effective decision-making; for example, diagnosis (Macpherson 2005). Critical thinking biases and errors are a category of human error that is implicated in a broad range of medical adverse events (Reason 2000, 2005; Croskerry 2002, 2003). In Australia, patient harm results from 1 in 10 hospital admissions, and 2% of these lead to death or serious disability (Runciman 2002). There were 1.5 million admissions to New South Wales hospitals in 2003/04 (NSW Health: Patient Safety and Clinical Quality Program 2004). Human error plays a significant role in nearly 82% of these adverse events, and error associated with failure of cognitive function (e.g. failure to synthesise and/or act on information) is second only after 'failure in technical performance of an indicated procedure' as the most frequent cause of preventable medical error (Wilson et al. 1999). Similar rates of error have been found in other Western countries such as the UK, Denmark, Canada and France (Wilson and van der Weyden 2005).

In view of the importance of the development of sound critical thinking skills for effective professional practice, it is appropriate to test the level at which first-year students in a new graduate medical degree possess such skills.

APPENDIX A5: Introduction to Bowen (2010)

The Central Role of Chinese People in Australia's Colonial Fishing Industry ¹

Alister Bowen, La Trobe University

The arrival of some 35,000 Chinese gold miners to Victoria during the 1850s increased demand for fish, a Chinese dietary staple. The majority of these migrants were impoverished lower-class men from the provinces of Guangdong and Fujian and the island of Amoy. In each of these regions fishing has historically played a major economic role. Many of these Chinese migrants probably already had commercial fishing experience.² Given the Chinese cultural preference for a fish-based diet, some Chinese people very successfully entered Australia's colonial fishing industry. At a time when most Melbourne and Sydney-based European fishermen were earning approximately £50 per year, Chinese people working in Australia's colonial fishing industry were earning that much every day.³ During the 1860s, one Chinese fish dealer (and there were many) earned over ten times more from fish sales annually than both Melbourne's and Sydney's European fish markets combined.

Chinese participation in Australia's early commercial fishing industry has not received the same attention as that in the United States of America (US). As will be shown, the Australian example mirrors the situation in the US, where Chinese immigrants to the mid-nineteenth century gold rushes took up niche economic positions in labour-intensive work areas such as market gardening and fishing.⁴ For approximately twenty years from the early-1850s, Chinese people in the US caught and cured whatever fish came into their nets. By the 1870s, specialised catching and curing camps were established to target individual fish species such as sturgeon, herring, flounder, shrimp, abalone and squid.⁵ Only a small quantity of Chinese cured fish was consumed in the US, the majority going to markets in China in both a dry state in bags and pickled in casks.⁶ In 1880, an estimated \$229,858(US) worth of Chinese cured fish was exported from San Francisco to Hong Kong.⁷ This was a substantial amount, especially considering that the retail value of all fresh fish sold in the San Francisco fish markets during 1877 was only US\$220,000.⁸ As in Australia, there are documented complaints in the US about the methods the Chinese used to catch fish, though the validity of these complaints is questionable. Archival and archaeological evidence from America's Chinese fishing history correlates with recent research from Australia to suggest material connections that provide an important basis for studying Chinese migrations during the nineteenth-century.

This article offers an overview of Chinese fish-curing operations in colonial Australia. It uses primary documents and field research to supplement the limited discussion in Australia's written histories and scholarly works.⁹ The likely internal structure of Chinese fish-curing establishments such as ownership, management arrangements and labour requirements is examined, along with a range of questions concerning the activities of Chinese fish curers in colonial Australia. Ultimately, it is demonstrated that Chinese people generated far greater wealth from Australia's colonial fishing industry than has been previously realised.

APPENDIX A6 Introduction to Patrick (2011)

Rachel Patrick, Victoria University of Wellington, New Zealand

‘An Antidote to Bookishness’

LOCAL HISTORY, EDUCATIONAL PRACTICES AND COLONIALISM IN NEW ZEALAND PRIMARY SCHOOLS, 1900-1940

IN 1930 the New Zealand Education Department gave notice to its teachers of a ‘Centennial Competition’ to be held in 1940 to judge the best ‘regional surveys’ submitted from primary, native, secondary and technical schools around the country. By the time the competition closed, 70 schools’ entries had been received. Afterwards, W.B. Harris, a lecturer at the Christchurch Teachers’ Training College, and H.C.D. Somerset, an expert in rural education and the author of the celebrated *Littledene*, a study of a New Zealand rural community, reflected upon some of the competition’s results. In some areas of the country, they reported, the competition had prompted participating schools to document the local histories of their districts for the first time. The pupils of the Kairakau Primary School in the Chatham Islands, for instance, had collected stories about the Moriori, Maori and Pakeha habitation of the islands, circulating them among the local community for verification. Kairakau School, Harris and Somerset wrote, was ‘the centre of a community which had suddenly become history-conscious’.

While the 1940 Centennial formed the immediate impetus for the pupils of Kairakau and other schools to research their local history—and prompted considerable official and public effort towards putting New Zealand’s past on permanent record—the undertaking of local history research by primary school children highlights the significance of the local within the pedagogy of the early twentieth-century New Education movement. History was a component of a school system that was both imperial and national in orientation, and the national primary curriculum and textbooks performed many functions that can be seen as legitimizing colonial authority. However, local histories produced by schools, this article contends, also need to be understood in the context of a set of imported pedagogical theories and educational practices that had less to do with a colonial context than with the aim of developing particular qualities and capacities in children through the medium of locally based lessons.

Recently several historians have attempted to shift the context of the historical debate over the connections between knowledge and colonialism in New Zealand from one almost exclusively devoted to examining the ‘textual outputs’ of colonial knowledge. Instead, they argue scholars need to recognize the importance of the institutional foundations of intellectual life in the shaping of colonial knowledge, and of the sets of processes and practices that governed knowledge’s production and reception. In this piece, I extend this critique to the domain of education, specifically history education. New Zealand historians have long been attentive to the potential power of schooling—particularly the compulsory state primary school system—in the work of cultural transmission, such as instilling imperial ideologies. However, despite several decades of scholarly interest in the role of knowledge in furthering colonialism that followed Peter Gibbons’s influential theorisation

of ‘cultural colonization’, this avenue of investigation has yet to be taken up by historians of education in this country, although Gibbons himself signaled the possibilities for further research in this area. While a body of scholarly writing engaging with Gibbons’s work has appeared over the past few decades, critiques of the approach taken by Gibbons and historians influenced by his ideas also begun to surface. Christ Hilliard first pointed to some of the limitations of the cultural colonization approach in 2002, arguing that ‘while hardly anything in New Zealand is unconnected with colonization, not everything is adequately *explained* by its colonial entanglements’. In two recently articles, Tony Ballantyne has criticized the tendency of historians of colonialism in New Zealand to concentrate on the products of the textual exchanges of a small national intellectual elite, while ignoring the vast amount of everyday interactions and knowledge practices that went on ‘under’ the nation, centred on ‘specific practices, institutions and sites’. This article examines how a nationally controlled state school system deriving its institutional frameworks and practices from British patterns interacted with a set of imported pedagogical theories which prioritised local knowledge, and were then translated into local-level teaching practices in primary schools.

A ‘top-down’ and textually focused approach similar to that criticized by Ballantyne in relation to histories of colonialism has also characterised histories of history in New Zealand education. There has been an overwhelming focus on educational *content*, usually in the form of nationally produced textbooks and curriculum topics, to the exclusion of pedagogy and educational *practice*. In general, while textbooks loom large in the historiography of history education, historians of education have failed to interrogate the limitations of textbooks as sources of information on what history education was ‘like’ in the past: by asking, for instance, how textbooks might have actually been used in classrooms, what their intended pedagogical outcomes were, and what other strategies teachers might have employed—alongside or instead of textbooks—to convey historical content or skills to their pupils. The observations of Peter Taylor and Julian Thomas in relation to the historiography of history education in Australia also apply to New Zealand. Taylor and Thomas contend that Australian studies of history education have been preoccupied with identifying the political ideologies contained in history lessons—often condemning such lessons as ‘unnecessarily or falsely’ ideological—while ‘ignoring the ways in which the actual teaching of a course of study over time might have been less about producing political ideas or passing on a discrete quota of historical knowledge than about producing “kinds of persons” with particular skills and capacities’. In this spirit I aim to return history textbooks to their proper place in early twentieth-century classrooms by considering their rise and fall relative to other methodologies for transferring historical knowledge and capacities to school children.

APPENDIX B Contextual patterns

APPENDIX B1 Brooks et al (2010) introduction: Contextual pattern

Human energy consumption has been rising **for decades**. The resulting economic conditions and the environmental consequences of this growth will provide an opportunity **for renewable energy applications to thrive**. Many direct and indirect solar power conversional schemes are **currently** the subject of intense research since they promise abundant energy that could potentially supplement or replace coal or petroleum **on a massive scale**. Consequently, storing photon energy **as chemical potential in solid fuels** is of particular interest for replacing hydrocarbons **for mobile applications**. This approach alleviates the complications created by the seasonal and diurnal fluctuations **commonly** observed **in solar energy conversion systems**. **Unlike photovoltaic energy**, solar fuels are independent of the electrical grid, allowing them to be stored and transported **easily as a mobile fuel**. Specifically, H^2 is **often** identified **as a promising candidate** but storage requirements **partially** offset the high gravimetric densities desired **for transportation applications**. To illustrate, gaseous H^2 has a 39.4kWh/kg theoretical specific energy density but a safe, 700 bar tank system **for mobile H^2 use** has a theoretical specific energy density of 1.89 kWh/kg, which further drops **because of losses from compression and fuel cell mass**.

Metals are an **often**-overlooked alternative to energy-dense liquid and gaseous solar fuels. **Despite this oversight** zinc and aluminium are well suited **for this application** because they can utilize established Zn/air and Al/air batteries which are efficient, lightweight and consume only these reactive metals and air. The very negative reduction potential of Al renders it an extremely efficient candidate **for energy storage**, but its reactivity will **greatly** complicate the photocatalytic production of this metal. Consequently zinc is a more appealing prospect **for a fuel cycle involving a mechanically rechargeable metal/air battery employing the relevant electrode reactions shown in Scheme 1**.

Neglecting the mass of the O^2 oxidant, zinc has a theoretical specific energy density of 1.35 kWh/kg. **Without the need for compression** only the battery is used **for storage**, which lowers the practical specific energy density **just slightly to 1.084 kWh/kg**⁹. The lightweight and remarkable 98% coulombic discharge efficiencies of the Zn/air battery **exemplify** the great potential of zinc **as a transportable, abundant solar fuel**.

To make use of zinc **as a renewable solar fuel**, Zn^{2+} oxidised **in the battery** must be reduced **back to Zn^0** by light. Also a complementary reaction that oxidises hydroxide ions **to oxygen** has to be **driven** by photons **concomitantly**. A robust and efficient photo-sensitizer (PS) responsible **for the initial absorption of a photon** is critical **for such a scheme**. Photo-induced electron transfer reactions will **subsequently drive** OH^- oxidation and Zn^{2+} reduction processes and thereby reverse the redox chemistry responsible for **driving** the Zn/air cell. Iridium complexes **stand out as PSs because of their remarkable photophysical properties such as long lifetimes and photochemical robustness**. Furthermore, the highest occupied molecular orbital (HOMO) and the lowest unoccupied molecular orbital (LUMO) of cyclometalated iridium complexes can be tuned **independently** by modification of separate ligands, which allows the thermodynamics of electron transfer reactions to be fine-tuned. Cyclometalated Ir(III) complexes are used **in organic light-emitting diodes (OLEDs)** and **as photocatalysts in many redox reactions including organic radical polymerization, cyclizations, aldehyde fluoro-methylation, the water gas shift reaction, and more prominently, the reduction of H^2O and Co^2 for solar fuels**. **In H^2 evolving, water reduction reactions** turnover numbers (TONs, moles

product/moles PS) of the IR (III) PS have reached 10,000, which was achieved by the judicious design of the ligand sphere of these highly luminescent metal complexes. The electrochemical and photochemical robustness of these phosphorescent materials is extra-ordinary and **greatly** facilitates the exploration of new photocatalytic systems relevant **to the renewable energy field**.

This work describes the visible-photon driven reduction of Zn^{2+} **to Zn^0 ($E_{\text{red}} = -0.76 \text{ V vs NHE}$) by an iridium(III) PS and catalyst system**. **To our knowledge**, this is the first published case **of the photocatalysed reduction of a low redox potential metal ion by a transition metal complex**. In being so, this initial work **demonstrates** the feasibility of Zn^{2+} reduction **by a molecular photocatalyst for eventual use as a solar fuel**. Contrasting, $\text{Ru}(\text{bpy})_3^{2+}$ has been used to photoreduce Ag^+ **to Ag metal** but silver has a high work function, its cation is easy to reduce and Ag^0 lacks the energy density necessary **of (sic) for a solar fuel**. A dissimilar approach is the reduction of Zn^{2+} **to Zn metal by solar thermal ZnO decomposition**. **At high temperatures** achieved by concentrating sunlight equilibrium shifts and ZnO splits **into its elemental constituents O^2 and Zn**. Though ZnO splitting can occur **at 1100K**, temperatures of 2300K or higher are **generally required**, and low metal yields caused by the reoxidation of Zn^0 are **commonly** observed **during cooling process**.

APPENDIX B2 Kennedy et al (2013) introduction: Contextual pattern

Within the discipline of coordination chemistry the weak-link approach (WLA) has emerged as a powerful means to assemble complicated supramolecular structures (Scheme 1). Unlike the symmetry-interaction approach (SIA)⁷⁻¹¹ and directional bonding approach (DBA) which lead to static, rigid structures the WLA results in dynamic complexes that may be toggled between rigid and flexible states via the introduction and removal of elemental anions or small-molecule “effectors”. Functional units such as catalytic sites, redox-active moieties, host-guest recognition sites, and fluorophores may be incorporated into the ligands in such a way that the structural change results in a marked change in the properties of the complex. Allosteric regulation of this type resembles the behavior of many enzymes and examples of this aspect of biomimicry are otherwise rare in coordination chemistry.

The WLA for the synthesis of macrocyclic complexes employs symmetric homoditopic ligands that possess rigid cores and two hemilabile phosphino-chalcoether (P,X; X = S, O, Se) or phosphine-amine (P,N,O moieties (Scheme 1). Upon chelation to a d⁸ metal center (e.g., rhodium(I), palladium(II) and in the absence of coordinating anions, the favoured *cis* geometry of the phosphine ligands promotes the clean formation of bimetallic macro-cyclic assemblies while preventing the formation of polymeric and oligomeric byproducts. A reaction often used in conjunction with the WLA is the halide-induced ligand rearrangement (HILR) reaction, in which a ligand-sorting process between electron-rich and electron-poor hemilabile ligands leads exclusively to heteroligated structures thus allowing for an extra level of complexity to be incorporated into WLA architectures (2,3,6,7,8, and 9, Scheme 1).

Functional allosteric enzyme mimics synthesized via the WLA rely on the precise positioning of active groups that are incorporated into the hemilabile ligand. This is achieved by using rigid ligands in which the weakly coordinating atom (Scheme 1) is bound directly to an aryl group. In the case of rhodium(I), rigid, heteroligated aryl-aryl' complexes may be synthesized cleanly and reliably using P, S-aryl and P,O-aryl ligands as the strong and weak binders respectively. However, the sensitivity of rhodium(I) WLA complexes to air limits their compatibility with certain reaction environments and accordingly a recent focus of our work has been the expansion of the WLA to include the chemistry of more stable d⁸ metals such as nickel (II), palladium (II) and platinum (II). We have demonstrated that heteroligated tweezers and triple-layer complexes form cleanly and spontaneously with palladium(II) and platinum(II) when alkyl- and aryl-based hemilabile compounds are used in combination (e.g. Scheme 2; compound 22). One shortcoming of this assembly technique is that alkyl-based ligands are inherently flexible and thus unsuitable for the construction of rigid architectures in which supramolecular properties are controlled with structural changes. A general, modular route to rigid, heteroligated aryl-aryl' palladium(II) and platinum(II) complexes which is compatible with many functional ligands is highly desirable.

However, typical synthetic approaches to aryl-aryl' palladium(II) and platinum(II) complexes have failed so far, resulting in dynamic mixtures which contain multiple species. Herein we report a new method for the clean and quantitative synthesis of rigid platinum(II) WLA assemblies (Scheme 1: 2,3,6,7,8,9,) via partial abstraction of chloride in either protic or nonpolar solvents. Using this method, heteroligated tweezers, triple layer complexes, and binuclear macrocycles have been obtained from a variety of aryl-based hemilabile P,S, P,O, and P,N ligands. These complexes serve as models for functional, air-stable WLA systems.

APPENDIX B3 Gray (2010) introduction: Contextual pattern

A number of international research projects, supported by a wealth of anecdotal evidence, **suggest** that accountancy graduates entering the workplace **often** begin their careers **with inadequate oral communication skills**. Practitioners and professional associations are conscious **of this need**. **In New Zealand**, accountancy job advertisements **regularly specify** both oral and written communication skills. Oral competency is **stressed on the Web site of the New Zealand Institute of Chartered Accountants (NZICA)** and oral communication is part of the assessment structure of the second stage of training towards becoming a Chartered Accountant. A number of New Zealand media outlets have **recently** been **publicizing** a significant rise **in demand for communication skills among employers** and **voicing** a concern that universities are not producing sufficiently literate graduates. However, these reports are **mainly** anecdotal and there is **presently** a lack of well-grounded empirical data **concerning precisely what skills are sought by employers in specific fields**.

In addition, formal studies of communication competences **to this point** have tended to the quite general, utilizing the umbrella term oral communication skills or the even vaguer term generic skills. What does this **actually** mean **for a given industry**? What skills, specifically, do accounting employers want? What might the reported lack of oral communication skills **in new Graduates** mean **for university accountancy educators**?

This project **seeks to investigate** the importance of oral communication skills for students intending to begin an accountancy career **in New Zealand** as **perceived** by chartered accountancy professionals.

Thus, my research objectives were the following:

1. to determine how much importance New Zealand accountancy employers place **on oral communication skills in their graduate hires**
2. to determine what specific kinds of oral communications are **required** by New Zealand accountancy employers
3. to determine the degree to which accountancy employers are finding the required oral communication skills **in new graduated accountancy students**.

LITERATURE REVIEW

National and international studies **consistently** agree that accounting practitioners and professional groups **consider** communication skills in general to rank **among the most important skills for Graduates** to possess **upon their entry into an accountancy career**. Studies also show that the acquisition of Graduates **with suitably strong communication skills** represents a particular and ongoing concern **to accountancy employers**. Professional bodies have responded to this concern **in various explicit ways**. **In Australia**, the Australian Society of Certified Practising Accountants (ASCPA) and Institute of Chartered Accountants in Australia (ICAA) issued a joint statement **in 1996 calling on** all tertiary accounting programmes to **explicitly** teach a range of generic skills, which was updated **in 2005**. **In New Zealand**, the *Chartered Accountants Journal* publishes a column **on good writing**, and **in the Professional Competence Examination part 2**, ~~which is the second stage of training to become a Chartered Accountant~~, NZICA specifically **requires** the student to “communicate **effectively** both **verbally** and **in writing**”.

Internationally, academics and practitioners agree that accounting students’ writing and oral communication skills are two major areas **needing** more attention **in the university curriculum**, and a considerable body of scholarship has **sought** to make informed recommendations to the curricular offerings **at university level accounting education**. Teaching communication **in the disciplines**, however, has to acknowledge the difficulty in transferring those skills **from the classroom to the workplace**: Thomas (1995) **criticizes** the real-world applicability of the texts and approaches used to teach business communication **in higher education**; similarly, D’Aloisio (2006) **argues** for the need to relate university learning to the specific communication competencies **required in corporate work settings**.

The small number of international studies specifically **focusing on the acquisition of communication skills by accountancy Graduates** have been **limited in several ways**. Studies have **often** used umbrella terms, leaving the term *communication skills* undifferentiated. For example, Zaid and Abraham (1994) **studied** the problems encountered by accountancy graduates **early in their employment careers** and reported a primary area of difficulty to be in “communication **with others**”. Baker and McGregor (2000) **compared** the importance **perceived in communication skills** by a number of accountancy stakeholder groups; however, this study, too, uses only the broad term *communication skills*. Second, **within the smaller number of studies that identify and examine communication skills more specifically**, the focus has tended to be **on written communication skills**.

Certain more in-depth studies have limitations of their own. De Lange, Jackling, and Gut (2006) surveyed Australian accountancy graduates to find their ideas **of the skill development they considered necessary for a successful career in accountancy**. A limit of this approach is that graduates’ perceptions do not necessarily match the perceptions of accountancy employers wishing to hire new graduates. And **while the De Lange et al. (2006) study found that students reported a significant skill deficiency in the specific areas of “inter-personal skills” and “oral expression”**, the range of possible skills falling **into these two broad categories**—remained undifferentiated.

There remains a very limited amount of scholarship **focusing on the topic of specific oral communication skills in accountancy**. A number of studies clearly **support** the position that accountancy employers want strong oral communication skills **in the Graduates they hire**. There is a similarly generally shared opinion that oral communication skills **in accountancy Graduates** are not **at the required level**: Kryder (1997) reports that many new accountants are “surprised and dismayed” to discover the communication skills **required in the workplace**. However, few studies have identified and **examined** individual oral communication skills. One such study, by Maes, Weldy, and Icenogle (1997), surveyed business employers **on Graduates’ possession of 13 distinct oral communication skills**, but they surveyed 150 American managers **across a broad array of industries**. Maes et al. (1997) and McLaren (1990) both included listening **in their lists of desirable communication skills**, and the importance of listening **as a specific business communication skill** has been **examined more recently** by Goby and Lewis (2000).

With no agreement on a catalogue of oral communication skills, other research has variously **investigated** conveying of expertise and giving intelligible explanations giving formal presentations and giving more casual presentations **across a range of business industries**. While Morgan (1997) identified 13 individual skill areas **within oral communication activities in accountancy, in a study of accounting professionals in England and Wales**, his study is exceptional **in its specific focus**.

Thus, a marked gap exists **in the literature on oral communication skills in the accountancy workplace**. Further, **since McLaren’s 1990 study**, the particular requirements **for communication skills in the New Zealand accountancy workplace** have not been **comprehensively examined**. Like De Lange et al. (2006) **in Australia**, Rainsbury, Hodges, Burchell, and Lay (2002) surveyed New Zealand business students and graduates — but not employers— **on their perceptions of the workplace importance of seven key skill areas**. Oral and written communication was again presented **as a single skill area within the seven**. **In other New Zealand studies**, Gardner, Milne, Stringer, and Whiting (2005) **engaged with the particular issue of oral communication in accountancy students** but **examined it from the perspective of students’ communication apprehension (CA) and the impact of their course of study in reducing student CA**, rather than **in a workplace context**. Several Otago University studies recounted the development of teaching programs integrating generic skills **with accounting knowledge** but drew on a skill-set articulated **in the Society of Accountants’ Admissions Policy** rather than employer demand.

APPENDIX B4 Macpherson & Owen (2010) introduction: Contextual pattern

In 2004, the Australian National University (ANU), Canberra, Australia, launched a graduate-entry medical degree. In 2005, the Medical Education Unit commissioned research on the ability of students enrolled in that course in the area of critical thinking. The aim of the research was to monitor students' critical thinking skills as they experienced a range of educational styles including problem-based learning in the first year of their graduate medical studies.

Research into the success or otherwise of learning and teaching strategies associated with the development of critical thinking ability is important both in terms of education efficiencies and in terms of producing capable medical graduates. Critical thinking comprises 'a set of skills and strategies for making reasonable decisions about what to do or believe'. These skills are integral to effective clinical decision-making. Beyer's (1987) classification provides a framework for developing an understanding of the various components of thinking, and the role that critical thinking plays. Beyer describes three components, all of which have to be present for clear thinking to occur: cognitive (thinking) operations; domain (subject) knowledge; and attitude. Domain-specific knowledge is the body of knowledge that a student acquires when studying, for example, medicine or law. Attitudes important to the development of sound thinking skills, Beyer suggests, include respect for evidence, healthy skepticism and curiosity, and desire (motivation) to solve a problem. Cognitive operations include three over-arching strategies of conceptualized problem-solving and decision-making and these strategies are underpinned by critical thinking skills such as detecting fallacious argument, identifying inferences and determining relevance. The development of critical thinking ability at the level of tertiary education has been a major area of research in recent years: for example, van Gelder (2005) has reviewed the efficacy of critical thinking courses; Vesely and Sherlock (2005) have described pedagogical tools; others have considered the efficacy of electronic discussions in (for) the development of critical thinking.

Developing students' critical thinking ability is of central importance as it underpins effective decision-making; for example, diagnosis (Macpherson 2005). Critical thinking biases and errors are a category of human error that is implicated in a broad range of medical adverse events. In Australia, patient harm results from 1 in 10 hospital admissions, and 2% of these lead to death or serious disability. There were 1.5 million admissions to New South Wales hospitals in 2003/4. Human error plays a significant role in nearly 82% of these adverse events, and error associated with failure of cognitive function (e.g. failure to synthesise and/or act on information) is second only after 'failure in technical performance of an indicated procedure' as the most frequent cause of preventable medical error. Similar rates of error have been found in other Western countries such as the UK, Denmark, Canada and France.

In view of the importance [of the development of such critical thinking skills for effective professional practice], it is appropriate to test the level at which first-year students in a new graduate medical degree possess such skills.

APPENDIX B5 Bowen (2010) introduction: Contextual pattern

The arrival of some 35,000 Chinese gold miners **to Victoria during the 1850s** increased demand **for fish, a Chinese dietary staple**. The majority of these migrants were impoverished lower class men **from the provinces of Guangdong and Fujian and the island of Amoy**. **In each of these regions** fishing has **historically** played a major economic role. Many of these Chinese migrants probably **already** had commercial fishing experience. **Given the Chinese cultural preference for a fish-based diet** some Chinese people **very successfully** entered Australia's colonial fishing industry. **At a time when most Melbourne and Sydney-based European fishermen were earning approximately £50 per year** Chinese people working **in Australia** were earning that much **every day**. **During the 1860s**, one Chinese fish dealer— and there were many— earned over ten times more **from fish sales annually** than both Melbourne's and Sydney's European fish markets combined.

Chinese participation **in Australia's early commercial fishing industry** has not received the same attention as that **in the United States of America (US)**. As will be shown, the Australian example **mirrors** the situation **in the US** where Chinese immigrants **to the mid-nineteenth century gold rushes** took up niche economic positions **in labour-intensive work areas such as market gardening and fishing**. **For approximately twenty years from the early-1850s** Chinese people **in the US** caught and cured whatever fish came **into their nets**. **By the 1870s**, specialised catching and curing camps were established to **target** individual fish species such as sturgeon, herring, flounder, shrimp, abalone and squid. Only a small quantity of Chinese cured fish was consumed **in the US**, the majority going **to market in China in both a dry state in bags and pickled in casks**. **In 1880**, an estimated \$229,858 (US) worth of Chinese cured fish was exported **from San Francisco to Hong Kong**. This was a substantial amount especially **considering** that the retail value of all fresh fish sold **in the San Francisco fish markets during 1877** was only US\$220,000. **As in Australia**, there are documented complaints **in the US about the methods the Chinese used to catch fish**, though the validity of these complaints is questionable. Archival and archeological evidence **from America's Chinese fishing history** correlates **with recent research from Australia** to **suggest** material connections that provide an important basis for studying Chinese migrations **during the nineteenth century**.

This article **offers** an overview of Chinese fish-curing operations **in colonial Australia**. It uses primary documents and field research to supplement the limited discussion **in Australia's written histories and scholarly works**. The likely internal structure of Chinese fish-curing establishments such as ownership, management arrangements and labour requirements is **examined along with a range of questions concerning the activities of Chinese fish curers in colonial Australia**. **Ultimately** it is **demonstrated** that Chinese people generated far greater wealth **from Australia's colonial fishing industry** than has been **previously** realised.

APPENDIX B6 Patrick (2011) introduction: Contextual pattern

In 1938 the New Zealand Education Department gave notice to its teachers of a “Centennial Competition” to be held in 1940 to judge the best ‘regional surveys’ submitted from primary, native, secondary and technical schools around the country. By the time the competition closed 70 schools’ entries had been received. Afterwards, W.B. Harris, a lecturer at the Christchurch Teachers’ Training College, and H.C.D. Somerset, an expert in rural education and the author of the celebrated *Littledene*, a study of a New Zealand rural community, reflected upon some of the competition’s results. In some areas of the country, they reported, the competition had prompted participating schools to document the local histories of their districts for the first time. The pupils of the Kairakau Primary School in the Chatham Islands, for instance, had collected stories about the Moriori, Maori and Pakeha habitation of their islands, circulating them among the local community for verification. Kairakau School, Harris and Somerset wrote, was ‘the centre of a community which had suddenly become history-conscious’.

While the 1940 Centennial formed the immediate impetus for the pupils of Kairakau and other schools to research their local history— and prompted considerable official and public effort towards putting New Zealand’s past on permanent record— the undertaking of local history research by primary school children had educational precedents. Situating the history-making efforts of the schools who contributed work to the Centennial competition alongside earlier educational initiatives to promote local history research by primary school children highlights the significance of the local within the pedagogy of the early twentieth century New Education movement. History was a component of a school system that was both imperial and national in orientation and the national primary curriculum and textbooks performed many functions that can be seen as legitimizing colonial authority. However, local histories produced by schools, this article contends, also need to be understood in the context of a set of imported pedagogical theories and educational practices that had less to do with a colonial context than with the aim of developing particular qualities and capacities in children through the medium of locally based lessons .

Recently several historians have attempted to shift the context of the historical debate over the connections between knowledge and colonialism in New Zealand from one almost exclusively devoted to examining the ‘textual outputs’ of colonial knowledge. Instead, they argue scholars need to recognize the importance of the institutional foundations of intellectual life in the shaping of colonial knowledge and of the sets of processes and practices that governed knowledge’s production and reception. In this piece, I extend this critique to the domain of education, specifically (to) history education. New Zealand historians have long been attentive to the potential power of schooling —particularly [to] the compulsory state primary school system— in the work of cultural transmission, such as in instilling imperial ideologies. However, despite several decades of scholarly interest in the role of knowledge in furthering colonization that followed Peter Gibbons’ influential theorisations of ‘cultural colonization’, this avenue of investigation has yet to be taken up by historians of education in this country, although Gibbons himself signaled the possibilities for further research in this area. While a body of scholarly writing engaging with Gibbons’ work has appeared over the past few decades, critiques of the approach taken by Gibbons and historians influenced by his ideas have also begun to surface. Chris Hilliard first pointed to some of the limitations of the cultural colonization approach in 2002, arguing that ‘while hardly anything in New Zealand is unconnected with colonization, not everything is adequately explained by its colonial entanglements’. In two recent articles Tony Ballantyne has criticized the tendency of historians of colonialism in New Zealand to concentrate on the products of the textual exchanges of a small national intellectual elite while ignoring the vast amount of everyday interactions and knowledge practices that went on ‘under’ the nation, centred on ‘specific practices, institutions and sites’. This article examines how a nationally controlled state school system deriving its institutional frameworks and practices from British

patterns interacted with a set of imported pedagogical theories which prioritized local knowledge, and were then translated into local-level teaching practices in primary schools.

A 'top-down' and textually focused approach similar to that criticized by Ballantyne in relation to histories of colonialism has also characterized histories of history in New Zealand education. There has been an overwhelming focus on educational content usually in the form of nationally produced textbooks and curriculum topics, to the exclusion of pedagogy and educational practice.⁷ In general, while textbooks loom large in the historiography of history education, historians of education have failed to interrogate the limitations of textbooks as sources of information on what history education was 'like' in the past: by asking, for instance, how textbooks might have actually been used in classrooms, what their intended pedagogical outcomes were and what other strategies teachers might have employed alongside or instead of textbooks to convey historical content or skills to their pupils. The observations of Peter Taylor and Julian Thomas in relation to the historiography of history education in Australia also apply to New Zealand. Taylor and Thomas contend that Australian studies of history education have been preoccupied with identifying the political ideologies contained in history lessons—often condemning such lessons as 'unnecessarily or falsely' ideological—while 'ignoring' the ways in which the actual teaching of a course of study over time might have been less about producing political ideas or passing on a discrete quota of historical knowledge than about producing "kinds of persons" with particular skills and capacities'. In this spirit I aim to return history textbooks to their proper place in early twentieth-century classrooms by considering their rise and fall relative to other methodologies for transferring historical knowledge and capacities to schoolchildren.

APPENDIX C: Transitivity, Themes and Qualifiers

APPENDIX C1 Brooks, Basore & Bernhard (2013) introduction: Transitivity, Themes and Qualifiers:

1

Human energy consumption	has been rising	for decades.	
Actor	Pr: material	C. Extent: duration	
Subject	Fi.	Pred.	Adjunct
Mood	Residue		
Topical			
Theme			

2

The resulting economic conditions and the environmental consequences [of this growth]	will provide	an opportunity [for renewable energy applications [[to thrive]]].	
Actor	Pr: material	Scope	
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			

Analysis of Scope

an opportunity [for renewable energy applications [[to thrive]]].
Scope (nom. group)
D. Thing Q. Cause: purpose

3

Many direct ^{1,2} and indirect ³ solar power conversional schemes	are	currently ⁵	the subject of intense research
Value	Pr: identifying	Loc: time – located: indeterminate	Token
Subject	Finite	Adjunct (temporal)	Complement
Mood	Residue		
Topical			
Theme			

⁵ Adverb of time, meaning 'at the same time'. Classified here as temporal Adjunct. It does not fit the discrete periods specified by Halliday & Matthiessen (2004) in examples in their typology of circumstances of Location: time, such as *yesterday*, *tomorrow*, *now*, *then* (pp. 262-263). See also Halliday & Matthiessen (2004, pp. 343-345 for examples of temporal Adjuncts in relation to complex tense forms and Parrott (2000, p.29) for general examples. Other temporal Adjuncts in this dataset are *recently*, *ultimately* and *already*.

4

since	they	promise	abundant energy [[that could potentially supplement // or replace coal or petroleum on a massive scale]].	
	Actor	Pr: mat.	Scope	
Adjunct	Subject	Fi.	Pred.	Complement
Mood		Residue		
Textual	Topical			
Theme				

Analysis of Scope

abundant energy [[that could potentially supplement // or replace coal or petroleum on a massive scale]].				
Scope (nom. group)				
Epithet	Thing	Q. (Clause)		
	Actor	Modal	Pr: material	
			Pr: material	Goal
				D.C. Manner: degree

5.1

Consequently,	[[storing photon energy as chemical potential in solid fuels]]]	is	of particular interest
	Carrier	Pr: attributive	Attribute
Conj. adjunct	Subject	Finite	Adjunct
Mood			Residue
Topical (marked)	Topical		
Theme			

Analysis of Carrier

storing photon energy as chemical potential [in solid fuels]				
Carrier (Clause)				
Pr: mat.	Scope (nom. group)			
	Cl.	Thing	Q. Role: guise (prep phrase = prep + nom. group)	
		Cl.	Thing	D.C. Loc: place – physical: chemical

5.2

for replacing	hydrocarbons	for mobile applications.
Pr: material	Scope	C. Cause: purpose

6

This approach	alleviates	the complications [[(that are) created by the seasonal and diurnal fluctuations // (that are) commonly observed in solar energy conversion systems]].		
Actor	Pr: material	Goal		
Subject	Fi.	Pred.	Complement	
Mood	Residue			
Topical				
Theme				

Analysis of Goal

the complications [[(that are) created by the seasonal and diurnal fluctuations //(that are) commonly observed in solar energy conversion systems]].				
Goal (nom. group)				
D. Thing	Q. (Clause)			
	Goal	Pr: material	Actor (nom. group)	
		D. Cl.	Cl.	Thing
			Q. (Clause)	
		Target	Pr: beh...	D.C. Extent: frequency | ...havioural | D.C. Loc: place – abstract

7.1

Unlike photovoltaic energy,	solar fuels	are	independent [of the electrical grid]
Circ: Manner: comparison	Carrier	Pr: attributive	Attribute
Adjunct	Subject	Finite	Adjunct
Mood	Residue		
Topical (marked)	Topical		
Theme			

7.2

allowing	them	to be stored
Pr: mat ...	Goal	... erial

7.3

and	(to be) transported	easily	as a mobile fuel.
	Pr: material	C. Manner: quality	C. Role: guise

8

Specifically,	H ²	is	often	identified	as a promising candidate,
	Scope	Pr: mat ...	C. Extent: frequency	... erial	C. Role: guise
Adjunct	Subject	Fi.	Adjunct	Pred.	Adjunct
Mood	Residue				
Topical (marked)	Topical				
Theme					

9

but	storage requirements	partially	offset	the high gravimetric densities [[<i>(that are)</i> desired for transportation applications]].	
	Actor	C. Manner: degree	Pr: material	Scope	
Adjunct	Subject	Adjunct	Fi.	Pred.	Complement
Mood			Residue		
Textual	Topical				
Theme					

Analysis of Scope

the high gravimetric densities [[<i>(that are)</i> desired for transportation applications]].					
Scope (nom. group)					
D.	Ep	Cl.	Thing	Q. (Clause)	
			Phenomenon	Pr: mental	D.C. Cause: purpose

10.1

To illustrate,
Pr: verbal

10.2

gaseous H2	has	a 39.4kWh/kg theoretical specific energy density			
Carrier	Pr: attributive (possessive)	Attribute			
Subject	Finite	Complement			
Mood			Residue		
Topical					
Theme					

11.1

but	a safe, 700 bar tank system [for mobile H2 use]	has	a theoretical specific energy density of 1.89 kWh/kg,		
	Carrier	Pr: attributive (possessive)	Attribute (possession)		
	Subject	Finite	Complement		
Mood			Residue		
Textual	Topical				
Theme					

Analysis of Carrier

a safe, 700 bar tank system [for mobile H2 use]					
Carrier (nom. group)					
D.	Ep.	N.	Cl.	Cl.	Thing
					Q. Cause: purpose

11.2

which	further	drops	because of losses [from compression and fuel cell mass].		
Actor		Pr: material	C. Cause: reason (prep phrase = prep + nom. group)		
			Thing		
			Q. Loc: place – abstract		

12

Metals	are	an	often	-overlooked alternative [to energy-dense liquid and gaseous solar fuels].
Carrier	Pr: attributive	Attr ...	Extent: frequency (Epithet)	... bute
Subject	Fi.	Complement		
Mood	Residue			
Topical				
Theme				

13

Despite this oversight	zinc and aluminium	are	well suited	for this application
C. Contingency: concession	Carrier	Pr: attributive	Attribute	C. Cause: purpose
Adjunct	Subject	Finite	Adjunct	Adjunct
Res ...	Mood	... idue		
Topical (marked)	Topical			
Theme				

14

because	they	can utilize	[[established]] Zn/air and Al/air batteries [[which are efficient, lightweight // and consume only these reactive metals and air]].	
	Actor	Pr: material	Goal	
Adjunct	Subject	Modal	Fi.	Complement
Mood	Residue			
Textual	Topical			
Theme				

15.1

The very negative reduction potential of Al	renders	it	an extremely efficient candidate	for energy storage,
Attributor	Pr: attributive	Carrier	Attribute	C. Cause: purpose
Subject	Fi.	Pred.	Complement	Complement
Mood	Residue			
Topical				
Theme				

15.2

but	its reactivity	will	greatly	complicate	the photocatalytic production [of this metal].
	Actor	Pr: mat...	C. Manner: degree	... erial	Goal
Adjunct	Subject	Fi.	Adjunct	Pred.	Complement
Mood	Residue				
Textual	Topical				
Theme					

16

Consequently	zinc	is	a more appealing prospect	for a fuel cycle [[(that is) involving a mechanically rechargeable metal/air battery // employing the relevant electrode reactions // (that are) shown in Scheme 1]].
	Token	Pr: identifying	Value	C. Cause: purpose
Conj. Adjunct	Subject	Finite	Complement	Adjunct
Res ...	Mood		... idue	
Textual	Topical			
Theme				

Analysis of C. Cause: purpose

for a fuel cycle [(that is) involving a mechanically rechargeable metal/air battery// (that is) employing the relevant electrode reactions// (that are) shown in Scheme 1].									
C. Cause: purpose (prep phrase = prep + nom. group)									
D. Cl. Thing Q. (Clause)									
Actor		Pr: material		Goal (nom. group)					
		D. D.C. Manner: means Ep.		Cl.		Thing		Q. (Clause)	
Actor		Pr: material		Goal (nom. group)					
		D. Ep.		Cl.		Thing		Q. (Clause)	
		Value		Pr. ident.		D.C. Loc: pl - semiotic			

17.1

Neglecting	the mass of the O ² oxidant,
Pr: material	Scope

17.2

zinc	has	a theoretical specific energy density of 1.35 kWh/kg.
Carrier	Pr: attributive (possessive)	Attribute (possession)
Subject	Finite	Complement
Mood		... idue
Topical		
Theme		

18

Without the need for compression	only	the battery	is used	for storage,
C. Accomp: comitative		Goal	Pr: material	C. Cause: purpose
Adjunct		Adjunct	Subject	Fi. Pred. Adjunct
Res ...		Mood		... idue
Topical (marked)		Topical (m)	Topical	
Theme				

19

which	lowers	the practical specific energy density	just slightly	to 1.084 kWh/kg.
Actor	Pr: material	Goal	C. Manner: degree	C. Extent: distance
Subject	Fi.	Pred.	Complement	Adjunct
Mood	Residue			
Topical				
Theme				

20

The lightweight and remarkable 98% coulombic discharge efficiencies of the Zn/air battery	exemplify	the great potential of zinc	as a transportable, abundant solar fuel.
Token	Pr: identifying	Value	C. Role: guise
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme			

21.1

To make use of	zinc [as a renewable solar fuel]
Pr: material	Goal (nom. group)
	Thing Q. Role: guise

21.2

Zn ²⁺ [(that is) oxidised in the battery]	must be reduced	back to Zn ⁰	by light.
Goal	Pr: material	C. Role: product	Actor
Subject	Modal	Fi.	Pred.
Mood	... idue		
Topical			
Theme			

Analysis of Scope

Zn ²⁺ [(that is) oxidised in the battery]		
Scope (nom. group)		
Thing Q. (Clause)		
Goal	Pr: material	D.C. Loc: place – physical: generic

22

Also	a complementary reaction [[that oxidises hydroxide ions to oxygen]]	has to be driven	by photons	concomitantly.
	Goal	Pr: material	Actor	Loc: time – unlocated: indeterminate
	Subject	Fi.	Pred.	Adjunct (temporal)
Res ...	Mood	... idue		
Textual	Topical			
Theme				

Analysis of Goal

a complementary reaction [[that oxidises hydroxide ions to oxygen]]
Goal (nom. group)
D. Ep. Thing Q. (Clause)
Actor Pr: material Goal D.C. Role: product

23

A robust and efficient photosensitizer (PS) [[(that is) responsible for the initial absorption of a photon]]	is	critical	for such a scheme.
Carrier	Pr: attributive	Attribute	C. Cause: purpose
Subject	Finite	Adjunct	Adjunct
Mood	Residue		
Topical			
Theme			

Analysis of Carrier

A robust and efficient photosensitizer (PS) [[(that is) responsible for the initial absorption of a photon]]
Carrier (nom. group)
D. Ep. Ep. Thing Q. (Clause)
Carrier Pr: attr. Attribute D.C. Cause: purpose

24.1

Photo-induced electron transfer reactions	will	subsequently	drive	OH ⁻ oxidation and Zn ²⁺ reduction processes
Actor	Pr: mat ...	Loc: time: unlocated: indeterminate	...erial	Goal
Subject	Finite	Adjunct (temporal)	Pred.	Complement
Mood	Residue			
Topical				
Theme				

24.2

and	thereby	(they will) reverse	the redox chemistry [[(that is) responsible // for driving the Zn/air cell]].
		(Actor) Pr: material	Goal
Adjunct	Adjunct	(Fi.) Pred.	Complement
Res ...	(Mood)	... idue	

25

Iridium complexes	stand out	as PSs	because of their remarkable photophysical properties such as long lifetimes and photochemical robustness.	
Behaver	Pr: behavioural	C. Role: guise	C. Cause: reason	
Subject	Fi.	Pred.	Adjunct	Adjunct
Mood	Residue			
Topical				
Theme				

26.1

Furthermore,	the highest occupied molecular orbital (HOMO) and the lowest unoccupied molecular orbital (LUMO) of cyclometalated iridium complexes	can be tuned	independently	by modification of separate ligands
	Goal	Pr: material		C. Manner: quality
Adjunct	Subject	Modal	Fi.	Pred.
Res ...	Mood	... idue		
Textual	Topical			
Theme				

26.2

which	allows	the thermodynamics of electron transfer reactions	to be fine-tuned.
Actor	Pr: mat ...	Goal	... erial
Subject	Fi.	Pred. ...	Complement
Mood	Residue		
Textual			
Theme			

27.1

Cyclometalated Ir(III) complexes	are used	in organic light-emitting diodes (OLEDs)	
Goal	Pr: material	C. Loc: place: physical: locational	
Subject	Fi.	Pred.	Adjunct
Mood	Residue		
Topical			
Theme			

27.2

and	(they are used)	as photocatalysts	in many redox reactions [(that are) including organic radical polymerization, cyclizations, aldehyde fluoromethylation, the water gas shift reaction, // and (that include) more prominently, the reduction of H ² O and Co ² for solar fuels].
	(Goal Pr. material)	C. Role: guise	C. Loc: time – unlocated: determinate

Analysis of C. Loc: time – unloc: det.

in many redox reactions [(that are) including organic radical polymerization, cyclizations, aldehyde fluoromethylation, the water gas shift reaction, ...			
C. Loc: time – unloc: det. (prep phrase = prep + nom. group) ...			
N.	Cl.	Thing	Q. (Clause)
	Carrier	Pr: attributive	Attribute

... and	(that include)	more prominently,	the reduction of H ² O and Co ² for solar fuels].
... C. Loc: time – unloc. det.			
(Clause)			
	(Carrier Pr: attributive)	D.C. Manner: quality	Attribute (Nom. group)
		D. Thing	D.C. Cause: purpose

28.1

In H ₂ evolving, water reduction reactions	turnover numbers (TONs, moles product/moles PS) of the IR (III) PS	have reached	10,000
C. Loc: time – unlocated: determinate	Actor	Pr: material	Goal
Adjunct	Subject	Fi.	Pred. Complement
Res ...	Mood		... idue
Topical (marked)	Topical		
Theme			

28.2

which	was achieved	by the judicious design of the ligand sphere of these highly luminescent metal complexes.		
Goal	Pr: material	Actor		
Subject	Fi.	Pred.	Adjunct	
Mood	Residue			
Textual				
Theme				

29.1

The electrochemical and photochemical robustness of these phosphorescent materials	is	extraordinary
Carrier	Pr: attributive	Attribute
Subject	Fi.	Adjunct
Mood		Residue
Topical		
Theme		

29.2

and	(it)	greatly	facilitates	the exploration of new photocatalytic systems [[(that are) relevant to the renewable energy field]].		
	(Actor)	C. Manner: degree	Pr: material	Scope		
Adjunct	(Subject)	Adjunct	Fi.	Pred.	Complement	
Re ...	Mo ...	... sid ...	... od	... ue		

Analysis of Scope

the exploration of new photocatalytic systems [[(that are) relevant (with respect) to the renewable energy field]].			
Scope (nom. group)			
D. Thing		Q. (Clause)	
Actor	Pr: attributive	Attribute	D.C. Matter

30

This work	describes	the visible-photon driven reduction of Zn^{2+} [to Zn^0 ($E_{red} = -0.76$ V vs NHE) by an iridium(iii) PS and catalyst system].	
Sayer	Pr: verbal	Verbiage	
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme			

Analysis of Verbiage

the [[visible-photon driven]] reduction of Zn^{2+} [to Zn^0 ($E_{red} = -0.76$ V vs NHE) by (means of) an iridium(iii) PS and catalyst system].			
Verbiage (nom. group)			
D. Cl.	Thing	Q. Role: product (prep phrase = prep + nom. group)	
	Thing	Q. Manner: means	

31

To our knowledge,	this	is	the first published case [of the photocatalysed reduction of a low redox potential metal ion by a transition metal complex].
C. Angle: viewpoint	Token	Pr: identifying	Value
Adjunct	Subject	Fi.	Complement
Res ...	Mood	... idue	
Topical (marked)	Topical		
Theme			

Analysis of Value

the first published case	[of the photocatalysed reduction of a low redox potential metal ion by (<i>means of</i>) a transition metal complex].		
Value (nom. group)			
D. N. Cl.	Thing	Q. Matter (prep phrase = prep + nom. group)	
	D. Cl.	Thing	Q. Manner: means

32.1

In	being	so
	Pr: attributive	Attribute

32.2

this initial work	demonstrates	the feasibility of Zn ²⁺ reduction [by (<i>means of</i>) a molecular photocatalyst for eventual use as a solar fuel].	
Sayer	Pr: verbal	Verbiage	
Subject	Fi.	Pred.	Complement
Mood	... idue		
Topical			
Theme			

Analysis of Verbiage

the feasibility of Zn ²⁺ reduction	[by (<i>means of</i>) a molecular photocatalyst for eventual use as a solar fuel].		
Verbiage (nom. group)			
D. Thing	Q. Manner: means (prep phrase = prep + nom. group)		
	D. Cl.	Thing	Q. Cause: purpose (prep phrase = prep + Nom. group)
	Cl.	Thing	Q. Role: guise

33.1

[[Contrasting,]]
Pr: material

33.2

[Ru9bpy) ₃] ²⁺	has been used
Goal	Pr: material
Subject	Fi. Pred.
Mood	... idue
Topical	
Theme	

33.3

to photoreduce	Ag ⁺	to Ag metal
Pr: material	Goal	C. Role: product

33.4

but	silver	has	a high work function,
	Carrier	Pr: attributive (possessive)	Attribute (possession)
Adjunct	Subject	Fi.	Complement
Res ...	Mood		... idue
Textual	Topical		
Theme			

34.1

its cation	is	easy [[to reduce]]
Carrier	Pr: attributive	Attribute
Subject	Finite	Adjunct
Mood		Residue
Topical		
Theme		

34.2

and	Ag ⁰	lacks	the energy density necessary of (<i>sic</i>) for a solar fuel.
	Carrier	Pr: attributive (poss.)	Attribute
Adjunct	Subject	Finite	Predicator
Res ...	Mood		... idue
Textual	Topical		
Theme			

Analysis of Attribute

the energy density	[[<i>that</i>	<i>is</i>	necessary	of (<i>sic</i>) (for) a solar fuel!]].
Attribute (nom. group)				
D. Cl.	Thing	Q. (Clause)		
	(Carrier	Pr: attributive)	Attribute	D.C. Cause: purpose

37.1

7ZnO splitting	can occur	at 1100 K,
Goal	Pr: material	C. Loc: place - abstract
Subject	Modal | Finite	
Mood	... idue	
Topical		

37.2

temperatures of 2300 K or higher	are	generally	required,
Scope	Pr: mat...	C. Manner: degree	... erial
Subject	Finite	Adjunct	Pred.
Mood	Residue		
Topical			
Theme			

37.3

and	low metal yields [[(that are) caused by the reoxidation of Zn ⁰]]	are	commonly	observed	during cooling process.
	Target	Pr: beh...	Extent: frequency	... havioural	C. Loc: time – unlocated: determinate
Adjunct	Subject	Finite	Adjunct (frequency)	Pred.	Adjunct
Res ...	Mood	... idue			
Textual	Topical				
Theme					

Appendix C2 Kennedy et al (2013) introduction: Transitivity, Theme and Qualifiers:

1

Within the discipline of coordination chemistry	the weak-link approach (WLA)	has emerged	as a powerful means [[to assemble complicated supramolecular structures (Scheme 1)]].	
C. Loc: place – institutional: educational	Scope	Pr: material	C. Role: guise	
Adjunct	Subject	Fi.	Pred.	
Res ...	Mood	... idue		
Topical (marked)	Topical			
Theme				

2

Unlike the symmetry-interaction approach (SIA) and directional bonding approach (DBA) [[which lead to static, rigid structures]]	the WLA	results in	dynamic complexes [[that may be toggled between rigid and flexible states via the introduction and removal of elemental anions or small-molecule “effectors”]].	
C. Manner: comparison	Actor	Pr: causative (mat.)	Goal	
Adjunct	Subject	Fi.	Pred.	Complement
Res ...	Mood	... idue		
Topical (marked)	Topical			
Theme				

Analysis of C. Manner: comparison

Unlike the symmetry-interaction approach (SIA) and directional bonding approach (DBA), [[which lead to static, rigid structures]]				
C. Manner: comparison: (prep phrase = prep + nom. group)				
	D. Cl.	Thing	Cl.	Cl. Thing Q. (Clause)
	Actor Pr: mat. D.C. Loc: place – physical: chemical			

Analysis of Goal

dynamic complexes [[that may be toggled between rigid and flexible states [via the introduction and removal of elemental anions or small-molecule “effectors”]]].				
Goal (nom. group)				
Ep.	Thing	Q. (Clause)		
	Goal	Mod.	Pr: mat.	D.C. Loc: place – abstract Q. Manner: means

3

Functional units [such as catalytic sites, redox-active moieties, host-guest recognition sites, and fluorophores]	may be incorporated	into the ligands	in such a way [[that the structural change results in a marked change in the properties of the complex]].
Goal	Pr: material	C. Loc: place: physical: chemical	C. Manner: means
Subject	Modal	Fi.	Pred.
Mood		Adjunct	Adjunct
Topical	Residue		
Theme			

Analysis of C. Manner: means

in such a way [[that the structural change results in a marked change [in the properties of the complex]]].		
C. Manner: means (prep phrase = prep + nom. group)		
D. Thing Q. (Clause)		
Carrier	Pr: causative (attr.)	Attribute (nom. group)
	D. Ep. Thing	D.C. Loc: place - abstract

4

Allosteric regulation of this type	resembles	the behavior of many enzymes
Carrier	Pr: attributive	Attribute
Subject	Fi.	Pred.
Mood		Complement
Topical	Residue	
Theme		

5

and	examples of this aspect of biomimicry	are	otherwise rare	in coordination chemistry.
	Carrier	Pr: attributive	Attribute	C. Loc: place – institutional: educational
Adjunct	Subject	Fi.	Adjunct	Adjunct
Res ...	Mood		... idue	
Textual	Topical			
Theme				

6

The WLA [for the synthesis of macrocyclic complexes]	employs	symmetric homoditopic ligands [[that possess rigid cores and two hemilabile phosphino-chalcoether (P,X; X = S, O, Se) or phosphine-amine (P,N,O moieties (Scheme 1).			
Actor	Pr: material	Scope			
Subject	Fi.	Pred.	Complement		
Mood	Residue				
Topical					
Theme					

Analysis of Actor

The WLA [for the synthesis of macrocyclic complexes]
Actor (nom. group)
D. Thing Q. Cause: purpose

7.1

Upon chelation [to a d ⁸ metal center (e.g., rhodium(I), palladium(II))]	and	in the absence of coordinating anions	the favoured <i>cis</i> geometry of the phosphine ligands	promotes	the clean formation of bimetallic macrocyclic assemblies	
C. Loc: time – unloc: det.		C. Loc: place - abstract	Actor	Pr: causative (material)	Goal	
Adjunct	Adjunct	Adjunct	Subject	Fi.	Pred.	Complement
Res ...	Mood			... idue		
Topical (marked)		Topical (marked)	Topical			
Theme						

Analysis of C. Loc: time – unloc: det.

Upon chelation [to a d ⁸ metal center (e.g., rhodium(I), palladium(II))]
C. Loc: time – unloc: det. (prep phrase = prep + nom. group)
Thing Q. Role: product

7.2

while	preventing	the formation of polymeric and oligomeric by-products.
	Pr: material	Scope

8.1

A reaction <i>[[that is] often used in conjunction with the WLA]</i>	is	the halide-induced ligand rearrangement (HILR) reaction,
Token	Pr: identifying	Value
Subject	Finite	Complement
Mood		Residue
Topical		
Theme		

Analysis of Token

A reaction <i>[[that is] often used in conjunction with the WLA]</i>
Token (nom. group)
D. Thing Q. (Clause)
Goal Pr: mat ... D.C. Extent: frequency ...erial D.C. Accompaniment: comitative

8.2

in which	a ligand-sorting process <i>[[which is] between electron-rich and electron-poor hemilabile ligands]</i>	leads	exclusively	to	heterologated structures,
	Actor	Pr: caus ...	C. Manner: quality	... ative (mat.)	Goal

Analysis of Actor

a ligand-sorting process <i>[[which is] between electron-rich and electron-poor hemilabile ligands]</i>
Actor (nom. group)
D. Cl. Thing Q. (Clause)
Carrier Pr: attributive (circ.) Attribute (circ. - Loc: place – physical: chemical)

8.3

thus	allowing for	an extra level of complexity
	Pr: material	Goal

8.4

to be incorporated	into WLA architectures (2,3,6,7,8, and 9, Scheme 1).
Pr: material	C. Loc: place - abstract

9

Functional allosteric enzyme mimics [[(that are) synthesized via the WLA]]	rely	on the precise positioning of active groups [[that are incorporated into the hemilabile ligand]].	
Actor	Pr: material	C. Loc: place - abstract	
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme			

Analysis of Actor

Functional allosteric enzyme mimics [[(that are) synthesized via the WLA]]				
Carrier (nom. group)				
Cl.	Cl.	Cl.	Thing	Q. (Clause)
			Goal	Pr: material D.C. Manner: means

Analysis of C. Loc: place - abstract

on the precise positioning of active groups [[that are incorporated into the hemilabile ligand]].				
C. Loc: place - abstract (nom. group)				
D.	Ep.	Thing	Q. (Clause)	
			Goal	Pr: material D.C. Loc: place – physical: chemical

10.1

This	is achieved	
Goal	Pr: material	
Subject	Fi.	Pred.
Mood	Res.	
Topical		
Theme		

10.2

by	using	rigid ligands [[in which the weakly coordinating atom (Scheme 1) is bound directly to an aryl group]].		
	Pr: material	Goal (nom. group)		
	Ep. Thing	Q. (Clause)		
		Goal	Pr: material	D.C. Manner: quality D.C. Loc: place – physical: chemical

11.1

In the case of rhodium(I),	rigid, heteroligated aryl-aryl' complexes	may be synthesized	cleanly	and	reliably
C. Matter	Goal	Pr: material	C. Manner: quality		C. Manner: quality
Adjunct	Subject	Modal	Fi.	Pred.	Adjunct
Res ...	Mood	... idue			
Topical (marked)	Topical				
Theme					

11.2

[[/by) using	P, S-aryl and P, O-aryl ligands	as the strong and weak binders respectively]].
Pr: material	Goal	C. Role: guise

12

However,	the sensitivity of rhodium(I) WLA complexes [to air]	limits	their compatibility	with certain reaction environments
	Actor	Pr: material	Goal	C. Accompaniment: comitative
Adjunct	Subject	Fi.	Pred.	Complement
Res ...	Mood	... idue		
Textual	Topical			
Theme				

13

and	accordingly	a recent focus of our work	has been	the expansion of the WLA [[to include the chemistry of more stable d ⁸ metals [such as nickel (II), palladium (II) and platinum (II) ^{32,43,44,46-50}]]].
	C. Angle: viewpoint	Token	Pr: identifying	Value
Adjunct	Adjunct	Subject	Fi.	Pred.
Res ...	Mood	... idue		
Textual	Topical (marked)	Topical		
Theme				

14.1

We	have demonstrated
Sayer	Pr: verbal
Subject	Fi.
Mood	Residue
Topical	
Theme	

14.2

that	heteroligated tweezers and triple-layer complexes	form	cleanly	and	spontaneously	with palladium(II) and platinum(II)
	Goal	Pr: material	C. Manner: quality		C. Manner: quality	C. Accompaniment: comitative
	Subject	Fi.	Pred.	Adjunct	Adjunct	Adjunct
Res...	Mood	... idue				
Textual	Topical					
Theme						

14.3

when	alkyl- and aryl-based hemilabile compounds	are used	in combination (e.g. Scheme 2; compound 22). ^{43,44,46,47}			
	Goal	Pr: material	C. Manner: means			
Adjunct	Subject	Fi.	Pred.	Adjunct		
Res ...	Mood	... idue				
Textual	Topical					
Theme						

15.1

One shortcoming of this assembly technique	is	[[that alkyl-based ligands are inherently flexible]]
Value	Pr: identifying	Token
Subject	Finite	Complement
Mood		
Topical		
Theme		

Analysis of Token

[[that alkyl-based ligands are inherently flexible]]			
Token (Clause)			
Carrier	Pr: attributive	Manner: quality	
Attribute			

15.2

and	thus	(they are)	unsuitable	for the construction of rigid architectures [[in which supramolecular properties are controlled with (by) structural changes]].		
	Carrier	Pr: attr.	Attribute	C. Cause: purpose (prep phrase = prep + nom. group)		
			D. Thing	Q. (Clause)		
			Scope	Pr: material	D.C. Manner: means	

16.1

A general, modular route [to rigid, heteroligated aryl-aryl' palladium(II) and platinum(II) complexes]	<< >>	is	highly desirable.
Carrier		Pr: attributive	Attribute
Subject		Fi.	Adjunct
Mood			Residue
Topical			
Theme			

Analysis of Carrier

A general, modular route [to rigid, heteroligated aryl-aryl' palladium(II) and platinum(II) complexes]
Carrier (nom. group)
D. Ep. Cl. Thing Q. Loc: place – physical: chemical

16.2

<< which	is	compatible	with many functional ligands >>
Carrier	Pr: attributive	Attribute	C. Accompaniment: comitative

17.1

However,	typical synthetic approaches [to aryl-aryl' palladium(II) and platinum(II) complexes]	have failed	so far
	Actor	Pr: material	Loc: time – loc: indet.
Adjunct	Subject	Fi.	Pred. Adjunct (temporal)
Res ...	Mood		... idue
Textual	Topical		
Theme			

Analysis of Actor

typical synthetic approaches [to aryl-aryl' palladium(II) and platinum(II) complexes]
Actor (nom. group)
Ep Cl. Thing Q. Loc: place – physical: chemical

17.2

resulting in	dynamic mixtures [[which contain multiple species]].
Pr: causative (material)	Goal

18

Herein	we	report	a new method [for the clean and quantitative synthesis of rigid platinum(II) WLA assemblies (Scheme 1: 2,3,6,7,8,9,) via partial abstraction of chloride in either protic or nonpolar solvents].
C. Loc: place - semiotic	Sayer	Pr: verbal	Verbiage
Adjunct	Subject	Fi. Pred.	Complement
Res ...	Mood	... idue	
Topical (marked)	Topical		
Theme			

Analysis of Verbiage

a new method [for the clean and quantitative synthesis of rigid platinum(II) WLA assemblies (Scheme 1: ... 9,)]	via partial abstraction of chloride [in either protic or nonpolar solvents].
Verbiage (nom. group)	
D. Ep. Thing Q. Cause: purpose (prep phrase = prep + nom. group)	
D. Ep. Cl. Thing	Q. Manner: means (prep phrase = prep + nom. group)
Cl. Thing	Q. Loc: place – phys. chem.

19.1

Using	this method,
Pr: material	Scope

19.2

heteroligated tweezers, triple layer complexes, and binuclear macrocycles	have been obtained	from a variety of aryl-based hemilabile P,S, P,O, and P,N ligands.
Goal	Pr: material	C. Loc: place – physical: chemical
Subject	Fi. Pred.	
Mood	Residue	
Topical		
Theme		

20

These complexes	serve	as models for functional, air-stable WLA systems.
Token	Pr: causative (identifying)	C. Role: guise
Subject	Fi. Pred.	Adjunct
Mood	Residue	
Topical		
Theme		

Analysis of C. Role: guise

as models for functional, air-stable WLA systems.
C. Role: guise (prep phrase = prep + nom. group)
Thing Q. Cause: purpose

Appendix C3 Gray (2010) introduction: Transitivity, Themes and Qualifiers

1.1

A number of international research projects, [(that are) supported by a wealth of anecdotal evidence,]]	suggest
Sayer	Pr: verbal
Subject	Fi. Pred.
Mood	Residue
Topical	
Theme	

1.2

that	accountancy graduates [(who are) entering the workplace]]	often	begin	their careers	with inadequate oral communication skills.
	Actor	C. Extent: frequency	Pr: material	Scope	C. Accompaniment: comitative

2.1

Practitioners and professional associations as well as academics	are	conscious	of this need:
Carrier	Pr: attributive	Attribute	C. Matter
Subject	Finite	Adjunct	
Mood		Residue	
Topical			
Theme			

2.2

In New Zealand,	accountancy job advertisements	regularly	specify	both oral and written communication skills;
C. Loc: place – phys: geo.	Actor	C. Extent: frequency	Pr: material	Scope
Adjunct	Subject	Adjunct	Fi. Pred.	Complement
Res ...	Mood		... idue	
Topical (marked)	Topical			
Theme				

2.3

oral competency	is stressed	on the Web site of the New Zealand Institute of Chartered Accountants (NZICA);
Verbiage	Pr: verbal	C. Location: place – semiotic
Subject	Fi. Pred.	Adjunct
Mood	Residue	
Topical		
Theme		

2.4

and	oral communication	is	part of the assessment structure of the second stage of training towards [(becoming a Chartered Accountant)].
	Token	Pr: identifying	Value
Adjunct	Subject	Fi.	Complement
Res ...	Mood		... idue
Textual	Topical		
Theme			

3.1

A number of New Zealand media outlets	have	recently	been publicizing	a significant rise [in demand for communication skills among employers]
Behaver	Pr: Beh...	Loc: time – located: indeterminate	... havioural	Scope
Subject	Fi.	Adjunct (temporal)	Pred.	Complement
Mood	Residue			
Topical				
Theme				

Analysis of Scope

a significant rise [in demand for communication skills among employers]
Scope (nom. group)
D. Ep. Thing Q. Matter (prep phrase = prep + nom. group)
Thing Q. Matter (prep phrase = prep + nom. group)
Cl. Thing Q. Loc: place – institutional: occupational

3.2

and	voicing	a concern [[that universities are not producing sufficiently literate graduates]].
	Pr: Verbal	Verbiage (Nom. group)
	D. Thing	Q. (Clause)
	Actor	Pr: material
	Manner: degree	Goal

4.1

However,	these reports	are	mainly	anecdotal,
	Carrier	Pr: attributive	Manner: Degree	
			Attribute	
Adjunct	Subject	Finite	Adjunct	
Res ...	Mood		... idue	
Textual	Topical			
Theme				

4.2

and	there	is	presently	a lack of well-grounded empirical data [[(that are) concerning precisely what skills are sought by employers in specific fields]].
		Pr: exist.	Loc: time – loc: indet.	Existent
Adjunct	Subject	Fi.	Adjunct (temporal)	Complement
Res ...	Mood		... idue	
Textual	Topical			
Theme				

Analysis of Existent

a lack of well-grounded empirical data <i>[(that are) concerning precisely what skills [are sought by employers in specific fields]]</i> .					
Existent (nom. group)					
D. Thing		Q. (Clause)			
Carrier	Pr: attributive	D.C. Manner: quality		Attribute (nom. group)	
			Thing	Q. (Clause)	
			Pr: behav.	Behaver	Q. Loc: place – abstract: generic

5.1

In addition,	formal studies of communication competencies [to this point]	have tended to	the quite general,		
	Carrier	Pr: attributive	Attribute		
Adjunct	Subject	Fi.	Pred.	Adjunct	
Res ...	Mood	... idue			
Textual	Topical				
Theme					

Analysis of Carrier

formal studies of communication competencies [to this point]	
Carrier (nom. group)	
Ep. Thing	Q. Loc: time- located: indeterminate

5.2

[[utilizing	the umbrella term <i>oral communication skills</i> or the even vaguer term <i>generic skills</i>]].
Pr: material	Scope

6

What	does	this	actually	<i>mean</i>	for a given industry?
	Pr: id ...	Token	C. Manner: quality	... ifying	C. Angle: viewpoint
	Fi.	Subject	Adjunct	Pred.	Adjunct
Res ...	Mood	... idue			
Interp.	Top.				
Theme					

7

What	skills,	specifically,	do	accounting employers	want?
	Phenomenon		Pr: men ...	Senser	... tal
	Complement	Adjunct	Fi.	Subject	Pred.
Res ...			Mood	... idue	
Interp.	Top.				
Theme					

8

What	might	the reported lack of oral communication skills [in new graduates]	mean	for university accountancy educators?
	Modal	Token	Pr: identifying	C. Angle: viewpoint
	Adjunct	Subject	Pred.	Adjunct
Res ...	Mood		... idue	
Interp.	Top.			
Theme				

Analysis of Token

the reported lack of oral communication skills [in new graduates]
Token (nom. group)
D. Ep. Thing Q. Loc: place – physical: people

9

This project	seeks to investigate	the importance of oral communication skills [[for students (<i>who are</i>) intending to begin an accountancy career in New Zealand,]] [[as (<i>they are</i>) perceived by chartered accountancy professionals]].
Actor	Pr: material	Scope
Subject	Fi. Pred.	Complement
Mood	Residue	
Topical		
Theme		

Analysis of Scope

the importance of oral communication skills for students [[(<i>who are</i>) intending ...,]] ¹ [[... chartered accountancy professionals.]] ²
Scope (nom. group)
D. Thing Beneficiary (prep phrase = prep + nom. group)
Thing Q. (Clauses 1 & 2)

Analysis of Q. (Clauses 1 & 2)

1

(<i>who</i>)	(<i>are</i>) intending to begin	an accountancy career	in New Zealand
Actor	Pr: material	Scope	D.C. Loc: place – phys: geo.

2

as	(<i>they</i>)	(<i>are</i>) perceived	by chartered accountancy professionals.
	Phen.	Pr: mental	Senser

10

Thus,	my research objectives	were	the following: 1. to determine [[how much importance New Zealand accountancy employers place on oral communication skills in their Graduate hires]] 2. to determine [[what specific kinds of oral communication skills are required by New Zealand accountancy employers]] 3. to determine the degree [[to which accountancy employers are finding the required oral communication skills in new graduated accountancy students]].
	Token	Pr: id.	Value
Adjunct	Subject	Fi.	Complement
Res ...	Mood		... idue
Textual	Topical		
Theme			

Analysis of Value

the following:	1. to determine [[how much importance New Zealand accountancy employers place on oral communication skills in their Graduate hires]] 2. to determine [[what specific kinds of oral communication skills are required by New Zealand accountancy employers]] 3. to determine [[the degree to which accountancy employers are finding the required oral communication skills in new graduated accountancy students]].
Value (nom. group)	
D. Thing	Clauses

1. to determine	[[how much importance New Zealand accountancy employers place on oral communication skills [in their Graduate hires]]]		
Pr: behavioural	Behaviour (Clause)		
	Scope	Actor	Pr: material
			D.C. Loc: place - abstract (prep phrase = prep + nom. group Cl. Cl. Thing Q. Loc: place – physical: people

2. to determine	[[what specific kinds of oral communication skills are required by New Zealand accountancy employers]]
Pr: behavioural	Behaviour (Clause)

3. to determine	the degree [[to which accountancy employers are finding the required oral communication skills [in new graduated accountancy students]]].		
Pr: behavioural	Behaviour (nom. group)		
	D. Th. Q. (Clause)		
	Actor	Pr: material	Scope (nom. group)
			D. Cl. Cl. Cl. Thing D.C. Loc: place – physical: people

LITERATURE REVIEW

11.1

National and international studies	consistently	agree	
Sayer	C. Manner: quality	Pr: verbal	
Subject	Adjunct	Fi.	Pred.
Mood			Residue
Topical			
Theme			

11.2

that	accounting practitioners and professional groups	consider	
	Senser	Pr: mental	
Adjunct	Subject	Fi.	Pred.
Res ...	Mood		... idue
Textual	Topical		
Theme			

11.3

communication skills [in general]	[[to rank	among the most important skills for graduates [[to possess upon their entry into an accountancy career]]]]
Actor	Pr: attributive (circ.)	Attribute (circ. – Location: place – abstract)

Analysis of C. Loc: place - abstract

among the most important skills for graduates [[to possess				upon their entry [into an accountancy career]]].			
C. Loc: place – abstract (prep phrase = prep + nom. group)							
D.	N.	Ep.	Thing	Q. Cause: behalf (prep phrase = prep + nom. group)			
			Thing	Q. (Clause)			
				Pr: attributive (poss.)	D.C. Loc: time – unlocated: determinate (prep phrase = prep + nom. group)		
					D. Thing	Q. Loc: place – institutional: occupational	

14.2

which	was updated	in 2005 (Sin, Jones, & Petocz, 2007).	
Goal	Pr: material	C. Loc: time – located: determinate	
Subject	Fi.	Pred.	Adjunct
Mood	Residue		
Topical			
Theme			

15.1

In New Zealand,	the <i>Chartered Accountants Journal</i>	publishes	a column [on good writing]	
C. Loc: place – physical: geographical	Actor	Pr: material	Goal	
Adjunct	Subject	Fi.	Pred.	Complement
Res ...	Mood	... idue		
Topical (marked)	Topical			
Theme				

Analysis of Goal

a column [on good writing]
Goal (nom. group)
D. Th Q. Matter

15.2

and	in the Professional Competence Examination part 2	<< >>	NZICA	specifically	requires	
	C. Loc: place – semiotic		Actor		Pr: material	
Adjunct	Adjunct		Subject	Adjunct	Fi.	Pred.
Res ...			Mood	... idue		
Textual	Topical (marked)		Topical			
Th ...			... me			

15.3

<< which	is	the second stage of training [[to become a Chartered Accountant]] >>
Token	Pr: identifying	Value

15.4

the student	“to communicate	effectively	both	verbally	and	in writing”.
Sayer	Pr: verbal	C. Manner: quality		C. Manner: means		C. Manner: means

16.1

Internationally,	academics and practitioners	agree	
C. Loc: place – physical: geographical	Behavior	Pr: behavioural	
Adjunct	Subject	Fi.	Pred.
Res ...	Mood		... idue
Topical (marked)	Topical		
Theme			

16.2

that	accounting students' writing and oral communication skills	are	two major areas [[(that are) needing more attention in the university curriculum]] (citations omitted)
	Carrier	Pr: attributive	Attribute
Adjunct	Subject	Fi.	Complement
Res ...	Mood		... idue
Textual	Topical		
Theme			

Analysis of Attribute

two major areas [[(that are) needing more attention [in the university curriculum]]]			
Attribute (nom. group)			
N.	Ep.	Thing	Q. (Clause)
	Senser	Pr: mental	Phenomenon
			N. Thing Q. Loc: place – semiotic

16.3

and	a considerable body of scholarship	has sought to make	informed recommendations	to the curricular offerings [at university level accounting education]. (multiple citations omitted)
	Actor	Pr: material	Scope	Recipient
Adjunct	Subject	Fi.	Pred.	Complement Adjunct
Res ...	Mood			... idue
Textual	Topical			
Theme				

Analysis of Recipient

to the curricular offerings [at university level accounting education].			
Recipient (prep phrase + nom. group)			
D.	Cl.	Thing	Q. Loc: place – abstract

17

Teaching communication [in the disciplines],	however,	has to acknowledge	the difficulty in [[transferring those skills from the classroom to the workplace]].
Senser		Pr: mental	Phenomenon
Subject	Adjunct	Fi.	Pred.
Mood			Complement
Topical			Residue
Theme			

Analysis of Senser

Teaching communication [in the disciplines],
Senser (nom. group)
Thing Q. Loc: place – abstract

Analysis of Phenomenon

the difficulty in	[[transferring those skills	from the classroom	to the workplace]].
Phenomenon (nom. group)			
D. Th	Q. (Clause)		
	Pr: material	Scope	D.C. Loc: place – abstract: institutional-educational | D.C. Loc: place – abstract: institutional-occupational

18

Thomas (1995)	criticises	the real-world applicability of the texts and approaches [[<i>(that are)</i> used to teach business communication in higher education]];
Behaver	Pr: behavioural	Target
Subject	Fi.	Pred.
Mood		Complement
Topical		Residue
Theme		

Analysis of Target

the real-world applicability of the texts and approaches [[<i>(that are)</i> used to teach business communication	in higher education]].
Target (nom. group)	
D. Ep.	Thing Q. (Clause)
	Scope Pr: material Scope (nom. group)
	Cl Thing D.C. Loc: place – institutional.-educational

19

similarly,	D.'Aloisio (2006)	argues for	the need [[to relate university learning to the specific communication competencies // (that are) required in corporate work settings]] (multiple citations omitted)	
	Sayer	Pr: verbal	Verbiage	
Adjunct	Subject	Fi.	Pred.	Complement
Res ...	Mood	... idue		
Textual	Topical			
Theme				

Analysis of Verbiage

the need [[to relate university learning [to the specific communication competencies] // (that are) required in corporate work settings]]				
Verbiage (nom. group)				
D. Th	Q. (Clause)			
Pr: attributive	Carrier	D.C. Loc: place – abstract (prep phrase = prep + nom. group)		
	D. Ep.	Cl.	Thing	Q. (Clause)
			Scope	Pr: material
			D.C. Loc: place - abstract: institutional-occupational	

20

The small number of international studies [[(that are) specifically focusing on the acquisition of communication skills by accountancy graduates]]		have been limited	in several ways.	
Scope		Pr: material	C. Manner: means	
Subject		Fi.	Pred.	Adjunct
Mood			Residue	
Topical				
Theme				

Analysis of Scope

The small number of international studies [[(that are) specifically focusing on the acquisition of communication skills by accountancy graduates]]				
Scope (nom. group)				
D. Ep.	Thing	Q. (Clause)		
	Actor	Pr: material	D.C. Loc: place – abstract: metaphorical	

21.1

Studies	have	often	used	umbrella terms,
Actor	Pr: mat...	C. Extent: frequency	... erial	Scope
Subject	Fi.	Adjunct	Pred.	Complement
Mood	Residue			
Topical				
Theme				

21.2

leaving	the term communication skill	undifferentiated.
Pr: causative (attr.)	Carrier	Attribute

22.1

For example,	Zaid and Abraham (1994)	studied	the problems <i>[[that are] encountered by accountancy graduates early in their employment careers]</i>	
	Actor	Pr: material	Scope	
Adjunct	Subject	Fi.	Pred.	Complement
Res ...	Mood	... idue		
Textual	Topical			
Theme				

Analysis of Scope

the problems <i>[[that are] encountered by accountancy graduates early in their employment careers]</i>				
Scope (nom. group)				
D. Thing	Q. (Clause)			
Scope	Pr: material	Actor	D.C. Loc: time – located: indeterminate	

22.2

and	<i>(they)</i>	reported
	<i>(Sayer)</i>	Pr: verbal

22.3

that	a primary area of difficulty	<i>(was) to be</i>	in “communication [with others].”	
	Token	Pr: identifying	Value	
Adjunct	Subject	Fi.	Pred.	Adjunct
Res ...	Mood	... idue		
Textual	Topical			
Theme				

Analysis of Value

in “communication [with others].”	
Value (prep phrase = prep + nom. group)	
Thing	Q. Accompaniment: comitative

23.1

Baker and McGregor (2000)	compared	the importance [(that was) perceived in communication skills by a number of accountancy stakeholder groups];			
Actor	Pr: material	Scope			
Subject	Fi.	Pred.	Complement		
Mood	Residue				
Topical					
Theme					

Analysis of Scope

the importance [(that	was) perceived	in communication skills	by a number of accountancy stakeholder groups];		
Scope (nom. group)					
Q. (Clause)					
Phenomenon	Pr: mental	D.C. Loc: place – abstract: generic		Sensor	

23.2

however,	this study,	too,	uses	only the broad term <i>communication skills</i> .	
	Actor		Pr: material	Scope	
Adjunct	Subject	Adjunct	Fi.	Pred.	Complement
Res ...	Mood		... idue		
Textual	Topical				
Theme					

24

Second,	within the smaller number of studies [(that identify// and examine communication skills more specifically,)]	the focus	has tended to be	on <i>written</i> communication skills (<i>long citation omitted</i>).	
	C. Loc: place - semiotic	Carrier	Pr: attributive (circ.)	Attribute (circ. – Loc: place – abstract: generic)	
Adjunct	Adjunct	Subject	Fi.	Pred.	Adjunct
Res ...	Mood		... idue		
	Topical (marked)		Topical		
Theme					

25

Certain more in-depth studies	have	limitations of their own.
Carrier	Pr: attributive (possessive)	Attribute (possession)
Subject	Fi.	Pred. Complement
Mood	Residue	
Topical		
Theme		

26.1

De Lange, Jackling, and Gut (2006)	surveyed	Australian accountancy graduates
Actor	Pr: material	Scope
Subject	Fi.	Pred. Complement
Mood	Residue	
Topical		
Theme		

26.2

[[to find	their ideas of the skill development [[(that) they considered necessary for a successful career in accountancy]].
Pr: material	Goal

Further analysis of Goal

their ideas of the skill development [[(that) they considered necessary for a successful career [in accountancy]].
Goal (nom. group)
D. Thing Q. Matter (prep phrase = prep + nom. group)
D. Cl. Thing Q. (Clause)
Carrier | Attributor | Pr: attributive | Attribute | D.C. Cause: purpose (prep phrase = prep + nom. group)
D. Ep. Thing Q. Loc: place – institutional: occupational)

27

A limit of this approach	is	[[that graduates' perceptions do not necessarily match the perceptions of accountancy employers [[(who are) wishing to hire new graduates]]].
Token	Pr: id.	Value
Subject	Fi.	Complement
Mood	Residue	
Topical		
Theme		

28.1

And	while	the De Lange et al. (2006) study	found
		Senser	Pr: mental
Adjunct	Adjunct	Subject	Fi. Pred.
Res ...		Mood	... idue
Textual	Textual	Topical	
Theme			

28.2

that	students	reported	a significant skill deficiency [in the specific areas of "interpersonal skills" and "oral expression"],	
	Sayer	Pr: verbal	Verbiage	
Adjunct	Subject	Fi. Pred.	Complement	
Res ...	Mood	... idue		
Textual	Topical			
Theme				

Analysis of Verbiage

a significant skill deficiency [in the specific areas of "interpersonal skills" and "oral expression"],
Verbiage (nom. group)
D. Ep. Cl. Thing Q. Loc: place – abstract: generic

28.3

the range of possible skills [(that were) falling into these two broad. categories]]	remained	undifferentiated.
Carrier	Pr: attributive	Attribute
Subject	Fi. Pred.	Adjunct
Mood	Residue	
Topical		
Theme		

Analysis of Carrier

the range of possible skills [(that were) falling into these two broad categories]]
Carrier (nom. group)
D. Focus Ep. Thing Q. (Clause)
Carrier Pr: attributive (circ.) Attribute (circ. Loc: place - abstract)

29

There	remains	a very limited amount of scholarship <i>[[(that is) focusing on the topic of specific oral communication skills in accountancy]]</i> .		
	Pr: existential	Existent		
Subject	Fi.	Pred.	Complement	
Mood	Residue			
Topical				
Theme				

Analysis of Existent

a very limited amount of scholarship <i>[[(that is) focusing on the topic of specific oral communication skills [in accountancy]]]</i> .				
Existent (nom. group)				
D.	Ep.	Thing	Q. (Clause)	
			Behaver	Pr: behavioural
			D.C. Loc: place - abstract (prep phrase = prep + nom. group)	
			D. Thing	Q. Loc: place – abstract: institutional: occupational

30

A number of studies	clearly	support	the position <i>[[that accountancy employers want strong oral communication skills in the graduates // (whom) they hire]] (multiple citations omitted).</i>	
Actor		Pr: material	Scope	
Subject	Adjunct	Fi.	Pred.	Complement
Mood	Residue			
Topical				
Theme				

Analysis of Value

the position <i>[[that accountancy employers want strong oral communication skills [in the graduates // (whom) they hire]]]</i> .				
Scope (nom. group)				
D. Th	Q. (Clause)			
	Senser	Pr: mental	Phenomenon (Nom. group)	
			Ep. Cl. Cl.	Thing Q. Loc: place – physical: people

31

There	is	a similarly generally shared opinion [[that oral communication skills in accountancy graduates are not at the required level]].
	Pr: existent	Existent
Subject	Fi.	Complement
Mood		Residue
Topical		
Theme		

Analysis of Existent

a similarly generally shared opinion [[that oral communication skills [in accountancy graduates] are not at the required level]].			
Existent (nom. group)			
D. Ep.	Ep.	Cl.	Thing Q. (Clause)
Carrier (nom. group)		Pr: attributive	Attribute (circ. Loc: place - abstract)
Cl.	Cl.	Thing	Q. Loc: place – physical: people

32.1

Kryder (1997)	reports
Sayer	Pr: verbal
Subject	Fi. Pred.
Mood	Residue
Topical	
Theme	

32.2

that	many new accountants	are	“surprised
	Carrier	Pr: attributive	Attribute
Adjunct	Subject	Fi.	Adjunct
Res ...	Mood		... idue
Textual	Topical		
Theme			

32.3

and	(they	are)	dismayed”
	(Carrier	Pr: attr)	Attribute

32.4

to discover	the communication skills [[(that are) required in the workplace]].
Pr: material	Scope (nom. group)
	D. Cl. Thing Q. (Clause)
	Scope Pr: material D.C. Loc: place – abstract: occupational

33.1

However,	few studies	have identified	
	Actor	Pr: material	
Adjunct	Subject	Fi.	Pred.
Res ...	Mood	... idue	
Textual	Topical		
Theme			

33.2

and	(have) examined	individual oral communication skills.
	Pr: material	Scope

34.1

One such study, by Maes, Weldy, and Icenogle (1997),	surveyed	business employers	on graduates' possession of 13 distinct oral communication skills	
Actor	Pr: material	Scope	C. Matter	
Subject	Fi.	Pred.	Complement	Adjunct
Mood	Residue			
Topical				
Theme				

34.2

but	they	surveyed	150 American managers	across a broad array of industries.	
	Actor	Pr: material	Scope	C. Loc: place – industrial: occupational	
Adjunct	Subject	Fi.	Pred.	Complement	Adjunct
Res ...	Mood	... idue			
Textual	Topical				
Theme					

35.1

Maes et al. (1997) and McLaren (1990) both	included	listening	in their lists of desirable communication skills.	
Attributor	Pr: attributive	Attribute	C. Loc: place - semiotic	
Subject	Fi.	Pred.	Complement	Adjunct
Mood	Residue			
Topical				
Theme				

35.2

and	the importance of listening [as a specific business communication skill]	has been examined	more recently	by Goby and Lewis (2000).
	Scope	Pr: material	Loc: time – loc: indet.	Actor
Adjunct	Subject	Fi.	Pred.	Adjunct (temporal) Complement
Res ...	Mood	... idue		
Textual	Topical			
Theme				

Analysis of Scope

the importance of listening [as a specific business communication skill]
Scope (nom. group)
D. Thing Q. Role: guise

36

With no agreement [on a catalogue of oral communication skills],	other research	has	variously	investigated	conveying of expertise and giving intelligible explanations, giving formal presentations and giving more casual presentations (<i>multiple citations omitted</i>)	across a range of business industries.
C. Accompaniment: comitative	Actor	Pr: mat ...		... erial	Scope	C. Loc: place – industrial: occupational
Adjunct	Subject	Fi.	Adjunct	Pred.	Complement	Adjunct
Res ...	Mood	... idue				
Topical (marked)	Topical					
Theme						

Analysis of C. Accompaniment: comitative

With no agreement [on a catalogue of oral communication skills]
C. Accompaniment: comitative (prep phrase = prep + nom. group)
N. Thing Q. Matter

37.1

[[While	Morgan (1997)	identified	13 individual skill areas within oral communication activities in accountancy in a study of accounting professionals in England and Wales]],
Actor	Pr: material	Scope	

Analysis of Scope

13 individual skill areas	[within oral communication activities in accountancy in a study of accounting professionals in England and Wales],		
Scope (nom. group)			
N. Ep.	Cl. Thing	Q. Loc: place – abstract (prep phrase = prep + nom. group)	
	Cl. Cl.	Thing	Q. Loc: place – abstract (prep phrase = prep + nom. group)
		Thing	Q. Loc: place – semiotic (prep phrase = prep + Nom. group)
		D. Thing	Q. Loc: place – physical: geographical

37.2

his study	is	exceptional	in its specific focus.
Carrier	Pr: attributive	Attribute	C. Manner: quality
Subject	Fi.	Adjunct	Adjunct
Mood	Residue		
Topical			
Theme			

38

Thus,	a marked gap	exists	in the literature [on oral communication skills in the accountancy workplace].	
	Existent	Pr: existential	C. Loc: place - semiotic	
Adjunct	Subject	Fi.	Pred.	Adjunct
Res ...	Mood	... idue		
Textual	Topical			
Theme				

Analysis of C. Loc: place - semiotic

in the literature	[on oral communication skills in the accountancy workplace].		
C. Loc: place – semiotic (prep phrase = prep + Nom. group)			
D. Thing	Q. Matter (prep phrase = prep + nom. group)		
	Cl. Cl.	Thing	Q. Loc: place – abstract: institutional-occupational

39

Further,	since McLaren's 1990 study,	the particular requirements [for communication skills in the New Zealand accountancy workplace]	have not been	comprehensively	examined.
	C. Loc: time – located: determinate	Scope	Pr: mat...	C. Manner: degree	... erial
Adjunct	Adjunct	Subject	Fi.	Pred. ...	Adjunct
Res ...		Mood	... idue		
Textual	Topical (marked)	Topical			
Theme					

Analysis of Scope

the particular requirements [for communication skills in the New Zealand accountancy workplace]		
Scope (nom. group)		
D. Ep.	Thing	Q. Matter (prep phrase = prep phrase + nom. group)
	Cl.	Thing Q. Loc: place – abstract: institutional-occupational

40

Like De Lange et al. (2006) [in Australia]	Rainsbury, Hodges, Burchell, and Lay (2002)	surveyed	New Zealand business students and graduates—but not employers—	on their perceptions of the workplace importance of seven key skill areas.
C. Manner: comparison	Actor	Pr: material	Scope	C. Matter
Adjunct	Subject	Fi.	Pred.	Complement
Res ...	Mood	... idue		
Topical (marked)	Topical			
Theme				

Analysis of C. Manner: comparison

Like De Lange et al. (2006) [in Australia]	
C. Manner: comparison (prep. phrase = prep phrase + nom. group)	
Thing	Q. Loc: place – physical: geographical

41

Oral and written communication	was	again	presented	as a single skill area [within the seven].
Scope	Pr: mat ...		... erial	C. Role: guise
Subject	Fi.	Adjunct	Pred.	Adjunct
Mood	Residue			
Topical				
Theme				

Analysis of C. Role: guise

as a single skill area [within the seven].
C. Role: guise (prep phrase = prep + nom. group)
D. Ep. Cl. Thing Q. Loc: place – abstract

42.1

In other New Zealand studies	Gardner, Milne, Stringer and Whiting (2005)	engaged	with the particular issue of oral communication [in accountancy students]	
C. Loc: place - semiotic	Behaver	Pr: behavioural	C. Accompaniment: comitative	
Adjunct	Subject	Fi.	Pred.	Complement
Res ...	Mood	... idue		
Topical (marked)	Topical			
Theme				

Analysis of C. Accompaniment: comitative

with the particular issue of oral communication [in accountancy students]
C, Accompaniment: comitative (prep phrase + nom. group)
D. Ep Thing Q. Loc: place – physical: people

42.2

but	(they)	examined	it	from the perspective of students' communication apprehension (CA) and the impact of their course of study in reducing student CA,	
	(Actor)	Pr: material	Scope	C. Angle: viewpoint	
Adjunct	(Subject)	Fi.	Pred.	Complement	Adjunct
Res ...	Mood	... idue			
Textual	(Topical)				
Theme					

42.3

rather than	(examining	it)	in a workplace context.		
	(Pr: material	Scope)	C. Loc: place – abstract: institutional-occupational		

43.1

Several Otago University studies	recounted	the development of teaching programs [[<i>(that were)</i> integrating generic skills with accounting knowledge]]	
Sayer	Pr: verbal	Verbiage	
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme			

Analysis of Verbiage

the development of teaching programs [[<i>(that were)</i> integrating generic skills with accounting knowledge]]			
Verbiage (Nom. group)			
D. Thing	Q. (Clause)		
	Actor	Pr: material	Scope | D.C. Accompaniment: comitative)

43.2

but	<i>(they)</i>	drew on	a skill-set [[<i>(that was)</i> articulated in the Society of Accountants' Admissions policy]]
	<i>(Actor)</i>	Pr: material	Scope

Analysis of Target

a skill-set [[<i>(that was)</i> articulated in the Society of Accountants' Admissions policy]]			
Target (Nom. group)			
D. Th	Q. (Clause)		
	Verbiage	Pr: verbal	D.C. Loc: place – semiotic

43.3

rather than	<i>(drawing on)</i>	employer demand <i>(multiple citations omitted)</i> .
	<i>(Pr: material)</i>	Scope

Appendix C4 Macpherson & Owen (2010) introduction: Transitivity, Themes and Qualifiers

1

In 2004	The Australian National University (ANU) Canberra, Australia,	launched	a graduate-entry medical degree.
C. Loc: time – located: determinate	Actor	Pr: material	Goal
Adjunct	Subject	Fi.	Pred. Complement
Res ...	Mood	... idue	
Topical (marked)	Topical		
Theme			

2

In 2005,	the Medical Education Unit	commissioned	research [on the ability of students [(<i>who were</i>) enrolled in that course]] [in the area of critical thinking].
C. Loc: time – located: determinate	Actor	Pr: material	Goal
Adjunct	Subject	Fi.	Pred. Complement
Res ...	Mood	... idue	
Topical (marked)	Topical		
Theme			

Analysis of Goal

research [on the ability of students [(<i>who were</i>) enrolled in that course]]		[in the area of critical thinking].	
Goal (nom. group)			
Thing	Q. Matter (prep phrase = prep + nom. group)		Q. Loc: place – abstract
D. Thing	Q. (Clause)		
	Token	Pr: identifying	D.C. Loc: place – institutional: educational

3.1

The aim of the research	was	[[to monitor students' critical thinking skills
Token	Pr: identifying	Value
Subject	Finite	Complement
Mood	Residue	
Topical		
Theme		

3.2

as	they	experienced	a range of education styles [[including problem-based learning]]	in the first year of their graduate medical studies.
	Carrier	Pr: attributive	Attribute	C. Loc: time – unlocated: determinate
Adjunct	Subject	Fi.	Pred.	Complement
Res ...	Mood	... idue		
Textual	Topical			
Theme				

Analysis of C. Loc: time – unloc: det.

in the first year of their graduate medical studies].
C. Loc: time – unloc: det. (prep phrase = prep + nom. group)
D. N. Thing Q. Matter

4

Research [into the success or otherwise of learning and teaching strategies [[(that are) associated with the development of critical thinking ability]]]	is	important	both in terms of educational efficiencies [[and in terms of producing capable medical graduates]].
Carrier	Pr: attributive	Attribute	C. Cause: purpose
Subject	Finite	Adjunct	Adjunct
Mood	Residue		
Topical			
Theme			

Analysis of Carrier

Research [into the success or otherwise of learning and teaching strategies [[(that are) associated with the development of critical thinking ability]]]
Carrier (nom. group)
Thing Q. Matter

5

Critical thinking	comprises	'a set of skills and strategies for making reasonable decisions about what // to do // or believe' (Rudinow and Barry 1999).	
Token	Pr: identifying	Value	
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme			

Analysis of Value

'a set of skills and strategies for [[making reasonable decisions // about what // to do // or believe']].			
Value (nom. group)			
D. Thing	Q. (Clause)		
	Pr: material	Scope	Q. Matter

6

These skills	are	integral to effective clinical decision making.
Carrier	Pr: attributive	Attribute
Subject	Finite	Adjunct
Mood	Residue	
Topical		
Theme		

7

Beyer's (1987) classification	provides	a framework for [[developing an understanding [of the various components of thinking // and (of) the role [[that critical thinking plays]]]].	
Actor	Pr: material	Goal	
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme			

Analysis of goal

a framework for [[developing an understanding [of the various components of thinking // and (of) the role [[that critical thinking plays]]]].			
Goal (nom. group)			
D. Thing	Q. (Clause)		
	Pr. mat.	Goal (nom. group)	
	D. Thing	Q. Matter	

8.1

Beyer	describes	three key components	<< >>	cognitive (thinking) operations; domain (subject) knowledge; and attitude.
Assigner	Pr: identifying	Val ...		... ue
Subject	Fi.	Pred.	Comp ...	... lement
Mood	Res ...			idue
Topical				
Theme				

8.2

<<all of which	have to be	present
Carrier	Pr: attributive	Attribute
Sub ...	Modal	Pred. Adjunct
Mood	Residue	
Topical		
Theme		

8.3

for	clear thinking	to occur.
	Goal	Pr: material

9

Domain-specific knowledge	is	the body of knowledge [[that a student acquires // when studying, for example, medicine or law]].
Token	Pr: identifying	Value
Subject	Finite	Complement
Mood	Residue	
Topical		
Theme		

10.1

Attitudes [(that are) important to (for) the development of sound thinking skills]	<< >>	include	respect [for evidence], healthy scepticism and curiosity, and desire [[to solve a problem]].
Token		Pr: identifying	Value
Subject		Fi.	Pred. Complement
Mo ...		... od	Residue
Topical			
Theme			

Analysis of Token

Attitudes (that are) important to (for) the development of sound thinking skills
Token (nom. group)
Thing Q. (Clause)
Carrier Pr: attributive Attribute D.C. Cause: purpose

Analysis of Value

respect [for evidence], healthy scepticism and curiosity, and desire [[to solve a problem]].
Value (nom. group)
Thing Q. Matter

10.2

<< Beyer	suggests >>
Sayer	Pr: verbal

11.1

Cognitive operations	include	three over-arching strategies of conceptualizing, problem-solving and decision-making;
Token	Pr: identifying	Value
Subject	Fi.	Pred. Complement
Mood		Residue
Topical		
Theme		

11.2

and	these strategies	are underpinned	by critical thinking skills such as detecting fallacious arguments, // identifying inferences // and determining relevance.
	Goal	Pr: material	Actor
Adjunct	Subject	Fi.	Pred. Complement
Res ...	Mood	... idue	
Textual	Topical		
Theme			

12.1

The development of critical thinking ability [at the level of tertiary education]	has been	a major area of research	in recent years;
Carrier	Pr: attributive	Attribute	C. Loc: time – located: indeterminate
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme			

Analysis of Carrier

The development of critical thinking ability [at the level of tertiary education]
Carrier (nom. group)
D Thing Q. Loc: place – abstract

12.2

for example,	van Gelder (2005)	has reviewed	the efficacy of critical thinking courses;
	Actor	Pr: material	Scope
Adjunct	Subject	Fi.	Pred. Complement
Res ...	Mood	... idue	
Textual	Topical		
Theme			

13

Vesely and Sherlock (2005)	have described	pedagogical tools;
Assigner	Pr: identifying	Value
Subject	Fi.	Pred. Complement
Mood	Residue	
Topical		
Theme		

14

others (Deloach and Greenlaw 2005)	have considered	the efficacy of electronic discussions [in <i>for</i> the development of critical thinking].
Senser	Pr: mental	Phenomenon
Subject	Fi.	Pred. Complement
Mood	Residue	
Topical		
Theme		

Analysis of Phenomenon

the efficacy of electronic discussions [in (<i>for</i>) the development of critical thinking].
Phenomenon (nom. group)
D. Thing Q. Cause: purpose

15.1

[[Developing students' critical thinking ability]]	is	of central importance
Carrier	Pr: attributive	Attribute
Subject	Finite	Adjunct
Mood		Residue
Topical		
Theme		

15.2

as	it	underpins	effective decision-making; for example, diagnosis (Macpherson 2005).
	Actor	Pr: material	Scope
Adjunct	Subject	Fi.	Pred. Complement
Res ...	Mood	... idue	
Textual	Topical		
Theme			

16

Critical thinking biases and errors	are	a category of human error [[that is implicated in a broad range of medical adverse events]] (<i>citations omitted</i>).
Value	Pr: identifying	Token
Subject	Finite	Complement
Mood		Residue
Topical		
Theme		

Analysis of Token

a category of human error [[that is implicated in a broad range of medical adverse events.		
Token (nom. group)		
D. Thing	Q. (Clause)	
Carrier	Pr: attributive (circ.) ⁶	Attribute (circ. Location: place – abstract)

⁶ Attributive on the grounds of meaning 'involved as being concerned in a matter' (Butler, 2013, p.745), implying *involvement* as an attribute, and excluding other categories of human error not implicated in medical adverse events.

17.1

In Australia,	patient harm	results from	1 in 10 hospital admissions,
C. Loc: place – physical: geographical	Scope	Pr: causative (material)	Actor
Adjunct	Subject	Fi.	Pred.
Res ...	Mood	... idue	
Topical (marked)	Topical		
Theme			

17.2

and	2% of these	lead to	death or serious disability.
	Actor	Pr: causative (mat.)	Scope
Adjunct	Subject	Fi.	Pred.
Res ...	Mood	... idue	
Textual	Topical		
Theme			

18

There	were	1.5 million admissions	to New South Wales hospitals	in 2003/4.
	Pr: existential	Existent	C. Loc: place – institutional: occupational	C. Loc: time – located: determinate
Subject	Finite	Complement	Adjunct	Adjunct
Mood	Residue			
Topical				
Theme				

19.1

Human error	plays	a significant role	in nearly ¹ 82% of these adverse events
Token	Pr: identifying	Value	C. Loc: place - abstract
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme			

¹Functions as Epithet
in nominal group

19.2

and	error [(that is) associated with failure of cognitive function // e.g. failure to synthesise // and/or act on information]]	is	second	only	after 'failure in technical performance of an indicated procedure'	as the most frequent cause of preventable medical error.
	Carrier	Pr: attributive	Attribute		C. Loc: time – unlocated: indeterminate	C. Role: guise
Adjunct	Subject	Finite	Adjunct	Adjunct	Adjunct	Adjunct
Res ...	Mood	... idue				
Textual	Topical					
Theme						

20

Similar rates of error	have been found	in other Western countries such as the UK, Denmark, Canada and France (Wilson and van der Weyden 2005).	
Value	Pr: identifying	C. Loc: place – physical: geographical	
Subject	Fi.	Pred.	Adjunct
Mood	Residue		
Topical			
Theme			

21

In view of the importance of the development of sound critical thinking skills [for effective professional practice]	it	is	appropriate [[to test the level at which first-year students (<i>who are</i>) in a new graduate medical degree possess such skills]].
C. Angle: viewpoint	Carrier	Pr: attributive	Attribute
Adjunct	Subject	Finite	Attribute
Res ...	Mood	... idue	
Topical (marked)	Topical		
Theme			

Analysis of C. Angle: viewpoint

In view of the importance of the development of sound critical thinking skills [for effective professional practice]
C. Angle: viewpoint (prep phrase = prep + nom. group)
D. Thing
Q. Cause: purpose

Analysis of Attribute

appropriate [[to test	the level	[[at which first-year students (<i>who are</i>)	in a new graduate medical degree]]	possess	such skills]]]].
Attribute	Q. (Clause)				
Pr: material	Scope (nom. group)				
	D. Thing	Q. (Clause)			
	Carrier (nom. group)			Pr: attributive (possessive)	Attribute (possession)
	Cl. Thing	(Pr: attr. circ.)	Attr: (circ. Loc: place – semiotic)		

APPENDIX C5 Bowen (2010) introduction: Transitivity, Themes and Qualifiers:

1

The arrival of some 35,000 Chinese gold miners [to Victoria]	during the 1850s	increased	demand [for fish, [(<i>which was</i>) a Chinese dietary staple]] .
Actor	C. Loc: time - located: determinate	Pr: material	Scope
Subject	Adjunct	Fi.	Pred. Complement
Mood			Residue
Topical			
Theme			

Analysis of Actor

The arrival of some 35,000 Chinese gold miners [to Victoria]	
Actor (nom. group)	
D. Thing	Q. Loc: place – physical: geographical

Analysis of Scope

demand [for fish, [(<i>which was</i>) a Chinese dietary staple]] .	
Scope (nom. group)	
Thing	Q. (Cause: purpose)

2

The majority of these migrants	were	impoverished lower class men [(<i>who were</i>) from the provinces of Guangdong and Fujian and the island of Amoy]].
Value	Pr: identifying	Token
Subject	Finite	Complement
Mood	Residue	
Topical		
Theme		

Analysis of Token

impoverished lower class men [(<i>who were</i>) from the provinces of Guangdong and Fujian and the island of Amoy]].		
Token (nom. group)		
Ep. Ep. Cl. Thing	Q. (Clause)	
Pr: identifying		D.C. Loc: place – physical: geographical

3

In each of these regions	fishing	has	historically	played	a major economic role.
C. Loc: place – physical: geographical	Actor	Pr: mat ...	Loc: time – located: indeterminate	... erial	Scope
Adjunct	Subject	Finite	Adjunct (temporal)	Pred.	Complement
Res ...	Mood		... idue		
Topical (marked)	Topical				
Theme					

4

Many of these Chinese migrants	probably	already	had	commercial fishing experience.	
Carrier	Modal	Loc: time – unlocated: determinate	Pr: attributive (possessive)	Attribute (possession)	
Subject	Adjunct	Adjunct (temporal)	Fi.	Pred.	Complement
Mood				Residue	
Topical					
Theme					

5

[[Given the Chinese cultural preference for a fish-based diet]]	some Chinese people	very successfully	entered	Australia's colonial fishing industry.	
C. Cause: reason	Actor	C. Manner: quality	Pr: mat.	Scope	
Adjunct	Subject	Adjunct	Fi.	Pred.	Complement
Res ...	Mood			... idue	
Topical (marked)					
Theme					

6

At a time [[when most Melbourne and Sydney based European fishermen were earning approximately £50 per year]]	Chinese people [[(who were) working in Australia]]	were earning	that much	every day.	
C. Loc: time – unlocated: determinate	Actor	Pr: material	Scope	C. Extent: frequency	
Adjunct	Subject	Fi.	Pred.	Complement	Adjunct
Res ...	Mood	... due			
Topical (marked)	Topical				
Theme					

Analysis of C. Loc: time – unlocated: determinate

At a time	[[when most Melbourne and Sydney based European fishermen were earning approximately £50 per year]]			
C. Loc: time – unloc: det. (prep phrase = prep + nom. group)				
D. Thing	Q. (Clause)			
Actor	Pr: material	Goal (nom. group)		Thing D.C. Extent: frequency

Analysis of Actor

Chinese people [[(who were) working in Australia]]				
Actor (nom. group)				
Cl.	Thing	Q. (Clause)		
Actor	Pr: material	D.C. Loc: place – physical: geographical		

7.1

During the 1860s,	one Chinese fish dealer	<< >>	earned	over ten times more (<i>money</i>)	[from fish sales	annually]	than both Melbourne's and Sydney's European fish markets [[combined]].
C. Loc: time - loc: det.	Actor		Pr: material	Sc ...	C. Loc: place - abstract	C. Extent: frequency	... ope
Adjunct	Subject		Fi.	Pred.	Complement		
Res...	Mood		... idue				
Topical (marked)	Topical						
Theme							

7.2

<< and	there	were	many >>
		Pr: existential	Existent

8

Chinese participation [in Australia's early commercial fishing industry]	has not received	the same attention [[as that (<i>which was received</i>) in the United States of America (US)]].	
Recipient	Pr: material	Scope	
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme			

Analysis of Recipient

Chinese participation [in Australia's early commercial fishing industry]
Carrier (nom. group)
Cl. Thing Q. Loc: place – historical

Analysis of Scope

the same attention [[as that (<i>which was received</i>) in the United States of America (US)]].
Scope (nom. group)
D. Cl. Thing Q. (Clause)
(Pr: mat.) D.C. Loc: place – physical: geographical

9.1

As	will be shown,
	Pr: verbal

9.2

the Australian example	mirrors	the situation [in the US] [[where Chinese immigrants (<i>who came</i>) to the mid-nineteenth century gold rushes // took up niche economic positions in labour-intensive work areas [such as market gardening and fishing]]].	
Actor	Pr: material	Scope	
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme			

Analysis of Scope

Q. 1 (prep. phrase = prep + nom. group)

the situation [in the US]
Scope (nom. group)
D. Thing Q. Loc: place – physical: geographical

Q. 2 (Clause)

[[where	Chinese immigrants [[(<i>who came</i>) to the mid-nineteenth century gold rushes]]	took up	niche economic positions	[in labour-intensive work areas such as market gardening and fishing].
	Actor	Pr: material	Scope	D.C. Loc: place – abstract: industrial: occupational

Analysis of Actor

Chinese immigrants [[(<i>who came</i>) to the mid-nineteenth century gold rushes]]			
Actor (nom. group)			
Cl.	Thing	Q. (Clause)	
	Actor	Pr: material	D.C. Loc: place - historical

10.1

For approximately twenty years	from the early-1850s	Chinese people [in the US]	caught	
C. Extent: duration	C. Loc: time – located: determinate	Actor	Pr: material	
Adjunct		Subject	Fi.	Pred.
Res...		Mood	... idue	
Topical (marked)		Topical		
Theme				

Analysis of Actor

Chinese people [in the US]
Actor (nom. group)
Cl. Thing Q. Loc: place – physical: geographical

10.2

and	cured	whatever fish [[came into their nets]].	
	Pr: material	Goal	
Adjunct	Fi.	Pred.	Complement
Res...	Mood	... idue	
Textual	Topical		
Theme			

Analysis of Goal

whatever fish [[came into their nets]].
Goal (nom. group)
D. Thing Q. (Clause)
Pr: mat. D.C. Loc: place – physical: locational

11.1

By the 1870s,	specialized [[catching]] and [[curing]] camps	were established	
C. Loc: time – located: indeterminate	Goal	Pr: material	
Adjunct	Subject	Fi.	Pred.
Res ...	Mood	... idue	
Topical (marked)	Topical		
Theme			

11.2

to target	individual fish species [such as sturgeon, herring, flounder, shrimp, abalone and squid].
Pr: material	Goal

12.1

Only a small quantity of Chinese cured fish	was consumed	in the US,
Goal	Pr: material	C. Loc: place – physical. geographical
Subject	Fi. Pred.	Adjunct
Mood	Residue	
Topical		
Theme		

12.2

the majority	going	to market [in China]	in both a dry state [in bags] // and (<i>having been</i>) pickled [in casks].
Goal	Pr: material	C. Loc: place – physical. locational	C. Manner: quality
		Q. Loc: place – physical: geographical	

Analysis of C. Manner: quality

in both a dry state [in bags] // and (<i>having been</i>) pickled in casks .
C. Manner: quality (prep phrase = prep + nom. group)
D Ep Cl Q (Manner: means) // Pr: Material D.C. Manner: means

13

In 1880,	an estimated \$229,858 (US) worth of Chinese cured fish	was exported	from San Francisco to Hong Kong.
C. Loc: time – located: determinate	Goal	Pr: material	C. Loc: place – physical: geographical
Adjunct	Subject	Fi. Pred.	Adjunct
Res ...	Mood	... idue	
Topical (marked)	Topical		
Theme			

14.1

This	was	a substantial amount
Carrier	Pr: attributive	Attribute
Subject	Finite	Complement
Mood	Residue	
Topical		
Theme		

14.2

especially	considering
	Pr: mental

14.3

that	the retail value of all fresh fish [[<i>(that were)</i> sold in the San Francisco fish markets during 1877]]	was	only US\$220,000]].
	Carrier	Pr: attributive	Attribute
Adjunct	Subject	Finite	Complement
Res ...	Mood		... idue
Textual	Topical		
Theme			

Analysis of Carrier

the retail value of all fresh fish [[<i>(that were)</i> sold in the San Francisco fish markets during 1877]]			
Carrier (nom. group)			
D. Cl. Thing	Q. (Clause)		
	Pr: material	D.C. Loc: place – physical: geographical	D.C. Loc: time: located: determinate

15.1

As in Australia,	there	are	documented complaints	in the US	about the methods [[the Chinese used to catch fish]]
C. Manner: comparison		Pr: existential	Existent	C. Loc: place - phys. geo.	C. Matter
Adj. Adjunct	Subject	Fi.	Complement		
Res ...	Mood		... idue		
Topical (marked)	Topical				
Theme					

15.2

though	the validity of these complaints	is	questionable.
	Carrier	Pr: attributive	Attribute
Adjunct	Subject	Finite	Adjunct
Res ...	Mood		... due
Textual	Topical		
Theme			

16.1

Archival and archeological evidence [from America's Chinese fishing history]	correlates	with recent research [from Australia]
Actor	Pr: material	C. Accompaniment: comitative
Subject	Fi.	Pred.
Mood	Residue	
Topical		
Theme		

Analysis of Actor

Archival and archeological evidence [from America's Chinese fishing history]
Actor (nom. group)
Cl. Cl. Thing Q. Loc: place – semiotic

Analysis of C. Accompaniment: comitative

with recent research [from Australia]
C. Accomp: comitative (prep phrase = prep + nom. group)
Ep. Thing Q. Loc: place – physical: geographical

16.2

to suggest	material connections [[that provide an important basis [[for studying Chinese migrations [during the nineteenth century]]]].
Pr: verbal	Verbiage

Analysis of Verbiage

material connections [[that provide an important basis // for studying Chinese migrations [during the nineteenth century].
Verbiage (nom. group)
Cl. Thing Q. (Clause)
Actor Pr: material Scope (nom. group)
D. Ep. Thing Q. (Clause)
Pr: behav. Target (nom. group)
Cl. Thing Q. Loc: time – loc: det.)

17

This article	offers	an overview of Chinese fish-curing operations [in colonial Australia].	
Actor	Pr: material	Scope	
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme	Analysis of Scope an overview of Chinese fish-curing operations [in colonial Australia]. Scope (nom. group) D. Thing Q. Loc: place – historical		

18.1

It	uses	primary documents and field research	
Actor	Pr: mat.	Scope	
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme			

18.2

to supplement	the limited discussion [in Australia's written histories and scholarly works]		
Pr: material	Goal (nom. group)		
	D	Ep	Th Q. Loc: place- semiotic

19

The likely internal structure of Chinese fish-curing establishments [such as ownership, management arrangements and labour requirements]	is examined	along with a range of questions [[<i>that are</i>] concerning the activities of Chinese fish curers [in colonial Australia]]].	
Scope	Pr: Material	C. Accompaniment: comitative	
Subject	Fi.	Pred.	Adjunct
Mood	Residue		
Topical			
Theme			

Analysis of C. Accompaniment: comitative

along with a range of questions [[<i>that are</i>] concerning	the activities of Chinese fish curers [in colonial Australia].		
C. Accompaniment: comitative (prep phrase = prep + nom. group)			
D. Thing	Q. (Clause)		
	Pr: attributive (circ.) ⁷	Attribute	Q. Loc: place – historical

⁷ As per Halliday & Matthiessen, 2004, p.241: 'My story (Carrier) concerns (Process: circumstantial) a poor shepherd boy (Attribute)'.

20.1

Ultimately	it	is	demonstrated
Loc: time – unlocated: indeterminate	Verbiage	Pr: verbal	
Adjunct (temporal)	Subject	Fi.	Pred.
Res ...	Mood		... idue
Topical (marked)	Topical		
Theme			

20.2

that	Chinese people	generated	far greater wealth [from Australia's colonial fishing industry] [than has been previously realised].	
	Actor	Pr: material	Goal	
Adjunct	Subject	Fi.	Pred.	Complement
Res...	Mood		... idue	
Textual	Topical			
Theme				

Analysis of Goal

far greater wealth [from Australia's colonial fishing industry] [[than has been previously realised]].				
Goal (nom. group)				
Ep.	Thing	Q.1 Loc: place – historical: institutional	Q.2 (Clause)	
			Pr: Men ...	Loc: time – unlocated: determinate ... tal
			Adjunct (temporal)	

Appendix C6 Patrick (2011) introduction: Transitivity, Themes and Qualifiers:

1.1

In 1938	the New Zealand Education Department	gave	notice	to its teachers	of a “Centennial Competition” <i>[[that was to be held in 1940]]</i>
C. Loc: time- loc: det.	Actor	Pr: material	Sc ...	Recipient	... ope
Adjunct	Subject	Fi.	Pred.	Complement	
Res ...	Mood	... idue			
Topical (marked)	Topical				
Theme					

Analysis of Scope

notice	to its teachers	of a “Centennial Competition” <i>[[that was to be held in 1940]]</i>
Sc ...	Recipient	... ope (nom. group)
Th ...	... ing	Q. (Clause)
	Goal	Pr: material
		D.C. Loc: time – located: determinate

1.2

to judge	the best ‘regional surveys’ <i>[[that were to be submitted from primary, native, secondary and technical schools [around the country]]]</i> .
Pr: material	Scope (Nom. group)
	D. Ep. Cl. Thing Q. (Clause)
	Scope Pr: material
	D.C. Loc: place – inst: edu. (prep phrase = prep + nom. group)
	Cl. Cl. Cl. Cl. Th Q. Loc: place – physical: geographical

2

By the time <i>[[the competition closed]]</i>	70 schools’ entries	had been received.
C. Loc: time – unlocated: determinate	Scope	Pr: material
Adjunct	Subject	Fi. Pred.
Res ...	Mood	... idue
Topical (marked)	Topical	
Theme		

3

Afterwards,	W.B. Harris, <i>[[who was) a lecturer [at the Christchurch Teachers' Training College,]] and H.C.D. Somerset, <i>[[who was) an expert [in rural education] and the author of the celebrated <i>Littledene, // (which was) a study of a New Zealand rural community]]</i>,</i></i>	reflected upon	some of the competition's results.
	Senser	Pr: mental	Phenomenon
Adjunct	Subject	Fi.	Pred. Complement
Res ...	Mood	... idue	
Topical (marked)	Topical		
Theme			

Analysis of Senser

W.B. Harris, <i>[[who was) a lecturer at the Christchurch Teachers' Training College]],</i>			
Sen ... (nom. group)			
Th	Q. (Clause)		
	Carrier	Pr: attributive	Attribute (nom. group)
			D. Thing D.C. Loc: place – institutional: educational



and H.C.D. Somerset <i>[[who was) an expert in rural education and the author of the celebrated <i>Littledene, // (which was) a study of a New Zealand rural community]]</i>,</i>			
... ser (nom. group)			
Th	Q. (Clause)		
	Carrier	Pr: attr.	Attri ... D.C. Loc: place – abstract ... bute

4.1

In some areas of the country,	they	reported,
C. Loc: place – physical: geographical	Sayer	Pr: verbal
Adjunct	Subject	Fi. Pred.
Res ...	Mood	... idue
Topical (marked)	Topical	
Theme		

4.2

the competition	had prompted	participating schools	to document	the local histories of their districts	for the first time.
Initiator	Pr: material	Goal	Pr: material	Goal	Loc: time – unlocated: determinate
Subject	Fi.	Pred.	Complement		Adjunct (temporal)
Mood	Residue				
Topical					
Theme					

5.1

The pupils of the Kairakau Primary School,	in the Chatham Islands,	for instance	had collected	stories [about the Moriori, Maori and Pakeha habitation of their islands],
Actor	C. Loc: place – phys. geo.		Pr: material	Scope
Subject	Adjunct		Fi.	Pred.
Mood				Residue
Topical				
Theme				

Analysis of Scope

stories [about the Moriori, Maori and Pakeha habitation of their islands],
Scope (nom. group)
Thing Q. Matter

5.2

(and had been) circulating	them	among the local community	for verification.
Pr: material	Goal	C. Loc: place – sociological	C. Cause: purpose

6.1

Kairakau School	<< >>	was	'the centre of a community [[which had suddenly become history-conscious]].
Token		Pr: identifying	Value
Subject		Finite	Complement
Mo ...		... od	Residue
Topical			
Theme			

Analysis of Value

'the centre of a community [[which had suddenly become history-conscious].				
Value (nom. group)				
D Focus D Thing Q. (Clause)				
Carrier	Pr: att ...	D.C. Manner: quality	...ributive	Attribute

6.2

<< Harris and Somerset	wrote >>
Sayer	Pr: verbal

7.1

While	the 1940 Centennial	formed	the immediate impetus
	Actor	Pr: material	Goal
Adjunct	Subject	Fi.	Pred.
Res ...	Mood	... idue	
Textual	Topical		
Theme			

7.2

for	the pupils of Kairakau and other schools	to research	their local history
	Actor	Pr: material	Scope

7.3

—and	(it)	prompted	considerable official and public effort towards [[putting New Zealand's past on permanent record]] —
	(Actor)	Pr: material	Value

Analysis of Value

considerable official and public effort towards		[[putting		New Zealand's past		on permanent record]]	
Value (nom. group)							
Ep.	Cl.	Cl.	Th.	Q. (Clause)			
		Pr: material		Scope		D.C. Loc: place - semiotic	

7.4

the undertaking of local history research [by primary school children]	had	educational precedents.
Carrier: possessor	Pr: attributive (possessive)	Attribute: possession
Subject	Finite	Complement
Mood	Residue	
Topical		
Theme		

8

[[Situating the history-making efforts of the schools [[who contributed work to the Centennial competition]] alongside earlier educational initiatives [[to promote local history research [by primary school children]]]]]		highlights	the significance of the local	within the pedagogy [of the early twentieth century New Education movement].
Actor		Pr: material		Scope
Subject		Fi.	Pred..	Complement
Mood		Residue		
Topical				
Theme				

Analysis of Actor

Situating	the history-making efforts of the schools [[who contributed work to the Centennial competition]]	alongside earlier educational initiatives [[to promote local history research by primary school children]]
Actor (Clause)		
Pr: material	Scope	D.C. Accompaniment: comitative

9.1

History	was	a component of a school system [[that was both imperial and national in orientation]],
Token	Pr: identifying	Value
Subject	Finite	Complement
Mood		Residue
Topical		
Theme		

Analysis of Value

a component of a school system [[that was both imperial and national [in orientation]]],				
Attribute (nom. group)				
D. Thing		Q. (Clause)		
	Carrier	Pr: attributive	Attribute	Q. Manner: quality

9.2

and	the national primary curriculum and textbooks	performed	many functions [[that can be seen as [[legitimising colonial authority]]]].	
Actor		Pr: material		Scope
Subject		Fi.	Pred..	Complement
Mood		Residue		
Textual				
Topical				
Theme				

10.1

However,	local histories [[<i>that are</i> produced by schools]]	<< >>	also	need to be understood	in the context of a set of imported pedagogical theories and educational practices [[that had less to do with a colonial context than// (<i>it had</i>) with the aim of [[developing particular qualities and capacities in children through the medium of locally based lessons]]]].
	Phenomenon			Pr: mental	C. Loc: place - abstract
Adjunct	Subject		Adjunct	Fi.	Pred.
Res ...	Mo ...		... od		... idue
Textual	Topical				
Theme					

Analysis of C. Loc: place - abstract

in the context of a set of imported pedagogical theories and educational practices	[[that had less to do with a colonial context than// (<i>it had</i>) with the aim of [[developing particular qualities and capacities in children through the medium of locally based lessons]].
C. Loc: place – abstract (prep phrase = prep + nom. group)	
D. Thing	Q. (Clause)

Analysis of Q. (Clause)

that	had	less to do with a colonial context]
	Pr: attributive	Attribute D.C. Accompaniment: comitative

than	(<i>it had</i>)	with the aim [[of developing particular qualities and capacities [in children]	through the medium of locally* based lessons.
	Ca. (<i>Pr: attr.</i>)	D.C. Accompaniment: comitative	
		D. Th Q. (Clause)	
		Pr: mat.	Goal (nom. group)
		Ep. Thing	D.C. Loc: place - people
			D.C. Manner: means * D.C. (Loc: place – physical: general)

10.2

<< this article	contends >>
Sayer	Pr: verbal

11

Recently	several historians	have attempted to shift	the context of the historical debate [over the connections between knowledge and colonialism in New Zealand]		from one [[<i>that is</i>] almost exclusively devoted //to examining the 'textual outputs' of colonial knowledge]].
C. Loc: time – loc: indet.	Actor	Pr: material	Goal		C. Loc: place - abstract
Adjunct (temporal)	Subject	Fi.	Pred.	Complement	Adjunct
Res ...	Mood	... idue			
Textual	Topical				
Theme					

Analysis of Goal

the context of the historical debate	[over the connections between knowledge and colonialism in New Zealand]
Goal (nom. group)	
D. Thing	Q. Matter (prep phrase = prep + nom. group)
	D. Thing Q. (Loc: place – abstract) (prep phrase = prep + nom. group)
	Thing Thing Q. (Loc: place – physical: geographical)

Analysis of C. Loc: place - abstract

from one	[[<i>that is</i>]	almost exclusively	devoted to	[[examining the 'textual outputs' of colonial knowledge]]]].
C. Loc: place – abstract (prep phrase = prep + nom. group)					
Th	Q. (Clause)				
	Beh'r.	Pr: Beh ...	D.C. Manner: quality	... avioural	Target

12.1

Instead,	they	argue,
	Sayer	Pr: verbal
Adjunct	Subject	Fi. | Pred.
Res ...	Mood	... idue
Topical	Topical	
Theme		

12.2

scholars	need to recognize	the importance of the institutional foundations of intellectual life [in the shaping of colonial knowledge] and of the sets of processes and practices [[that governed knowledge's production and reception]].	
Senser	Pr: mental	Phenomenon	
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme			

Analysis of Phenomenon

the importance of the institutional foundations of intellectual life [in the shaping of colonial knowledge] and of the sets of processes and practices [[that governed knowledge's production and reception]].	
Phenomenon (nom. group)	
D. Thing	Q. Loc: place - abstract

13.1

In this piece	I	extend	this critique	to the domain of education,
C. Loc: place - semiotic	Behaver	Pr: behavioural	Behaviour	C. Loc: place – abstract: institutional
Adjunct	Subject	Fi.	Pred.	Complement | Adjunct
Res ...	Mood	... idue		
Topical (marked)	Topical			
Theme				

13.2

(and)	specifically	(I	extend	it)	(to) history education.
		(Behaver	Pr: behavioural	Behaviour)	C. Loc: place - abstract

14.1

New Zealand historians	have	(for) long	been	attentive (<i>with respect</i>) to the potential power of schooling << >> [in the work of cultural transmission, such as in [[instilling imperial ideologies]]].
Carrier	Pr: attr...	C. Extent: duration	...ributive	Attribute
Subject	Finite	Adjunct	Pred.	Adjunct
Mood	Residue			
Topical				
Theme				

Analysis of Attribute

attentive (<i>with respect</i>) to the potential power of schooling << >> [in the work of cultural transmission, such as in [[instilling imperial ideologies]]].
Attribute Q. Matter (prep phrase = prep + nom. group)
D. Cl. Thing << >> Q. Loc: place – abstract

14.2

<< —(that is	they have	for long	been)	particularly	(attentive	with respect to) the compulsory state primary school system-- >>
	(Pr: attr ...	C. Extent: duration	... butive)	C. Manner: Quality (Attribute)	C. Matter	

15.1

However,	despite several decades of scholarly interest [in the role of knowledge in [[furthering colonization// that followed Peter Gibbons' influential theorizations of 'cultural colonization']]],	this avenue of investigation	has	yet	to be taken up	by historians of education	in this country,
	C. Contingency: concession	Scope	Pr: material			Actor	C. Loc: place – phys: geo.
Adjunct	Adjunct	Subject	Fi.	Adj.	Pred.	Complement	
Res ...	Mood		... idue				
Textual	Topical (marked)	Topical					
Theme							

Analysis of C. Contingency: concession

despite several decades of scholarly interest [in the role of knowledge in [[furthering colonization// that followed Peter Gibbons' influential theorizations of 'cultural colonization']]],
C. Contingency: concession (prep phrase = prep + nom. group)
Cl. Thing Q. (prep phrase = prep + nom. group)
Ep. Thing Q. Loc: place - abstract

15.2

although	Gibbons himself	signaled	the possibilities [for further research in this area].	
	Actor	Pr: material	Scope	
Adjunct	Subject	Fi	Pred	Complement
Res ...	Mood	... idue		
Textual	Topical			
Theme				

Analysis of Scope

the possibilities [for further research in this area]			
Scope (nom. group)			
D. Thing	Q. Cause: purpose (prep phrase = prep + nom. group)		
	Cl. Thing	Q. Loc: place – semiotic	

16.1

While	a body of scholarly writing [(that is) engaging with Gibbons' work]	has appeared	over the past few decades,	
	Scope	Pr: material	C. Extent: duration	
Adjunct	Subject	Fi.	Pred.	Adjunct
Res ...	Mood	... idue		
Textual	Topical			
Theme				

Analysis of Scope

a body of scholarly writing [(that is) engaging with Gibbons' work]			
Scope (nom. group)			
D Thing	Q. (Clause)		
	Actor	Pr: material	D.C. Accompaniment: comitative

16.2

critiques of the approach [(that was) taken by Gibbons and historians// (who were) influenced by his ideas]	have	also	begun to surface.	
Value	Pr: id ...	.....	... entifying	
Subject	Fi.	Adjunct	Pred.	
Mood				Residue
Topical				
Theme				

17.1

Chris Hilliard	first	pointed to	some of the limitations [of the cultural colonization approach]	in 2002,
Behaver	Loc: time – located: indeterminate	Pr: verbal	Verbiage	C. Loc: time- located: determinate
Subject	Adjunct (temporal)	Fi.	Pred.	Complement
Mo ...	Res...	... od	Residue	
Topical				
Theme				

17.2

(and	he	was) arguing
	(Sayer)	Pr: verbal

17.3

that	'while	hardly anything [in New Zealand]	is unconnected	with colonization
		Carrier	Pr: attributive (circ.)	Attribute (circ. Accompaniment: comitative)
Adjunct	Adjunct	Subject	Fi.	Pred.
Res ...		Mood	... idue	
Textual	Textual	Topical		
Theme				

Analysis of Token

hardly anything [in New Zealand]
Token (nom. group)
Ep. Thing Q. Loc: place – physical: geographical

17.4

not everything	is	adequately	explained	by its colonial entanglements.'
Verbiage	Pr: ver ...	C. Manner: quality	... bal	Sayer
Subject	Fi.	Adjunct	Pred.	Complement
Mood		Residue		
Topical				
Theme				

18.1

In two recent articles	Tony Ballantyne	has criticized	the tendency of historians of colonialism [in New Zealand] [[to concentrate on the products of the textual exchanges of a small national intellectual elite]]
C. Loc: place – semiotic	Behaver	Pr: behavioural	Target
Adjunct	Subject	Fi. Pred.	Complement
Res ...	Mood	... idue	
Topical (marked)	Topical		
Theme			

Analysis of Target

the tendency [of historians of colonialism [in New Zealand]]	[[to concentrate [on the products [of the textual exchanges [of a small national intellectual elite]]]]]
Target (nom. group)	
D Thing Q.1 (prep ph.) Q.2 (prep ph.) Q.3 Loc: place – phys: geo. Q. 4: (Clause)	
Pr: behavioural D.C. Loc: place - semiotic	

18.2

□□□ (they □□	are) □□□□□□ □□	□□□□ vast amount of everyday interactions and knowledge practices [[that went on ‘under’ the nation, // (and that) centred on ‘specific institutions and sites’]]
(Senser)	Pr: mental	Phenomenon (nom. group)
D Ep Th		Q. (Clause)
Actor	Pr: mat.	D.C. Loc: place - abstract
	Pr: mat.	D.C. Loc: place - abstract

19

This article	examines	how [[a nationally controlled state school system [[(that was) deriving its institutional frameworks and practices from British patterns]] interacted with a set of imported pedagogical theories [[which prioritized local knowledge // and (which) were then translated into local level teaching practices in primary schools]]].
Actor	Pr: material	Scope
Subject	Fi. Pred.	
Mood	Residue	
Topical		
Theme		

Analysis of Scope

how [[a nationally controlled state school system [[(that was) deriving its institutional frameworks and practices from British patterns]] interacted with a set of imported pedagogical theories [[which prioritized local knowledge// and (which) were then translated into local level teaching practices in primary schools]]].
Scope (Clause)

how	a nationally controlled state school system	[[that was) deriving its institutional frameworks and practices	from British patterns]]		
	Actor (nom. group)				
	D. Cl.	Cl. Thing	Q. (Clause		
		Actor	Pr: material	Goal	D.C. Loc: place – semiotic

interacted	with a set of imported pedagogical theories	[[which prioritized local knowledge
Pr: material	D.C. Accomp: comitative	

and	(which)	were then translated	into local level teaching practices [in primary schools]]].
	Goal	Pr: material	D.C. Role: product (prep phrase = prep + nom. group)
		Ep.	Cl. Thing Q. (Loc: place – physical. locational)

20

A 'top-down' and textually focused approach <i>[[that is] similar to that <i>[[which was) criticized by Ballantyne in relation to histories of colonialism]]]]</i> has also characterized histories of history [in New Zealand education].</i>				
Value		Pr: identifying		Token
Subject		Fi.	Adjunct	Pred.
Mood		Residue		
Topical				
Theme				

Analysis of Value

A 'top-down' and textually focused approach <i>[[that is] similar to that <i>[[which was) criticized by Ballantyne in relation to histories of colonialism]]]]</i></i>				
Value (nom. group)				
D. Ep.	Ep.	Thing	Q. (Clause)	
		Carrier	Pr: attributive	Attribute
			Q. (Clause)	
		Pr: Behav.	Behavior	D.C. Matter

Analysis of Token

histories of history [in New Zealand education].		
Scope (nom. group)		
Focus	Thing	Q. Loc: place – abstract

21

There	has been	an overwhelming focus [on educational content <i>[[that is] usually in the form of nationally produced textbooks and curriculum topics, to the exclusion of pedagogy and educational practice]]]</i> .		
		Pr: exist.	Existent	
Subject	Fi.	Pred.	Complement	
Mood		Residue		
Topical				
Theme				

Analysis of Existent

an overwhelming focus [on educational content] <i>[[that is] usually in the form of nationally produced textbooks and curriculum topics, to the exclusion of pedagogy and educational practice.]]]</i>				
Existent (nom. group)				
D. Ep.	Thing	Q. Loc: place - abstract (prep phrase = prep + nom. group)		
		Cl.	Thing	Q. (Clause)
		(Token	Pr: ident.	D.C. Manner: quality
				D.C. Role: guise

22.1

In general,	while	textbooks	loom	large	in the historiography of history education,
		Carrier	Pr: attributive	Attribute	C. Loc: place - semiotic
C. Manner: degree	Adjunct	Subject	Fi.	Pred.	Adjunct
Res ...		Mood	... idue		
Topical (marked)	Textual	Topical			
Theme					

22.2

historians of education	have failed to interrogate	the limitations of textbooks	as sources of information [on [[what history education was 'like' in the past]]]:
Behaver	Pr: behavioural	Scope	C. Role: guise
Subject	Fi.	Pred.	Complement
Mood	Residue		
Topical			
Theme			

Analysis of C. Role: guise

as sources of information on what [[history education was 'like' in the past]]:			
C. Role: guise (prep phrase = prep + nom. group)			
Thing Q. Matter (prep phrase = prep + nom. group)			
Thing Q. (Clause)			
Carrier	Pr: attributive	Attribute	D.C. Loc: time – located: indeterminate

22.3

by	asking,
	Pr: verbal

22.4

for instance	how	textbooks	might have	actually	been used	in classrooms,
		Goal	Pr: mat....	C. Manner: quality	...erial	C. Loc: place – physical: locational
Adjunct	Adjunct	Subject	Modal /Fi.	Adjunct	Predicator	Adjunct
Res ...		Mood	... idue			
Topical						
Theme						

22.5

what	their intended pedagogical outcomes	were
	Token	Pr: identifying
Subject	Complement	Finite
Mo ...	Residue	... od
Textual	Topical	
Theme		

22.6

and	what other strategies	teachers	might have employed	alongside or instead of textbooks	
	Goal	Actor	Pr: material	C. Accompaniment: comitative	
Adjunct	Complement	Subject	Modal /Fi.	Pred.	Adjunct
Res ...	Mood		... idue		
Textual	Topical	Topical			
Theme					

22.7

[[to convey	historical content or skills	to their pupils]].
Pr: material	Scope	Recipient

23

The observations of Peter Taylor and Julian Thomas	in relation to the historiography of history education [in Australia]	also	apply	to New Zealand.	
Scope	C. Matter		Pr: material	C. Loc: place - phys: geo.	
Subject	Adjunct	Adjunct	Fi.	Pred.	Adjunct
Mo ...	Res ...		... od	... idue	
Topical					
Theme					

Analysis of C. Matter

in relation to the historiography of history education [in Australia]
C. Matter (prep phrase = prep + nom. group)
D Th. Q. Loc: place – physical: geographical

24.1

Taylor and Thomas	contend
Sayer	Pr: verbal

24.2

that	Australian studies of history education	have been preoccupied with identifying	the political ideologies [(that are) contained in history lessons]
	Actor	Pr: material	Scope
Adjunct	Subject	Finite	Predicator
Res ...	Mood	... idue	
Textual	Topical		
Theme			

Analysis of Scope

the political ideologies [(that are) contained in history lessons]			
Scope (nom. group)			
D. Cl.	Thing	Q. (Clause)	
	Attribute	Pr: attributive	D.C. Loc: place - semiotic

24.3

—often	(they were) condemning	such lessons	as ‘unnecessarily or falsely’ ideological—
C. Extent: frequency	Attributor	Pr: attributive	Carrier
			Manner: quality
			Manner: quality
			Attribute

24.4

while	(they were) ‘ignoring’	the ways [[in which the actual teaching of a course of study over time might have been less //about producing political ideas // or passing on a discrete quota of historical knowledge // than (it might have been) about producing “kinds of persons” with particular skills and capacities’. ⁸]]
	Senser	Pr: mental
		Phenomenon

Analysis of Phenomenon

the ways	[[in which the actual teaching of a course of study [over time] might have been less about [[producing political ideas] or [[passing on a discrete quota of historical knowledge]] than// (it might have been) about [[producing “kinds of persons” with particular skills and capacities’. ⁸]]		
Phenomenon (nom. group)			
D. Thing	Q. (Clause)		
in which	the actual teaching of a course of study	over time	might have been
			less [about [[producing political ideas or//passing on a discrete quality of historical knowledge// than (it might have been) about producing “kinds of persons [with particular skills and capacities”]]].
	Carrier (nom. group)		Pr: attr.
	D. Ep. Th	D.C. Extent: duration	Attribute (Thing)
			Thing Q. (Matter = prep + Clause)
			producing political ideas or [[passing on a discrete quality of historical knowledge]] than (it might have been) about producing “kinds of persons [with particular skills and capacities”]].
			Clause
			Q. Accompaniment: comitative

25.1

In this spirit	I	aim to return	history textbooks	to their proper place [in early twentieth-century classrooms]
C. Manner: quality	Actor	Pr: material	Goal	C. Loc: place – abstract
Adjunct	Subject	Fi.	Pred.	Complement
Res ...	Mood	... idue		
Topical (marked)	Topical			
Theme				

Analysis of C. Loc: place - abstract

to their proper place [in early twentieth-century classrooms]
C. Loc: place – abstract (prep phrase = prep + nom. group)
D. Ep. Th. Q. Loc: place – historical

25.2

by	considering	their rise and fall	[relative to other methodologies [[for transferring historical knowledge and capacities to schoolchildren]]] .
	Pr: mental	Phenomenon (nom. group)	
		D. Thing	Thing Q. Matter

APPENDIX D Analyses of content, linguistic and contextual resources

APPENDIX D1 Brooks, Basore & Bernhard (2013) introduction: content, linguistic and contextual resources

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION	
	Cl			Rk	
Intro. to topic	1	Human energy consumption <u>has been rising</u> for decades .	Material clause; Pr: present perfect continuous Topical Theme: Appraisal for decades gr/force/quantify/process/extent/distance/ time	1a	C. Extent: duration
	2	The resulting economic conditions and the environmental consequences [of this growth] will provide an opportunity for renewable energy applications [[to thrive]] .	Material clause, Pr: future Topical Theme: Actor Appraisal thrive Manner Pr; grow abundantly ; flag	2a 3b	Q. Cause purpose Q. Scope Manner Pr.
	3	Many direct and indirect solar power conversational schemes <u>are</u> currently the subject of intense research	Identifying clause, Pr: present Topical Theme: Value Appraisal Many gr/force/quantify/thing currently gr/force/quantify/process/extent/scope/space	5	Temporal Adjunct (Loc: time – loc: indet.)
	4	since they <u>promise</u> abundant energy [[that could potentially supplement// or replace coal or petroleum on a massive scale]].	Material clause, Pr: present Topical Theme: Actor Modality could med. probability Appraisal abundant gr/force/quantify/thing potentially gr/focus/fulfil/actualisation massive gr/force/quantify/thing	1b	D.C. Manner: degree emb. in Q. of Scope

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION							
	CI			Rk							
Intro. to topic (cont.)	5.1	Consequently, [[storing photon energy [as chemical potential in solid fuels]] is of particular interest	Attributive clause; Pr: present Textual Theme: conjunctive; Topical Theme: Carrier Appraisal <table border="1"> <tr> <td>potential</td> <td>appreciation +; inscribe</td> </tr> <tr> <td><i>in solid fuels</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>particular</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	potential	appreciation +; inscribe	<i>in solid fuels</i>	gr/force/quantify/process/extent/scope/space	<i>particular</i>	gr/focus/valeur/specificity	2a 2b	Q. Role: guise Q. Carrier Q. Loc: place phys: chem Q. Role: guise
	potential	appreciation +; inscribe									
	<i>in solid fuels</i>	gr/force/quantify/process/extent/scope/space									
	<i>particular</i>	gr/focus/valeur/specificity									
	5.2	for replacing hydrocarbons for mobile applications.		1a	C. Cause: purpose						
6	This approach <u>alleviates</u> the complications [[<i>(that are)</i> created by the seasonal and diurnal fluctuations// <i>(that are)</i> commonly observed in solar energy conversion systems]].	Material clause; Pr: simple present Topical Theme: Actor Appraisal <table border="1"> <tr> <td>commonly</td> <td>gr/force/quantify/process/frequency</td> </tr> <tr> <td><i>in solar energy conversion systems</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	commonly	gr/force/quantify/process/frequency	<i>in solar energy conversion systems</i>	gr/force/quantify/process/extent/scope/space	1b 1b	D.C. Manner: quality emb. Q. Goal D.C. Loc: place: abstract emb. Q. Goal			
commonly	gr/force/quantify/process/frequency										
<i>in solar energy conversion systems</i>	gr/force/quantify/process/extent/scope/space										
7.1	Unlike photovoltaic energy , solar fuels <u>are</u> independent [of the electrical grid]	Attributive clause; Pr: present Marked Theme (comparison); Topical Theme: Carrier	1a	C. Manner: comparison							
7.2	<u>allowing them to be stored</u>	Material clause; Pr: non-finite									
7.3	and (<i>allowing them to be</i>) transported easily as a mobile fuel.	Material clause; Pr: non-finite (<i>ellipsed</i>) Appraisal <table border="1"> <tr> <td>easily</td> <td>gr/force/intensify/process</td> </tr> </table>	easily	gr/force/intensify/process	1a 1a	C. Manner: quality C. Role: guise					
easily	gr/force/intensify/process										
Development Sub-phase 1	8	Specifically, H ² is often identified as a promising candidate	Material clause; Pr: present Textual Theme – conjunctive; Topical Theme: Appraisal <table border="1"> <tr> <td><i>specifically</i></td> <td>gr/force/valeur/specificity</td> </tr> <tr> <td>often</td> <td>gr/force/quantify/process/frequency</td> </tr> <tr> <td>promising</td> <td>appreciation: high +; inscribe</td> </tr> </table>	<i>specifically</i>	gr/force/valeur/specificity	often	gr/force/quantify/process/frequency	promising	appreciation: high +; inscribe	1a 1a	C. Extent: frequency C. Role: guise
	<i>specifically</i>	gr/force/valeur/specificity									
	often	gr/force/quantify/process/frequency									
promising	appreciation: high +; inscribe										
9	but storage requirements partially offset the high gravimetric densities [[<i>(that are)</i> desired for transportation applications]].	Material clause, Pr: simple present Textual Theme: conjunctive; Topical Theme: Actor Appraisal <table border="1"> <tr> <td>high</td> <td>gr/force/quantify/thing</td> </tr> </table>	high	gr/force/quantify/thing	1a 1b	C. Manner: degree D.C. Cause: purpose emb. Q. Scope					
high	gr/force/quantify/thing										
10.1	To illustrate,	Verbal clause, Pr: non-finite									

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION						
	CI			Rk						
Development Sub-phase 1 (cont.)	10.2	gaseous H ₂ has a 39.4kWh/kg theoretical specific energy density	Attributive (possessive) clause; Pr: simple present Topical Theme: Carrier							
	11.1	but a safe, 700 bar tank system [for mobile H² use] has a theoretical specific energy density of 1.89 kWh/kg,	Attributive clause, Pr: simple present Topical Theme: Carrier Appraisal <table border="1"><tr><td>safe</td><td>appreciation: high +; inscribe</td></tr></table>	safe	appreciation: high +; inscribe	2a	Q. Cause: purpose Q. Carrier			
safe	appreciation: high +; inscribe									
Sub-phase 2	11.2	[[which further drops because of losses [from compression and fuel cell mass]]].	Material clause, Pr: simple present Topical Theme: Actor Appraisal <table border="1"><tr><td>further</td><td>gr/force/intensify/process</td></tr><tr><td>from compression and fuel cell mass</td><td>gr/force/quantify/process/extent/ scope/space</td></tr></table>	further	gr/force/intensify/process	from compression and fuel cell mass	gr/force/quantify/process/extent/ scope/space	1a 2a	C. Cause: reason Q. Loc: place – abstract Q. Cause: reason	
	further	gr/force/intensify/process								
	from compression and fuel cell mass	gr/force/quantify/process/extent/ scope/space								
	12	Metals are an often -overlooked alternative to energy-dense liquid and gaseous solar fuels.	Attributive clause; Pr: present Topical Theme: Carrier Appraisal <table border="1"><tr><td>often</td><td>gr/force/quantify/process/frequency</td></tr></table>	often	gr/force/quantify/process/frequency	2c	Extent: frequency (Epithet in nom. gp in Attribute)			
	often	gr/force/quantify/process/frequency								
13	Despite this oversight zinc and aluminium are well suited for this application	Attributive clause, Pr: present Marked Theme (concessional); Topical Theme: Carrier Appraisal <table border="1"><tr><td>oversight</td><td>appreciation: low –; inscribe</td></tr><tr><td>well</td><td>gr/force/intensify/attribute</td></tr><tr><td>suited</td><td>appreciation: high +; inscribe</td></tr></table>	oversight	appreciation: low –; inscribe	well	gr/force/intensify/attribute	suited	appreciation: high +; inscribe	1a 1a	C. Contingency: conc. C. Cause: purpose
oversight	appreciation: low –; inscribe									
well	gr/force/intensify/attribute									
suited	appreciation: high +; inscribe									
14	because they can utilize [[established]] Zn/air and Al/air batteries [[which are efficient, lightweight// and consume only these reactive metals and air]].	Material clause, Pr: modalised (medium probability) Topical Theme: Actor Appraisal <table border="1"><tr><td>efficient</td><td>appreciation: high +; inscribe</td></tr><tr><td>lightweight</td><td>appreciation: high + inscribe</td></tr><tr><td>only</td><td>gr/force/quantify/thing</td></tr></table>	efficient	appreciation: high +; inscribe	lightweight	appreciation: high + inscribe	only	gr/force/quantify/thing		
efficient	appreciation: high +; inscribe									
lightweight	appreciation: high + inscribe									
only	gr/force/quantify/thing									
15.1	The very negative reduction potential of Al renders it an extremely efficient candidate for energy storage ,	Attributive clause, Pr: simple present Topical Theme: Attributor Appraisal <table border="1"><tr><td>extremely</td><td>gr/force/intensify/attribute</td></tr><tr><td>efficient</td><td>appreciation: high +; inscribe</td></tr></table>	extremely	gr/force/intensify/attribute	efficient	appreciation: high +; inscribe	1a	Q. Cause: purpose		
extremely	gr/force/intensify/attribute									
efficient	appreciation: high +; inscribe									

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION	
	CI			Rk	
Development Sub-phase 2 (cont.)	15.2	but its reactivity will greatly complicate the photocatalytic production [of this metal].	Material clause, Pr: future Topical Theme: Actor Appraisal greatly gr/force/intensify/process	1a	C. Manner: degree
	16	Consequently zinc is a more appealing prospect for a fuel cycle [(that is) involving a mechanically rechargeable metal/air battery// (that is) employing the relevant electrode reactions// (that are) shown in Scheme 1]] .	Identifying clause, Pr: present Topical Theme: Token Appraisal more gr/force/intensify/attribute appealing appreciation: high +; inscribe in Scheme 1 gr/force/quantify/process/extent/scope/space	1a 1b 1b	C. Cause: purpose D.C. Manner: means D.C. Loc: place: semiotic emb. Q. Cause: purpose
Sub-phase 3	17.1	Neglecting the mass of the O ² oxidant,	Material clause, Pr: non-finite		
	17.2	zinc has a theoretical specific energy density of 1.35 kWh/kg. ⁸	Attributive (possessive) clause, Pr: present Topical Theme: Carrier		
	18	Without the need for compression only the battery is used for storage ,	Material clause; Pr: passive simple present Marked Theme (comitative); Topical Theme: Goal Appraisal need appreciation: high -; inscribe only gr/force/quantify/thing	1a 1a	C. Accomp: comitative C. Cause: purpose
Sub-phase 4	19	which lowers the practical specific energy density just slightly to 1.084 kWh/kg .	Material clause, Pr: simple present Topical Theme: Actor Appraisal just slightly gr/force/intensify/process	1a 1a	C. Manner: degree C. Extent: distance
	20	The lightweight and remarkable 98% coulombic discharge efficiencies of the Zn/air battery exemplify the great potential of zinc as a transportable, abundant solar fuel .	Identifying clause; Pr: simple present Topical Theme: Token Appraisal remarkable appreciation: high +; inscribe exemplify Manner Pr; show excellently; flag great gr/force/quantify/thing; inscribe potential appreciation: high +; inscribe abundant gr/force/quantify/thing	3a 1a	Manner Pr. C. Role: guise

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION	
	CI			Rk	
Research space Sub-phase 1	21.1	To make use of zinc [as a renewable solar fuel]	Material clause, Pr: non-finite	2a	Q. Role: guise
	21.2	Zn ²⁺ [[(that is) oxidised in the battery]] must be reduced back to Zn ⁰ by light.	Material clause, Pr: passive, modal (high obligation) Topical Theme: Goal Appraisal <i>in the battery</i> gr/force/quantify/process/extent/scope/space	1b 1a	D.C. Loc: place phys: gen emb. Q. Goal C. Role: product
Sub-phase 2	22	Also a complementary reaction [[that oxidises hydroxide ions to oxygen]] has to be driven by photons concomitantly.	Material clause, Pr: passive, modal (high obligation) Topical Theme: Goal Appraisal <i>driven</i> Manner Pr; impel powerfully; flag	1b 3a 5	D.C. Role: product emb. Q. Goal Manner Pr. Temporal Adjunct (Loc: time – unloc: det.)
	23	A robust and efficient photosensitizer (PS) [[(that is) responsible for the initial absorption of a photon]] is critical for such a scheme.	Attributive clause, Pr: present Topical Theme: Carrier Appraisal <i>robust</i> appreciation: high +; inscribe <i>efficient</i> appreciation: high +; inscribe <i>critical</i> appreciation: high +; inscribe <i>such a</i> gr/force/quantify/thing (imply)	1b 1a	D.C. Cause: purpose emb. Q. Carrier C. Cause: purpose
	24.1	Photo-induced electron transfer reactions will subsequently drive OH ⁻ oxidation and Zn ²⁺ reduction processes	Material clause, Pr: future Topical Theme: Actor Appraisal <i>drive</i> Manner Pr; impel powerfully; flag	5 3a	Temporal Adjunct (Loc: time: unloc: indet.) Manner Pr.
	24.2	and thereby (they will) reverse the redox chemistry [[(that is) responsible for driving the Zn/air cell]].	Material clause, Pr: future (ellipsed) Topical Theme: Actor (ellipsed) Appraisal <i>driving</i> Manner Pr; impelling powerfully; flag	3b	Manner Pr.

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION											
	CI			Rk											
Research space (cont.) Sub-phase 3	25	Iridium complexes stand out as PSs because of their remarkable photophysical properties such as long lifetimes and photochemical robustness.	Behavioural clause, Pr: simple present Topical Theme: Behavior Appraisal <table border="1"> <tr> <td><i>stand out</i></td> <td>Manner Pr; show up strongly; flag</td> </tr> <tr> <td><i>remarkable</i></td> <td>appreciation: high +; inscribe</td> </tr> <tr> <td><i>such as</i></td> <td>gr/force/quantify/thing (imply)</td> </tr> <tr> <td><i>long</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>robustness</i></td> <td>appreciation: high +; inscribe</td> </tr> </table>	<i>stand out</i>	Manner Pr; show up strongly; flag	<i>remarkable</i>	appreciation: high +; inscribe	<i>such as</i>	gr/force/quantify/thing (imply)	<i>long</i>	gr/force/quantify/thing	<i>robustness</i>	appreciation: high +; inscribe	3a 1a 1a	Manner Pr. C. Role: guise C. Cause: reason
	<i>stand out</i>	Manner Pr; show up strongly; flag													
<i>remarkable</i>	appreciation: high +; inscribe														
<i>such as</i>	gr/force/quantify/thing (imply)														
<i>long</i>	gr/force/quantify/thing														
<i>robustness</i>	appreciation: high +; inscribe														
Sub-phase 4	26.1	Furthermore, the highest occupied molecular orbital (HOMO) and the lowest unoccupied molecular orbital (LUMO) of cyclometalated iridium complexes <u>can be tuned independently</u> by modification of separate ligands	Material clause, Pr: modalised (medium probability) Topical Theme: Goal Appraisal <table border="1"> <tr> <td><i>highest</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>lowest</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>highest</i>	gr/force/quantify/thing	<i>lowest</i>	gr/force/quantify/thing	1a	C. Manner: quality						
	<i>highest</i>	gr/force/quantify/thing													
	<i>lowest</i>	gr/force/quantify/thing													
	26.2	which <u>allows</u> the thermodynamics [of electron transfer reactions] <u>to be fine-tuned</u> .	Material clause, Pr: simple present Topical Theme: Actor												
27.1	Cyclometalated Ir(III) complexes <u>are used in organic light-emitting diodes (OLEDS)</u>	Material clause, Pr: simple present Topical Theme: Goal Appraisal <table border="1"> <tr> <td><i>in organic light-emitting diodes (OLEDS)</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>in organic light-emitting diodes (OLEDS)</i>	gr/force/quantify/process/extent/scope/space	1a	C. Loc: place phys: gen.									
<i>in organic light-emitting diodes (OLEDS)</i>	gr/force/quantify/process/extent/scope/space														
27.2	and (they are used) as photocatalysts in (during) many redox reactions [(that are) including organic radical polymerization, cyclizations, aldehyde fluoromethylation, the water gas shift reaction, and (that include) more prominently, the reduction of H ² O and Co ² for solar fuels]].	Material clause, Pr: present passive (ellipsed) Appraisal <table border="1"> <tr> <td><i>in many¹ redox reactions</i></td> <td>gr/force/quantify/process/extent/scope/time</td> </tr> <tr> <td><i>[[... and more² prominently³, the reduction of H²O and Co² for solar fuels]].</i></td> <td>¹ gr/force/quantify/thing ² gr/force/intensify/process ³ gr/force/intensify/process</td> </tr> </table>	<i>in many¹ redox reactions</i>	gr/force/quantify/process/extent/scope/time	<i>[[... and more² prominently³, the reduction of H²O and Co² for solar fuels]].</i>	¹ gr/force/quantify/thing ² gr/force/intensify/process ³ gr/force/intensify/process	1a 1a 1b 1b	C. Role: Guise C. Loc: time - unloc: det D.C. Manner: quality emb. Q. Loc: time unloc: det. D.C. Cause: purpose emb. Q. Loc: time unloc: det.							
<i>in many¹ redox reactions</i>	gr/force/quantify/process/extent/scope/time														
<i>[[... and more² prominently³, the reduction of H²O and Co² for solar fuels]].</i>	¹ gr/force/quantify/thing ² gr/force/intensify/process ³ gr/force/intensify/process														

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION					
	CI			Rk					
Research space Sub-phase 4 (cont.)	28.1	In H² evolving, water reduction reactions turnover numbers (TONs, moles product/ moles PS) of the IR (III) PS <u>have reached</u> 10,000	Material clause; Pr: present perfect Marked Theme (temporal); Topical Theme: Actor Appraisal <table border="1"><tr><td><i>In H² ... reactions</i></td><td>gr/force/quantify/process/extent/scope/time</td></tr></table>	<i>In H² ... reactions</i>	gr/force/quantify/process/extent/scope/time	1a	C. Loc: time - unloc: det.		
	<i>In H² ... reactions</i>	gr/force/quantify/process/extent/scope/time							
	28.2	which <u>was achieved</u> by the judicious design of the ligand sphere of these highly luminescent metal complexes.	Material clause, Pr: passive simple past Topical Theme: Goal Appraisal <table border="1"><tr><td><i>judicious</i></td><td>appreciation: high +; inscribe</td></tr><tr><td><i>highly</i></td><td>gr/force/intensify/attribute</td></tr></table>	<i>judicious</i>	appreciation: high +; inscribe	<i>highly</i>	gr/force/intensify/attribute		
	<i>judicious</i>	appreciation: high +; inscribe							
<i>highly</i>	gr/force/intensify/attribute								
29.1	The electrochemical and photochemical robustness of these phosphorescent materials <u>is</u> extraordinary	Attributive clause, Pr: present Topical Theme: Carrier Appraisal <table border="1"><tr><td><i>robustness</i></td><td>appreciation: high +; inscribe</td></tr><tr><td><i>extraordinary</i></td><td>appreciation: high +; inscribe</td></tr></table>	<i>robustness</i>	appreciation: high +; inscribe	<i>extraordinary</i>	appreciation: high +; inscribe			
<i>robustness</i>	appreciation: high +; inscribe								
<i>extraordinary</i>	appreciation: high +; inscribe								
29.2	and (it) greatly <u>facilitates</u> the exploration of new photocatalytic systems [(that are) relevant (with respect) to the renewable energy field.]]	Material clause, Pr: simple present Topical Theme: Actor (ellipsed) Appraisal <table border="1"><tr><td><i>greatly</i></td><td>gr/force/intensify/process</td></tr></table>	<i>greatly</i>	gr/force/intensify/process	1a 1b	C. Manner: degree D.C. Matter emb. Q. Scope			
<i>greatly</i>	gr/force/intensify/process								
Purpose-Value	30	This work describes the visible-photon driven reduction of Zn ²⁺ to Zn⁰ (E_{red} = -0.76 V vs NHE) by an iridium(iii) PS and catalyst system].	Verbal clause, Pr: simple present Topical Theme: Sayer Appraisal <table border="1"><tr><td><i>driven</i></td><td>(Epithet in nominal group) impelled <u>powerfully</u></td></tr></table>	<i>driven</i>	(Epithet in nominal group) impelled <u>powerfully</u>	2a 2b	Q. Role: product Q. Verbiage Q. Manner: means Q. Role: product		
	<i>driven</i>	(Epithet in nominal group) impelled <u>powerfully</u>							
	31	To our knowledge , this <u>is</u> the first published case of the photocatalysed reduction of a low redox potential metal ion by a transition metal complex.].	Identifying clause, Pr: present Marked Theme (viewpoint); Topical Theme: Token Appraisal <table border="1"><tr><td><i>first</i></td><td>gr/force/quantify/thing</td></tr><tr><td><i>low</i></td><td>gr/force/quantify/thing</td></tr></table>	<i>first</i>	gr/force/quantify/thing	<i>low</i>	gr/force/quantify/thing	1a 2a 2b	C. Angle: viewpoint Q. Matter Q. Value Q. Manner: means Q. Matter
<i>first</i>	gr/force/quantify/thing								
<i>low</i>	gr/force/quantify/thing								
32.1	In <u>being</u> so,	Attributive clause; Pr: non-finite							

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION		
	CI			Rk		
Purpose-value (cont.)	32.2	this initial work demonstrates the feasibility of Zn ²⁺ reduction [by a molecular photo-catalyst for eventual use as a solar fuel].	Verbal clause, Pr: simple present Topical Theme: Sayer Appraisal	3a 2a 2b 2b	Manner process Q. Manner: mean Q. Verbiage Q. Cause: purpose Q. Manner: means Q. Role: guise Q. Cause: purpose	
			<i>initial</i>			gr/force/quantify/thing
			<i>demonstrates</i>			Manner Pr; shows <i>evidentially</i> ; flag
Review of other research	33.1	[[Contrasting,]]	Material – non-finite			
	33.2	[Ru9bpy) ₃] ²⁺ <u>has been used</u>	Material clause, Pr: passive past perfect Topical Theme: Goal			
	33.3	<u>to photoreduce</u> Ag ⁺ to Ag metal	Material clause, Pr: non-finite	1a	C. Role: product	
	33.4	but silver <u>has</u> a high work function,	Attributive (possessive) clause, Pr: present Topical Theme: Carrier Appraisal			
			<i>high</i> gr/force/quantify/thing			
	34.1	its cation <u>is</u> easy [[to reduce]]	Attributive clause, Pr: simple present Topical Theme: Carrier Appraisal			
			<i>easy</i> appreciation: high +; inscribe			
	34.2	and Ag ⁰ <u>lacks</u> the energy density [[(that is) necessary of (sic) for a solar fuel]].	Attributive (possessive) clause, Pr: simple present Topical Theme: Carrier	1b	D.C. Cause: purpose in Q. Attribute	
	35	A dissimilar approach <u>is</u> the reduction of Zn ²⁺ to Zn metal by solar thermal ZnO decomposition .	Identifying clause, Pr: present Topical Theme: Token	2a 2b	Q. Role: product Q. Value Q. Manner: means Q. Role: product	
36.1	At high temperatures << >> equilibrium <u>shifts</u>	Material clause, Pr: passive simple present Marked Theme (spatial); Topical Theme: Actor Appraisal	1a	C. Loc: place – abstract		
		<i>at high temperatures</i> gr/force/quantify/process/extent/ scope/ space				
36.2	<< <u>achieved</u> by concentrating sunlight >>	Material clause, Pr: passive present				

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION	
	CI			Rk	
Review of other research (cont.)	36.3	and ZnO splits into its elemental constituents, O₂ and Zn.	Material clause, Pr: simple present Topical Theme: Actor	1a	C. Role: product
	37.1	Though ZnO splitting <u>can occur</u> at 1100K,	Material clause, Pr: modalised (medium probability) Topical Theme: Goal Appraisal at 1100K gr/force/quantify/process/extent/scope/space	1a	C. Loc: place – abstract
	37.2	temperatures of 2300K or higher <u>are</u> generally required,	Material clause, Pr: passive simple present Topical Theme: Scope Appraisal generally gr/force/valeur/specificity required Manner Pr; demanded <u>compulsorily</u> : flag	1a 3a	C. Manner: degree Manner process
	37.3	and low metal yields $[[$ (<i>that are</i>) caused by the reoxidation of Zn ⁰]] <u>are</u> commonly observed during cooling process.	Behavioural clause, Pr: passive simple present Topical Theme: Target Appraisal commonly gr/force/quantify/process/frequency during cooling gr/force/quantify/process/extent/scope/ process time	5 1a	Frequency Adjunct C. Loc: time -unloc: det.

APPENDIX D2 Kennedy et al (2013) Introduction: content, linguistic and contextual resources

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION							
	CI			Rk							
Intro. to topic	1	Within the discipline of coordination chemistry the weak-link approach (WLA) has emerged as a powerful means [[to assemble complicated supramolecular structures (Scheme 1)]].	Material clause, Pr: simple past Marked Theme (spatial); Topical Theme: Scope Appraisal <table border="1"> <tr> <td><i>Within the discipline¹ of ...</i></td> <td>gr/force/qu/extent/scope/space; Invoke affect: satisfaction/interest/attentive ¹Appreciation +</td> </tr> <tr> <td><i>emerged</i></td> <td>Manner Pr; arose significantly; flag</td> </tr> <tr> <td><i>powerful</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>Within the discipline¹ of ...</i>	gr/force/qu/extent/scope/space; Invoke affect: satisfaction/interest/attentive ¹ Appreciation +	<i>emerged</i>	Manner Pr; arose significantly; flag	<i>powerful</i>	gr/force/quantify/thing	1a 3a 1a	C. Loc: place - inst: edu Manner Pr. C. Role: guise
	<i>Within the discipline¹ of ...</i>	gr/force/qu/extent/scope/space; Invoke affect: satisfaction/interest/attentive ¹ Appreciation +									
	<i>emerged</i>	Manner Pr; arose significantly; flag									
	<i>powerful</i>	gr/force/quantify/thing									
2	Unlike the symmetry-interaction approach (SIA) ⁷⁻¹¹ and directional bonding approach (DBA) ¹²⁻²⁶ [[which lead to static, rigid structures]] the WLA results in dynamic complexes [[that may be toggled between rigid and flexible states [via the introduction and removal of elemental anions or small-molecule “effectors”]]].	Causative (material) clause, Pr: simple present Marked Theme (comparison); Topical Theme: Actor Modality <table border="1"> <tr> <td><i>may be</i></td> <td>low possibility – serves caution</td> </tr> </table> Appraisal <table border="1"> <tr> <td><i>to static, rigid structures</i></td> <td rowspan="2">gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>between rigid and flexible states</i></td> </tr> </table>	<i>may be</i>	low possibility – serves caution	<i>to static, rigid structures</i>	gr/force/quantify/process/extent/scope/space	<i>between rigid and flexible states</i>	1a 1b 1b 2b	C. Manner: comparison D.C. Loc: place - abstract D.C. Loc: place - abstract emb. Q. Value Q. Manner: means emb. Q. Value		
<i>may be</i>	low possibility – serves caution										
<i>to static, rigid structures</i>	gr/force/quantify/process/extent/scope/space										
<i>between rigid and flexible states</i>											
3	Functional units [such as catalytic sites, redox-active moieties, host-guest recognition sites, and fluorophores] may be incorporated into the ligands in such a way [[that the structural change results in a marked change [in the properties of the complex]]].	Material clause, Pr: modal (hedging, low possibility) Topical Theme: Goal Appraisal <table border="1"> <tr> <td><i>into the ligands</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>such as</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>marked</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>into the ligands</i>	gr/force/quantify/process/extent/scope/space	<i>such as</i>	gr/force/quantify/thing	<i>marked</i>	gr/force/quantify/thing	1a 1a 1b	C. Loc: place - phys: chem C. Manner: means D.C. Loc: place - abstract: emb. Q. Manner: means	
<i>into the ligands</i>	gr/force/quantify/process/extent/scope/space										
<i>such as</i>	gr/force/quantify/thing										
<i>marked</i>	gr/force/quantify/thing										
4	Allosteric regulation of this type resembles the behavior of many enzymes	Attributive clause; Pr: simple present Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>many</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>many</i>	gr/force/quantify/thing							
<i>many</i>	gr/force/quantify/thing										

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION							
	CI			Rk							
Intro. to topic (cont.)	5	and examples of this aspect of biomimicry are otherwise rare in coordination chemistry .	Attributive clause, Pr: simple present Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>otherwise</i></td> <td>gr/force/intensify/attribute</td> </tr> <tr> <td><i>rare</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>in coordination chemistry</i></td> <td>gr/force/quantify/process/extent/ scope/space</td> </tr> </table>	<i>otherwise</i>	gr/force/intensify/attribute	<i>rare</i>	gr/force/quantify/thing	<i>in coordination chemistry</i>	gr/force/quantify/process/extent/ scope/space	1a	C. Loc: place - abstract: gen.
<i>otherwise</i>	gr/force/intensify/attribute										
<i>rare</i>	gr/force/quantify/thing										
<i>in coordination chemistry</i>	gr/force/quantify/process/extent/ scope/space										
Development Sub-phase 1	6	The WLA [for the synthesis of macro-cyclic complexes] employs symmetric homoditopic ligands [[that possess rigid cores and two hemilabile phosphino-chalcoether (P,X; X = S, O, Se) or phosphine-amine P,N0 moieties (Scheme 1).	Material clause; Pr: simple present Topical Theme: WLA	2a	Q. Cause: purpose Q. Actor						
	7.1	Upon chelation [to a d⁸ metal center (e.g., rhodium(I), palladium(II))] and in the absence of coordinating anions , the favoured <i>cis</i> geometry of the phosphine ligands promotes the clean formation of bimetallic macrocyclic assemblies	Causative (material) clause, Pr: simple present Marked Theme (temporal); Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>favoured</i></td> <td>appreciation: high +; inscribe</td> </tr> <tr> <td><i>clean</i></td> <td>appreciation: high +; inscribe</td> </tr> <tr> <td><i>in the absence of coordinating anions</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>favoured</i>	appreciation: high +; inscribe	<i>clean</i>	appreciation: high +; inscribe	<i>in the absence of coordinating anions</i>	gr/force/quantify/process/extent/scope/space	1a 2a 1a	C. Loc: time - unloc: det. Q. Role: product. Q. Loc: time – unloc: det. C. Loc: place – abstract
	<i>favoured</i>	appreciation: high +; inscribe									
	<i>clean</i>	appreciation: high +; inscribe									
	<i>in the absence of coordinating anions</i>	gr/force/quantify/process/extent/scope/space									
	7.2	while (<i>it is</i>) preventing the formation of polymeric and oligomeric by-products.	Material clause Pr: present continuous (<i>ellipsed</i>)								
	8.1	A reaction [[<i>(that is)</i> often used in conjunction with the WLA]] is the halide-induced ligand rearrangement (HILR) reaction,	Identifying clause, Pr: passive simple present Topical Theme: Token Appraisal <table border="1"> <tr> <td><i>often</i></td> <td>gr/force/quantify/process/frequency</td> </tr> </table>	<i>often</i>	gr/force/quantify/process/frequency	1b 1b	D.C. Extent: frequency emb. Q. Token D.C. Accomp: comitative emb. Q. Token				
<i>often</i>	gr/force/quantify/process/frequency										
8.2	in which a ligand-sorting process [[<i>(which is)</i> between electron-rich and electron-poor hemilabile ligands]] leads exclusively to heteroligated structures.	Attributive (circ.) clause; Pr: simple present Appraisal <table border="1"> <tr> <td><i>between ... ligands</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>exclusively</i></td> <td>gr/force/intensify/process</td> </tr> </table>	<i>between ... ligands</i>	gr/force/quantify/thing	<i>exclusively</i>	gr/force/intensify/process	4b 1a	Attribute (spatial) (physical: chemical) Q. Actor C. Manner: quality			
<i>between ... ligands</i>	gr/force/quantify/thing										
<i>exclusively</i>	gr/force/intensify/process										
8.3	thus allowing for an extra level of complexity	Material clause, Pr: non-finite Appraisal <table border="1"> <tr> <td><i>extra</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>extra</i>	gr/force/quantify/thing							
<i>extra</i>	gr/force/quantify/thing										

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION							
	CI			Rk							
Development Sub-phase 1 (cont.)	8.4	[[to be incorporated into WLA architecture (2,3,6,7,8, and 9, Scheme 1)].	Material clause, non-finite	1a	C. Loc: place - abstract						
	9	Functional allosteric enzyme mimics [[(that are) synthesized via the WLA]] rely on the precise positioning of active groups [[that are incorporated into the hemilabile ligand]].	Attributive clause, Pr: passive simple present Topical Theme: Carrier Appraisal <table border="1"> <tr> <td>rely</td> <td>Manner Pr: depend confidently; flag</td> </tr> <tr> <td>precise</td> <td>gr/focus/valeur/specificity</td> </tr> <tr> <td>into the hemilabile ligand</td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	rely	Manner Pr: depend confidently; flag	precise	gr/focus/valeur/specificity	into the hemilabile ligand	gr/force/quantify/process/extent/scope/space	1b 3a 1a 1b	D.C. Manner: means emb. Q. Actor Manner process C. Loc: place - abstract D.C. Loc: place - phys: chem. emb. Q. Attribute
	rely	Manner Pr: depend confidently; flag									
	precise	gr/focus/valeur/specificity									
	into the hemilabile ligand	gr/force/quantify/process/extent/scope/space									
	10.1	This is achieved	Material clause, Pr: passive simple present Topical Theme: Goal								
10.2	by using rigid ligands [[in which the weakly coordinating atom (Scheme 1) is bound directly to an aryl group]].	Material clause, Pr: non-finite Appraisal <table border="1"> <tr> <td>weakly</td> <td>gr/force/quantify/process</td> </tr> <tr> <td>directly</td> <td>gr/force/intensify/process</td> </tr> <tr> <td>to an aryl group</td> <td>gr/force/quantify/process/extent/scope/ space</td> </tr> </table>	weakly	gr/force/quantify/process	directly	gr/force/intensify/process	to an aryl group	gr/force/quantify/process/extent/scope/ space	1b 1b	D.C. Manner: quality emb. Q. Goal D.C. Loc: place – phys: chem. emb. Q. Goal	
weakly	gr/force/quantify/process										
directly	gr/force/intensify/process										
to an aryl group	gr/force/quantify/process/extent/scope/ space										
11.1	In the case of rhodium(I), rigid, heteroligated aryl-aryl' complexes may be synthesized cleanly and reliably	Material clause, Pr: modal (medium probability) Marked Theme (Matter); Topical Theme: Goal Appraisal <table border="1"> <tr> <td>cleanly</td> <td>gr/force/intensify/process</td> </tr> <tr> <td>reliably</td> <td>gr/force/intensify/process</td> </tr> </table>	cleanly	gr/force/intensify/process	reliably	gr/force/intensify/process	1a 1a 1a	C. Matter C. Manner: quality C. Manner: quality			
cleanly	gr/force/intensify/process										
reliably	gr/force/intensify/process										
11.2	[[using P, S-aryl and P,O-aryl ligands as the strong and weak binders respectively]].	Material clause Pr: non-finite	1a	C. Role: guise.							
Sub-phase 2	12	However, the sensitivity of rhodium(I) WLA complexes [to air] limits their compatibility with certain reaction environments	Material clause, Pr: simple present Textual Theme: conjunctive; Topical Theme: Actor Appraisal <table border="1"> <tr> <td>However</td> <td>en/contract/disclaim/counter</td> </tr> <tr> <td>certain</td> <td>gr/focus/valeur/specificity</td> </tr> </table>	However	en/contract/disclaim/counter	certain	gr/focus/valeur/specificity	1a	C. Accomp: comitative		
However	en/contract/disclaim/counter										
certain	gr/focus/valeur/specificity										

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION							
	CI			Rk							
Development Sub-phase 2 (cont.)	13	and accordingly a recent focus of our work has been the expansion of the WLA [[to include the chemistry of more stable d ⁸ metals [such as nickel (II), palladium (II) and platinum (II)].	Identifying clause, Pr: present perfect; tense change Textual Theme: connective conjunction Marked Theme (viewpoint); Topical Theme: Token Appraisal <table border="1"> <tr> <td><i>recent</i></td> <td>gr/force/quantify/process/extent/distance/time</td> </tr> <tr> <td><i>more</i></td> <td>gr/force/intensify/attribute</td> </tr> </table>	<i>recent</i>	gr/force/quantify/process/extent/distance/time	<i>more</i>	gr/force/intensify/attribute	1a	C. Angle: viewpoint		
	<i>recent</i>	gr/force/quantify/process/extent/distance/time									
	<i>more</i>	gr/force/intensify/attribute									
	14.1	We have demonstrated	Verbal clause, Pr: present perfect Topical Theme: Sayer Appraisal <table border="1"> <tr> <td><i>demonstrated</i></td> <td>Manner Pr; shown <i>evidentially</i>; flag; en/contract/proclaim/endorse</td> </tr> </table>	<i>demonstrated</i>	Manner Pr; shown <i>evidentially</i> ; flag; en/contract/proclaim/endorse	3a	Manner Pr.				
<i>demonstrated</i>	Manner Pr; shown <i>evidentially</i> ; flag; en/contract/proclaim/endorse										
14.2	that heteroligated tweezers and triple-layer complexes form cleanly and spontaneously with palladium(II) and platinum(II)	Material clause, Pr: simple present Topical Theme: Goal Appraisal <table border="1"> <tr> <td><i>cleanly</i></td> <td>gr/force/intensify/process</td> </tr> <tr> <td><i>spontaneously</i></td> <td>gr/force/intensify/process</td> </tr> </table>	<i>cleanly</i>	gr/force/intensify/process	<i>spontaneously</i>	gr/force/intensify/process	1a 1a 1a	C. Manner: quality C. Manner: quality C. Accomp: comitative			
<i>cleanly</i>	gr/force/intensify/process										
<i>spontaneously</i>	gr/force/intensify/process										
14.3	when alkyl- and aryl-based hemilabile compounds are used in combination (e.g. Scheme 2; compound 22) .	Material clause, Pr: passive simple present Topical Theme: Goal	1a	C. Manner: means							
Sub-phase 3	15.1	One shortcoming of this assembly technique is that alkyl-based ligands are inherently flexible	Attributive clause, Pr: simple present Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>One</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>shortcoming</i></td> <td>appreciation: med –; inscribe</td> </tr> <tr> <td><i>inherently</i></td> <td>gr/force/intensify/attribute</td> </tr> </table>	<i>One</i>	gr/force/quantify/thing	<i>shortcoming</i>	appreciation: med –; inscribe	<i>inherently</i>	gr/force/intensify/attribute	2c	Manner: quality (in Attribute)
	<i>One</i>	gr/force/quantify/thing									
<i>shortcoming</i>	appreciation: med –; inscribe										
<i>inherently</i>	gr/force/intensify/attribute										
15.2	and thus (<i>they are</i>) unsuitable for the construction of rigid architectures [[in which supramolecular properties are controlled with (by) structural changes]] .	Attributive clause Pr: <i>simple present ellipsed</i>	1a 1b	C. Cause: purpose D.C. Manner: means emb. Q. Cause: purpose							

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION	
	CI			Rk	
Research space	16.1	A general, modular route [to rigid, heteroligated aryl-aryl' palladium(II) and platinum(II) complexes], << >> is highly desirable.	Attributive clause, Pr: simple present Topical Theme: Carrier Appraisal to rigid, heteroligated aryl-aryl' palladium (II) and platinum (II) complexes | gr/force/quantify/thing general | gr/focus/valeur/specificity highly | gr/force/intensify/attribute desirable | appreciation: high +; inscribed	2a	Q. Loc: place - phys: chem. Q. Carrier
	16.2	<< which is compatible with many functional ligands >>	Attributive clause, Pr: simple present Appraisal many | gr/force/quantify/thing	1a	C. Accomp: comitative
	17.1	However, typical synthetic approaches [to aryl-aryl' palladium(II) and platinum(II) complexes] have failed so far	Material clause, Pr: present perfect Textual Theme: conjunctive; Topical Theme: Actor Appraisal However | en/contract/disclaim/counter failed | Manner Pr; inscribe absolute appreciation - so far | gr/force/quantify/process/extent/distance/time to aryl-aryl' aryl-aryl' palladium(II) and platinum(II) complexes | gr/force/quantify/thing	2a 3a 5	Q. Loc: place - phys: chem. Q. Actor Manner Pr. Temporal Adjunct (unlocated: determinate)
	17.2	resulting in dynamic mixtures [[which contain multiple species]].	Causative (material) clause, Pr: non-finite Appraisal multiple | gr/force/quantify/thing		
Purpose-Value	18	Herein we report a new method [for the clean and quantitative synthesis of rigid platinum(II) WLA assemblies (Scheme 1: 2,3,6,7,8,9,) via partial abstraction of chloride in either protic or nonpolar solvents].	Verbal clause, Pr: simple present Marked Theme (semiotic); Topical Theme: Sayer Appraisal Herein | gr/force/quantify/process/extent/scope/space clean | appreciation: high + inscribe in either protic or non-polar solvents | gr/force/quantify/thing	1a 2a 2b 2b	C. Loc: place - semiotic Q. Cause: purpose Q. Verbiage Q. Manner: means emb. Q. Verbiage Q. Loc: place - phys: chem. emb. Q. Verbiage

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION						
	CI			Rk						
Purpose-Value (cont.)	19.1	(By) Using this method,	Material clause; Pr: non-finite							
	19.2	heteroligated tweezers, triple layer complexes, and binuclear macrocycles have been obtained from a variety of aryl-based hemilabile P,S, P,O, and P,N ligands.	Material clause, Pr: present perfect Topical Theme: Goal Appraisal <table border="1"> <tr> <td><i>from a variety of¹ ... ligands</i></td> <td>gr/force/quantify/process/extent/ scope/space¹gr/force/quantify/thing</td> </tr> </table>	<i>from a variety of¹ ... ligands</i>	gr/force/quantify/process/extent/ scope/space ¹ gr/force/quantify/thing	1a	C. Loc: place - phys: chem.			
	<i>from a variety of¹ ... ligands</i>	gr/force/quantify/process/extent/ scope/space ¹ gr/force/quantify/thing								
20	These complexes serve as models [for functional, air-stable WLA systems].	Causative (material) clause, Pr: simple present Topical Theme: Token Appraisal <table border="1"> <tr> <td><i>models</i></td> <td>appreciation: high +; inscribe</td> </tr> <tr> <td><i>functional</i></td> <td>appreciation: high +; inscribe</td> </tr> <tr> <td><i>air-stable</i></td> <td>appreciation: high +; inscribe</td> </tr> </table>	<i>models</i>	appreciation: high +; inscribe	<i>functional</i>	appreciation: high +; inscribe	<i>air-stable</i>	appreciation: high +; inscribe	1a 2a	C. Role: guise Q. Cause: purpose Q. Role: guise
<i>models</i>	appreciation: high +; inscribe									
<i>functional</i>	appreciation: high +; inscribe									
<i>air-stable</i>	appreciation: high +; inscribe									

APPENDIX D3 Gray (2010) introduction: content and linguistic analysis

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION								
	CI			Rk								
Intro. to topic	1.1	A number of international research projects, [[(that are) supported by a wealth of anecdotal evidence]], suggest	Verbal clause; Pr: simple present Topical Theme: Sayer Appraisal <table border="1"> <tr> <td><i>a number of</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>wealth</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>suggest</i></td> <td>Manner Pr; State <u>tentatively</u>; afford en/expand/entertain</td> </tr> </table>	<i>a number of</i>	gr/force/quantify/thing	<i>wealth</i>	gr/force/quantify/thing	<i>suggest</i>	Manner Pr; State <u>tentatively</u> ; afford en/expand/entertain	3a	Manner Pr.	
	<i>a number of</i>	gr/force/quantify/thing										
	<i>wealth</i>	gr/force/quantify/thing										
	<i>suggest</i>	Manner Pr; State <u>tentatively</u> ; afford en/expand/entertain										
	1.2	that accountancy Graduates [[(who are) entering the workplace]] often <u>begin</u> their careers with inadequate oral communication skills .	Material clause; Pr: simple present Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>often</i></td> <td>gr/force/quantify/process/frequency</td> </tr> <tr> <td><i>inadequate</i></td> <td>appreciation: high –; inscribe</td> </tr> </table>	<i>often</i>	gr/force/quantify/process/frequency	<i>inadequate</i>	appreciation: high –; inscribe	1a 1a	C. Extent: frequency C. Accomp: comitative			
<i>often</i>	gr/force/quantify/process/frequency											
<i>inadequate</i>	appreciation: high –; inscribe											
2.1	Practitioners and professional associations as well as academics <u>are</u> conscious of this need :	Attributive clause; Pr: simple present Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>need</i></td> <td>appreciation: high –; inscribed</td> </tr> </table>	<i>need</i>	appreciation: high –; inscribed	1a	C. Matter						
<i>need</i>	appreciation: high –; inscribed											
2.2	In New Zealand , accountancy job advertisements regularly specify both oral and written communication skills;	Material clause; Pr: simple present Marked Theme (spatial); Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>In New Zealand</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>regularly</i></td> <td>gr/force/quant/process/frequency</td> </tr> <tr> <td><i>specify</i></td> <td>Manner Pr; Require <u>particularly</u>; flag</td> </tr> <tr> <td><i>both</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>In New Zealand</i>	gr/force/quantify/process/extent/scope/space	<i>regularly</i>	gr/force/quant/process/frequency	<i>specify</i>	Manner Pr; Require <u>particularly</u> ; flag	<i>both</i>	gr/force/quantify/thing	1a 1a 3a	C. Loc: place - phys: geo. C. Extent: frequency Manner Pr.
<i>In New Zealand</i>	gr/force/quantify/process/extent/scope/space											
<i>regularly</i>	gr/force/quant/process/frequency											
<i>specify</i>	Manner Pr; Require <u>particularly</u> ; flag											
<i>both</i>	gr/force/quantify/thing											
2.3	oral competency is stressed on the web site of the New Zealand Institute of Chartered Accountants (NZICA)	Behavioural clause; Pr: passive present Topical Theme: Behaviour Appraisal <table border="1"> <tr> <td><i>stressed</i></td> <td>Manner Pr; referred to <u>prominently</u>; flag</td> </tr> </table>	<i>stressed</i>	Manner Pr; referred to <u>prominently</u> ; flag	3a 1a	Manner Pr. C. Loc: place – semiotic						
<i>stressed</i>	Manner Pr; referred to <u>prominently</u> ; flag											

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION												
	CI			Rk												
Intro. to topic (cont.)	2.4	and oral communication <u>is</u> part of the assessment structure of the second stage of training [[towards becoming a chartered Accountant]].	Identifying clause; Pr: Simple present Topical Theme: Token Appraisal <table border="1"><tr><td><i>second</i></td><td>gr/force/quantify/thing</td></tr></table>	<i>second</i>	gr/force/quantify/thing											
<i>second</i>	gr/force/quantify/thing															
Development	3.1	A number of New Zealand media outlets have recently been publicizing a significant rise [in demand for communication skills among employers]	Behavioural clause; Pr: present perfect continuous Topical theme: Behavior Appraisal <table border="1"><tr><td><i>recently</i></td><td>gr/force/quantify/process/extent/distance/time</td></tr><tr><td><i>publicizing</i></td><td>Manner Pr; reporting widely & prominently, flag</td></tr><tr><td><i>significant</i></td><td>gr/force/quantify/thing</td></tr><tr><td><i>among employers</i></td><td>gr/force/quantify/process/extent/scope/space</td></tr></table>	<i>recently</i>	gr/force/quantify/process/extent/distance/time	<i>publicizing</i>	Manner Pr; reporting widely & prominently, flag	<i>significant</i>	gr/force/quantify/thing	<i>among employers</i>	gr/force/quantify/process/extent/scope/space	5 3a 2a 2b 2b	Adjunct: temporal (located: indeterminate) Manner Pr. Q. Matter Q. Verbiage Q. Matter Q. Matter Q. Loc: place – inst: occ. Q. Matter			
	<i>recently</i>	gr/force/quantify/process/extent/distance/time														
	<i>publicizing</i>	Manner Pr; reporting widely & prominently, flag														
	<i>significant</i>	gr/force/quantify/thing														
<i>among employers</i>	gr/force/quantify/process/extent/scope/space															
3.2	and (they have been) voicing a concern [[that universities are not producing sufficiently literate Graduates]].	Verbal clause; Pr: active present perfect continuous Appraisal <table border="1"><tr><td><i>voicing</i></td><td>Manner Pr; expressing emphatically & urgently; flag</td></tr><tr><td><i>concern</i></td><td>appreciation: med-high – inscribe</td></tr><tr><td><i>sufficiently</i></td><td>gr/force/intensify/attribute</td></tr></table>	<i>voicing</i>	Manner Pr; expressing emphatically & urgently; flag	<i>concern</i>	appreciation: med-high – inscribe	<i>sufficiently</i>	gr/force/intensify/attribute	3a	Manner Pr.						
<i>voicing</i>	Manner Pr; expressing emphatically & urgently; flag															
<i>concern</i>	appreciation: med-high – inscribe															
<i>sufficiently</i>	gr/force/intensify/attribute															
4.1	However, these reports <u>are</u> mainly anecdotal,	Attributive clause; Pr: simple present Textual Theme: contraindication; Topical Theme: Carrier Appraisal <table border="1"><tr><td><i>mainly</i></td><td>gr/focus/valeur/specificity</td></tr></table>	<i>mainly</i>	gr/focus/valeur/specificity	2c	Manner: degree										
<i>mainly</i>	gr/focus/valeur/specificity															
4.2	and there <u>is</u> presently a lack of well-grounded empirical data [concerning precisely what skills [[are sought by employers in specific fields]]] .	Existential clause; Pr: present Topical Theme: Existent Appraisal <table border="1"><tr><td><i>presently</i></td><td>gr/force/quant/process/extent/distance/time</td></tr><tr><td><i>lack of</i></td><td>gr/force/quantify/thing</td></tr><tr><td><i>well-grounded</i></td><td>gr/force/intensify/attribute appreciation: high +; inscribe</td></tr><tr><td><i>precisely</i></td><td>gr/focus/valeur/specificity</td></tr><tr><td><i>sought</i></td><td>Manner Pr; keenly looked for; flag</td></tr><tr><td><i>specific</i></td><td>gr/focus/valeur/specificity</td></tr></table>	<i>presently</i>	gr/force/quant/process/extent/distance/time	<i>lack of</i>	gr/force/quantify/thing	<i>well-grounded</i>	gr/force/intensify/attribute appreciation: high +; inscribe	<i>precisely</i>	gr/focus/valeur/specificity	<i>sought</i>	Manner Pr; keenly looked for; flag	<i>specific</i>	gr/focus/valeur/specificity	5 2a 1b 3b 2b	Adjunct: temporal (located: indeterminate) Q. Matter Q. Existent D.C. Manner: quality emb. Matter Manner Pr. Q. Loc: place – abstract Q. Behavior
<i>presently</i>	gr/force/quant/process/extent/distance/time															
<i>lack of</i>	gr/force/quantify/thing															
<i>well-grounded</i>	gr/force/intensify/attribute appreciation: high +; inscribe															
<i>precisely</i>	gr/focus/valeur/specificity															
<i>sought</i>	Manner Pr; keenly looked for; flag															
<i>specific</i>	gr/focus/valeur/specificity															

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION									
	CI			Rk									
Development (cont.)	5.1	In addition, formal studies of communication competencies [to this point] <u>have tended</u> to the quite general,	Attributive clause; Pr: active present perfect Topical Theme: Carrier Appraisal <table border="1"> <tr> <td>to this point</td> <td>gr/force/quantify/process/extent/distance/time</td> </tr> <tr> <td><i>quite</i></td> <td>gr/force/intensify/attribute</td> </tr> <tr> <td><i>general</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	to this point	gr/force/quantify/process/extent/distance/time	<i>quite</i>	gr/force/intensify/attribute	<i>general</i>	gr/focus/valeur/specificity	2a	Q. Loc: time – loc: indet. Q. Carrier		
	to this point	gr/force/quantify/process/extent/distance/time											
	<i>quite</i>	gr/force/intensify/attribute											
	<i>general</i>	gr/focus/valeur/specificity											
	5.2	<u>utilizing</u> the umbrella term <i>oral communication skills</i> or the even vaguer term <i>generic skills</i> .	Material clause; Pr: non-finite Appraisal <table border="1"> <tr> <td><i>umbrella</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>even</i></td> <td>gr/force/intensify/attribute</td> </tr> <tr> <td><i>vaguer</i></td> <td>appreciation: med –; inscribed</td> </tr> </table>	<i>umbrella</i>	gr/force/quantify/thing	<i>even</i>	gr/force/intensify/attribute	<i>vaguer</i>	appreciation: med –; inscribed				
<i>umbrella</i>	gr/force/quantify/thing												
<i>even</i>	gr/force/intensify/attribute												
<i>vaguer</i>	appreciation: med –; inscribed												
6	What does this actually <u>mean for a given industry</u> ?	Identifying interrogative clause; Pr: present simple Appraisal <table border="1"> <tr> <td><i>actually</i></td> <td>gr/focus/valeur/authenticity</td> </tr> <tr> <td><i>mean</i></td> <td>gr/focus/fulfillment</td> </tr> <tr> <td><i>given</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	<i>actually</i>	gr/focus/valeur/authenticity	<i>mean</i>	gr/focus/fulfillment	<i>given</i>	gr/focus/valeur/specificity	1a 1a	C. Manner: quality C. Angle: viewpoint			
<i>actually</i>	gr/focus/valeur/authenticity												
<i>mean</i>	gr/focus/fulfillment												
<i>given</i>	gr/focus/valeur/specificity												
7	What skills, specifically, <u>do</u> accounting employers <u>want</u> ?	Mental interrogative clause; Pr: present simple Appraisal <table border="1"> <tr> <td><i>specifically</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	<i>specifically</i>	gr/focus/valeur/specificity									
<i>specifically</i>	gr/focus/valeur/specificity												
8	What <u>might</u> the reported lack of oral communication skills [in new Graduates] <u>mean for university accountancy educators</u> ?	Identifying interrogative clause; Pr: modal Appraisal <table border="1"> <tr> <td><i>lack</i></td> <td>appreciation: high –; inscribe</td> </tr> </table>	<i>lack</i>	appreciation: high –; inscribe	2a 1a	Q. Loc: place - phys: people Q. Token C. Angle: viewpoint							
<i>lack</i>	appreciation: high –; inscribe												
Purpose	9	This project seeks to investigate the importance of oral communication skills for students [[who are) intending to begin an accountancy career in New Zealand]] as they are perceived by chartered accountancy professionals.	Material clause; Pr: active present simple Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>seeks</i></td> <td>Manner Pr; tries <u>determinedly</u>; flag</td> </tr> <tr> <td><i>to investigate</i></td> <td>Manner Pr; look at <u>thoroughly</u>; flag</td> </tr> <tr> <td><i>in New Zealand</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>perceived</i></td> <td>Manner Pr; discerned <u>particularly</u>; afford</td> </tr> </table>	<i>seeks</i>	Manner Pr; tries <u>determinedly</u> ; flag	<i>to investigate</i>	Manner Pr; look at <u>thoroughly</u> ; flag	<i>in New Zealand</i>	gr/force/quantify/process/extent/scope/space	<i>perceived</i>	Manner Pr; discerned <u>particularly</u> ; afford	3a 1b 3b	Manner Pr. D.C. Loc: place - phys: geo. emb. Scope Manner Pr.
<i>seeks</i>	Manner Pr; tries <u>determinedly</u> ; flag												
<i>to investigate</i>	Manner Pr; look at <u>thoroughly</u> ; flag												
<i>in New Zealand</i>	gr/force/quantify/process/extent/scope/space												
<i>perceived</i>	Manner Pr; discerned <u>particularly</u> ; afford												

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION											
	CI			Rk											
Purpose (cont.)	10	Thus, my research objectives <u>were</u> the following: 1. To determine [[how much importance New Zealand accountancy employers place on oral communication skills [in their Graduate hires]]] 2. To determine [[what specific kinds of oral communication skills are required by New Zealand accountancy employers]] 3. To determine [[the degree to which accountancy employers are finding the required oral communication skills in new graduated accountancy students]].	Identifying clause; Pr: simple past Textual Theme: Thus (summarises cls 1-15) Topical Theme: Token Appraisal <table border="1"> <tr> <td><i>on oral ... skills</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>in their Graduate hires</i></td> <td></td> </tr> <tr> <td><i>specific</i></td> <td>gr/focus/valeur/specificity</td> </tr> <tr> <td><i>required</i></td> <td>Manner Pr; wanted compulsorily; flag</td> </tr> <tr> <td><i>in new graduated accountancy students</i></td> <td>gr/force/quantify/process/extent/scope space</td> </tr> </table>	<i>on oral ... skills</i>	gr/force/quantify/process/extent/scope/space	<i>in their Graduate hires</i>		<i>specific</i>	gr/focus/valeur/specificity	<i>required</i>	Manner Pr; wanted compulsorily; flag	<i>in new graduated accountancy students</i>	gr/force/quantify/process/extent/scope space	1b 2a 3b 1b	D.C. Loc: place - abstract Q. Loc: place - phys: people Q. Matter Manner Pr. D.C. Loc: pl. - phys: people
<i>on oral ... skills</i>	gr/force/quantify/process/extent/scope/space														
<i>in their Graduate hires</i>															
<i>specific</i>	gr/focus/valeur/specificity														
<i>required</i>	Manner Pr; wanted compulsorily; flag														
<i>in new graduated accountancy students</i>	gr/force/quantify/process/extent/scope space														
Literature Review Sub-phase 1	11.1	National and international studies consistently <u>agree</u>	Verbal clause; Pr: active present simple Topical Theme: Sayer Appraisal <table border="1"> <tr> <td><i>consistently</i></td> <td>gr/force/intensify/process</td> </tr> </table>	<i>consistently</i>	gr/force/intensify/process	1a	C. Manner: quality								
	<i>consistently</i>	gr/force/intensify/process													
	11.2	that accounting practitioners and professional groups consider	Mental clause; Pr: simple present, non-finite Topical Theme: Senser Appraisal <table border="1"> <tr> <td><i>consider</i></td> <td>Manner Pr; think <u>conclusively</u>; afford</td> </tr> </table>	<i>consider</i>	Manner Pr; think <u>conclusively</u> ; afford	3a	Manner Pr.								
	<i>consider</i>	Manner Pr; think <u>conclusively</u> ; afford													
11.3	communication skills [in general] [[to rank among the most important skills [for Graduates]]/to possess upon their entry into an accountancy career]] (Albin & Crockett, 1991; Borzi & Mills, 2001; Hock, 1994; Johnson & Johnson, 1995; La Francois, 1992; Morgan, 1997).	Attributive (circ.) clause; Pr: non-finite Appraisal <table border="1"> <tr> <td><i>in general</i></td> <td>gr/focus/valeur/specificity</td> </tr> <tr> <td><i>among the most¹ important² skills</i></td> <td>gr/force/quantify/process/extent/scope/space ¹gr/force/intensify/attribute ²appreciation: high +; inscribe</td> </tr> </table>	<i>in general</i>	gr/focus/valeur/specificity	<i>among the most¹ important² skills</i>	gr/force/quantify/process/extent/scope/space ¹ gr/force/intensify/attribute ² appreciation: high +; inscribe	4b 2b 1b 2b	Circ. Attribute (spatial) (abstract) Q. Cause: behalf Q. Circ. attribute D.C. Loc: time - unloc: det. Q. Loc: place – inst: occ. Q. Loc: time-unloc: det.							
<i>in general</i>	gr/focus/valeur/specificity														
<i>among the most¹ important² skills</i>	gr/force/quantify/process/extent/scope/space ¹ gr/force/intensify/attribute ² appreciation: high +; inscribe														
12.1	Studies also <u>show</u>	Verbal clause; Pr: present simple Topical Theme: Sayer Appraisal <table border="1"> <tr> <td><i>show</i></td> <td>en/contract/proclaim/endorse</td> </tr> </table>	<i>show</i>	en/contract/proclaim/endorse											
<i>show</i>	en/contract/proclaim/endorse														

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION														
	CI			Rk														
Literature Review Sub-phase 1 (cont.)	12.2	that the acquisition of Graduates [with suitably strong communication skills] represents a particular and ongoing concern to accountancy employers (Courtis & Zaid, 2002; McLaren, 1990); Zaid & Abraham, 1994).	Identifying clause; Pr: simple present Topical Theme: Token Appraisal <table border="1"> <tr> <td><i>suitably</i></td> <td>gr/force/intensify/attribute</td> </tr> <tr> <td><i>strong</i></td> <td>appreciation: high +; inscribe</td> </tr> <tr> <td><i>particular</i></td> <td>gr/focus/valeur/specificity</td> </tr> <tr> <td><i>ongoing</i></td> <td>gr/force/quantify/extent/distance/time</td> </tr> <tr> <td><i>concern</i></td> <td>appreciation: med –; inscribed</td> </tr> </table>	<i>suitably</i>	gr/force/intensify/attribute	<i>strong</i>	appreciation: high +; inscribe	<i>particular</i>	gr/focus/valeur/specificity	<i>ongoing</i>	gr/force/quantify/extent/distance/time	<i>concern</i>	appreciation: med –; inscribed	2a 1a	Accomp: comitative Q. Token C. Angle: viewpoint			
	<i>suitably</i>	gr/force/intensify/attribute																
	<i>strong</i>	appreciation: high +; inscribe																
	<i>particular</i>	gr/focus/valeur/specificity																
	<i>ongoing</i>	gr/force/quantify/extent/distance/time																
<i>concern</i>	appreciation: med –; inscribed																	
13	Professional bodies <u>have responded</u> to this concern in various explicit ways .	Behavioural clause; Pr: present perfect Topical Theme: Behavior Appraisal <table border="1"> <tr> <td><i>concern</i></td> <td>appreciation: med –; inscribe</td> </tr> <tr> <td><i>various</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>explicit</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	<i>concern</i>	appreciation: med –; inscribe	<i>various</i>	gr/force/quantify/thing	<i>explicit</i>	gr/focus/valeur/specificity	1a	C. Manner: Means								
<i>concern</i>	appreciation: med –; inscribe																	
<i>various</i>	gr/force/quantify/thing																	
<i>explicit</i>	gr/focus/valeur/specificity																	
14.1	In Australia , the Australian Society of Certified Practising Accountants (SCPA) and Institute of Chartered Accountants in Australia (ICAA) <u>issued</u> a joint statement in 1996 [[that was calling on all tertiary accounting programs // to explicitly teach a range of generic skills]]	Material clause; Pr: simple past Marked Theme (spatial); Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>In Australia</i></td> <td>gr/force/quantify/process/extent/scope/ space</td> </tr> <tr> <td><i>joint</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>all</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>in 1996</i></td> <td>gr/force/quantify/process/extent/scope/time</td> </tr> <tr> <td><i>calling on</i></td> <td>Manner Pr: asking emphatically & prominently; flag</td> </tr> <tr> <td><i>explicitly</i></td> <td>gr/force/intensify/process</td> </tr> <tr> <td><i>a range of</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>In Australia</i>	gr/force/quantify/process/extent/scope/ space	<i>joint</i>	gr/force/quantify/thing	<i>all</i>	gr/force/quantify/thing	<i>in 1996</i>	gr/force/quantify/process/extent/scope/time	<i>calling on</i>	Manner Pr: asking emphatically & prominently; flag	<i>explicitly</i>	gr/force/intensify/process	<i>a range of</i>	gr/force/quantify/thing	1a 1a 3b 1b	C. Loc: place – phys: geo. C. Loc: time – loc: det. Manner Pr. D.C. Manner: quality emb. Q. Scope
<i>In Australia</i>	gr/force/quantify/process/extent/scope/ space																	
<i>joint</i>	gr/force/quantify/thing																	
<i>all</i>	gr/force/quantify/thing																	
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<i>explicitly</i>	gr/force/intensify/process																	
<i>a range of</i>	gr/force/quantify/thing																	
14.2	which <u>was updated</u> in 2005 (Sin, Jones, & Petocz, 2007).	Material clause; Pr: passive simple past Appraisal <table border="1"> <tr> <td><i>in 2005</i></td> <td>gr/force/quantify/process/extent/scope/time</td> </tr> </table>	<i>in 2005</i>	gr/force/quantify/process/extent/scope/time	1a	C. Loc: time – loc: det.												
<i>in 2005</i>	gr/force/quantify/process/extent/scope/time																	
15.1	In New Zealand , the chartered Accountants Journal publishes a column [on good writing]	Material clause; Pr: simple present Marked Theme (spatial); Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>In New Zealand</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>good</i></td> <td>appreciation: high +; inscribe</td> </tr> </table>	<i>In New Zealand</i>	gr/force/quantify/process/extent/scope/space	<i>good</i>	appreciation: high +; inscribe	1a 2a	C. Loc: place – phys: geo. Q. Matter Q. Goal										
<i>In New Zealand</i>	gr/force/quantify/process/extent/scope/space																	
<i>good</i>	appreciation: high +; inscribe																	

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION								
	CI			Rk								
Literature Review Sub-phase 1 (cont.)	15.2	and in the Professional Competence Examination part 2 << >> NZICA specifically requires	Material clause; Pr: simple present Textual Theme: conjunction Marked Theme (spatial); Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>in the Professional Competence Examination part 2</i></td> <td>gr/force/quantify/process/extent/scope space</td> </tr> <tr> <td><i>specifically</i></td> <td>gr/force/intensify/process</td> </tr> <tr> <td><i>requires</i></td> <td>Manner Pr.; wants <u>compulsorily</u>; inscribe</td> </tr> </table>	<i>in the Professional Competence Examination part 2</i>	gr/force/quantify/process/extent/scope space	<i>specifically</i>	gr/force/intensify/process	<i>requires</i>	Manner Pr.; wants <u>compulsorily</u> ; inscribe	1a 3a	C. Loc: place – semiotic Manner Pr.	
	<i>in the Professional Competence Examination part 2</i>	gr/force/quantify/process/extent/scope space										
	<i>specifically</i>	gr/force/intensify/process										
	<i>requires</i>	Manner Pr.; wants <u>compulsorily</u> ; inscribe										
	15.3	<< which is the second stage of training to become a Chartered Accountant >>	Identifying clause; Pr: simple present Appraisal <table border="1"> <tr> <td><i>second</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>second</i>	gr/force/quantify/thing							
<i>second</i>	gr/force/quantify/thing											
15.4	the student “to communicate effectively both verbally and in writing ”.	Verbal clause; Pr: non-finite Appraisal <table border="1"> <tr> <td><i>effectively</i></td> <td>gr/force/intensify/process</td> </tr> </table>	<i>effectively</i>	gr/force/intensify/process	1a 1a 1a	C. Manner: quality C. Manner: means C. Manner: means						
<i>effectively</i>	gr/force/intensify/process											
16.1	Internationally , academics and practitioners agree	Behavioural clause; Pr: simple present Marked Theme (spatial); Topical Theme: Behavior Appraisal <table border="1"> <tr> <td><i>Internationally</i></td> <td>gr/force/quantify/process/extent/scope/ space</td> </tr> </table>	<i>Internationally</i>	gr/force/quantify/process/extent/scope/ space	1a	C. Loc: place - phys: geo.						
<i>Internationally</i>	gr/force/quantify/process/extent/scope/ space											
16.2	that accounting students’ writing and oral communication skills are two major areas [[that are) needing more attention in the university curriculum] (Albrecht & Sack, 2000; Henderson, 2001; Simons & Higgins, 1993),	Attributive clause; Pr: present continuous Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>major</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>needing</i></td> <td>Manner Pr; requiring <u>necessarily</u>; flag</td> </tr> <tr> <td><i>more</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>in the university curriculum</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>major</i>	gr/force/quantify/thing	<i>needing</i>	Manner Pr; requiring <u>necessarily</u> ; flag	<i>more</i>	gr/force/quantify/thing	<i>in the university curriculum</i>	gr/force/quantify/process/extent/scope/space	3a 2b	Manner Pr. Q. Loc: place - semiotic
<i>major</i>	gr/force/quantify/thing											
<i>needing</i>	Manner Pr; requiring <u>necessarily</u> ; flag											
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<i>in the university curriculum</i>	gr/force/quantify/process/extent/scope/space											

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION													
	CI			Rk													
Literature Review Sub-phase 1 (cont.)	16.3	and a considerable body of scholarship has sought to make informed recommendations to the curricular offerings [at university level accounting education] (see, e.g., Henderson, 2001; Sin et al., 2007; Usoff & Feldmann, 1998).	Material clause; Pr: active present perfect Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>considerable</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>body of scholarship</i></td> <td>appreciation: high +</td> </tr> <tr> <td><i>sought</i></td> <td>Manner Pr; tried <i>determinedly</i>; flag</td> </tr> <tr> <td><i>informed</i></td> <td>appreciation: high +; inscribe</td> </tr> </table>	<i>considerable</i>	gr/force/quantify/thing	<i>body of scholarship</i>	appreciation: high +	<i>sought</i>	Manner Pr; tried <i>determinedly</i> ; flag	<i>informed</i>	appreciation: high +; inscribe	3a 2a	Manner Pr. Q. Loc: place – abstract Q. Recipient				
	<i>considerable</i>	gr/force/quantify/thing															
<i>body of scholarship</i>	appreciation: high +																
<i>sought</i>	Manner Pr; tried <i>determinedly</i> ; flag																
<i>informed</i>	appreciation: high +; inscribe																
Sub-phase 2	17	Teaching communication [in the disciplines], however, has to acknowledge the difficulty in [[transferring those skills from the classroom to the workplace]].	Mental clause; Pr: modal (high obligation) Topical Theme: Senser Appraisal <table border="1"> <tr> <td><i>in the disciplines</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>difficulty</i></td> <td>appreciation: high –; inscribe</td> </tr> <tr> <td><i>from the classroom to the workplace</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>in the disciplines</i>	gr/force/quantify/process/extent/scope/space	<i>difficulty</i>	appreciation: high –; inscribe	<i>from the classroom to the workplace</i>	gr/force/quantify/process/extent/scope/space	2a 1b 1b	Q. Loc: place – abstract Q. Senser D.C. Loc: place - abstract (institutional: educational) Q. Phenomenon D.C. Loc: place - abstract (institutional: occupational) emb. Q. Phenomenon						
<i>in the disciplines</i>	gr/force/quantify/process/extent/scope/space																
<i>difficulty</i>	appreciation: high –; inscribe																
<i>from the classroom to the workplace</i>	gr/force/quantify/process/extent/scope/space																
	18	Thomas (1995) criticizes the real-world applicability of the texts and approaches [[<i>(that are)</i> used to teach business communication in higher education]];	Behavioural clause; Pr: active present simple Topical Theme: Behavior Appraisal <table border="1"> <tr> <td><i>criticizes</i></td> <td>Manner Pr; describes <i>unfavourably</i>; flag</td> </tr> <tr> <td><i>real-world</i></td> <td>gr/focus/valeur/authenticity</td> </tr> <tr> <td><i>in higher education</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>criticizes</i>	Manner Pr; describes <i>unfavourably</i> ; flag	<i>real-world</i>	gr/focus/valeur/authenticity	<i>in higher education</i>	gr/force/quantify/process/extent/scope/space	3a 1b	Manner Pr. D.C. Loc: place – inst: edu. emb. Q. Target						
<i>criticizes</i>	Manner Pr; describes <i>unfavourably</i> ; flag																
<i>real-world</i>	gr/focus/valeur/authenticity																
<i>in higher education</i>	gr/force/quantify/process/extent/scope/space																
	19	similarly, D'Aloisio (2006) argues for the need [[to relate university learning to the specific communication competencies // <i>(that are)</i> required in corporate work settings (see also Beaufort, 1999; Cooper, 1997; Davies & Birbili, 2000; Kemp & Seagraves, 1995).	Verbal clause; Pr: active present simple Topical Theme: Sayer Appraisal <table border="1"> <tr> <td><i>Similarly</i></td> <td>en/contract/proclaim/concur</td> </tr> <tr> <td><i>argues for</i></td> <td>Manner Pr; reasons <i>strongly</i> for; flag en/expand/attribute/acknowledge</td> </tr> <tr> <td><i>need</i></td> <td>appreciation: high – ; inscribed</td> </tr> <tr> <td><i>specific</i></td> <td>gr/focus/valeur/specificity</td> </tr> <tr> <td><i>required</i></td> <td>Manner Pr; wanted <i>compulsorily</i>; flag</td> </tr> <tr> <td><i>in corporate work settings</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>Similarly</i>	en/contract/proclaim/concur	<i>argues for</i>	Manner Pr; reasons <i>strongly</i> for; flag en/expand/attribute/acknowledge	<i>need</i>	appreciation: high – ; inscribed	<i>specific</i>	gr/focus/valeur/specificity	<i>required</i>	Manner Pr; wanted <i>compulsorily</i> ; flag	<i>in corporate work settings</i>	gr/force/quantify/process/extent/scope/space	3a 3b 1b	Manner Pr. Manner Pr. D.C. Loc: place – abstract emb. Q. Verbiage
<i>Similarly</i>	en/contract/proclaim/concur																
<i>argues for</i>	Manner Pr; reasons <i>strongly</i> for; flag en/expand/attribute/acknowledge																
<i>need</i>	appreciation: high – ; inscribed																
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<i>in corporate work settings</i>	gr/force/quantify/process/extent/scope/space																

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION													
	CI			Rk													
Sub-phase 3	20	The small number of international studies <i>[(that are) specifically focusing on the acquisition of communication skills [by accountancy Graduates]]</i> have been limited in several ways .	Material clause; Pr: passive present perfect Topical Theme: Scope Appraisal <table border="1"> <tr> <td><i>small number of</i></td> <td>gr/force/quantify/thing:</td> </tr> <tr> <td><i>specifically</i></td> <td>gr/force/intensify process</td> </tr> <tr> <td><i>focusing</i></td> <td>Manner Pr; looking particularly at; flag</td> </tr> <tr> <td><i>on the acquisition...</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>limited</i></td> <td>Manner Pr; constrained arbitrarily; flag</td> </tr> <tr> <td><i>several</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>small number of</i>	gr/force/quantify/thing:	<i>specifically</i>	gr/force/intensify process	<i>focusing</i>	Manner Pr; looking particularly at; flag	<i>on the acquisition...</i>	gr/force/quantify/process/extent/scope/space	<i>limited</i>	Manner Pr; constrained arbitrarily; flag	<i>several</i>	gr/force/quantify/thing	3b 1a 3a 1a	Manner Pr. D.C. Loc: place: metaphorical Manner Pr. C. Manner: means
<i>small number of</i>	gr/force/quantify/thing:																
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<i>limited</i>	Manner Pr; constrained arbitrarily; flag																
<i>several</i>	gr/force/quantify/thing																
	21.1	Studies have often used umbrella terms,	Material clause; Pr: present perfect Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>often</i></td> <td>gr/force/quantify/process/frequency</td> </tr> <tr> <td><i>umbrella</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	<i>often</i>	gr/force/quantify/process/frequency	<i>umbrella</i>	gr/focus/valeur/specificity	1a	C. Extent: frequency								
<i>often</i>	gr/force/quantify/process/frequency																
<i>umbrella</i>	gr/focus/valeur/specificity																
	21.2	<i>[(that were) leaving the term communication skills undifferentiated.]</i>	Attributive clause; Pr: past continuous (<i>ellipsed</i>)														
	22.1	For example, Zaid and Abraham (1994) studied the problems <i>[(that are) encountered by accountancy Graduates early in their employment careers]</i>	Material clause; Pr: simple past Textual Theme: conjunction; Topical Theme: Actor: Appraisal <table border="1"> <tr> <td><i>for example</i></td> <td>Implied quantification</td> </tr> <tr> <td><i>studied</i></td> <td>Manner Pr; looked at carefully, purposefully; flag</td> </tr> <tr> <td><i>early</i></td> <td>gr/force/quantify/process/extent/scope/time</td> </tr> </table>	<i>for example</i>	Implied quantification	<i>studied</i>	Manner Pr; looked at carefully, purposefully; flag	<i>early</i>	gr/force/quantify/process/extent/scope/time	3a 1b	Manner Pr. D.C. Loc: time – loc: indet. emb. Q. Target						
<i>for example</i>	Implied quantification																
<i>studied</i>	Manner Pr; looked at carefully, purposefully; flag																
<i>early</i>	gr/force/quantify/process/extent/scope/time																
	22.2	and <i>(they) reported</i>	Verbal clause; Pr: simple past														
	22.3	that a primary area of difficulty <i>(was) to be</i> in “communication with others ”.	Identifying clause Topical Theme: Token Pr: (<i>ellipsed</i>) simple past Appraisal <table border="1"> <tr> <td><i>primary</i></td> <td>Implied quantification</td> </tr> </table>	<i>primary</i>	Implied quantification	2a	Q. Accomp: comitative Q. Value										
<i>primary</i>	Implied quantification																

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION							
	CI			Rk							
Literature Review Sub-phase 3 (cont.)	23.1	Baker and McGregor (2000) compared the importance [[that was perceived in communication skills] by a number of accountancy stakeholder groups];	Material clause; Pr: passive simple past Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>compared</i></td> <td>Manner Pr; examine <u>purposefully</u>, i.e., for differentiation; flag</td> </tr> <tr> <td><i>perceived</i></td> <td>Manner Pr; discerned particularly, i.e., from a special viewpoint; afford</td> </tr> <tr> <td><i>a number of</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>compared</i>	Manner Pr; examine <u>purposefully</u> , i.e., for differentiation; flag	<i>perceived</i>	Manner Pr; discerned particularly, i.e., from a special viewpoint; afford	<i>a number of</i>	gr/force/quantify/thing	3a 3b 1b	Manner Pr. Manner Pr. D.C. Loc: place - abstract:
	<i>compared</i>	Manner Pr; examine <u>purposefully</u> , i.e., for differentiation; flag									
	<i>perceived</i>	Manner Pr; discerned particularly, i.e., from a special viewpoint; afford									
	<i>a number of</i>	gr/force/quantify/thing									
	23.2	however, this study too, <u>uses</u> only the broad term <i>communication skills</i> .	Material clause; Pr: simple present Textual Theme: conjunctive; conraindication Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>only</i></td> <td>gr/focus/valeur/specificity</td> </tr> <tr> <td><i>broad</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	<i>only</i>	gr/focus/valeur/specificity	<i>broad</i>	gr/focus/valeur/specificity				
<i>only</i>	gr/focus/valeur/specificity										
<i>broad</i>	gr/focus/valeur/specificity										
24	Second, within the smaller number of studies [[that identify// and examine communication skills more specifically]] the focus <u>has tended to be on written communication skills</u> (Albrecht & Sack, 2000; Ashbaugh, Johnstone, & Warfield, 2002; English, Bonanno, Ihnatko, Webb, & Jones, 1999; Hall, 1998; Ng, Lloyd, Kober, & Robinson, 1999; Webb, English, & Bonanno, 1995).	Attributive (circ.) clause; Pr: simple past Textual Theme: conjunctive; sequencing Marked Theme (spatial); Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>within the smaller number¹ of studies [[that identify// and examine² communication skills more specifically³]]</i></td> <td>gr/force/quantify/process/ extent/ scope/space ¹gr/force/quantify/thing; invoke limitation ²Manner Pr; scrutinise <u>carefully</u>: flag ³gr/force/intensify/process</td> </tr> </table>	<i>within the smaller number¹ of studies [[that identify// and examine² communication skills more specifically³]]</i>	gr/force/quantify/process/ extent/ scope/space ¹ gr/force/quantify/thing; invoke limitation ² Manner Pr; scrutinise <u>carefully</u> : flag ³ gr/force/intensify/process	1a 3b 4a	C. Loc: place – semiotic Manner Pr. emb. C. Loc: place -semiotic Attribute (circ.) (spatial - abstract: generic)					
<i>within the smaller number¹ of studies [[that identify// and examine² communication skills more specifically³]]</i>	gr/force/quantify/process/ extent/ scope/space ¹ gr/force/quantify/thing; invoke limitation ² Manner Pr; scrutinise <u>carefully</u> : flag ³ gr/force/intensify/process										
25	Certain more in-depth studies <u>have</u> limitations of their own.	Attributive (possessive) clause; Pr: simple present Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>Certain</i></td> <td>gr/focus/valeur/specificity</td> </tr> <tr> <td><i>more</i></td> <td>gr/force/intensify/attribute</td> </tr> <tr> <td><i>of their own</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	<i>Certain</i>	gr/focus/valeur/specificity	<i>more</i>	gr/force/intensify/attribute	<i>of their own</i>	gr/focus/valeur/specificity			
<i>Certain</i>	gr/focus/valeur/specificity										
<i>more</i>	gr/force/intensify/attribute										
<i>of their own</i>	gr/focus/valeur/specificity										
26.1	De Lange, Jackling and Gut (2006) <u>surveyed</u> Australian accountancy Graduates	Material clause; Pr: simple past Topical Theme: Actor:									

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION					
	CI			Rk					
Literature Review Sub-phase 3 (cont.)	26.2	to find their ideas of the skills development <i>[[(that) they considered necessary for a successful career [in accountancy]]]</i> .	Material clause; Pr: non-finite Appraisal <table border="1"> <tr> <td><i>considered</i></td> <td>Manner Pr.; thought <i>conclusively</i>; afford</td> </tr> <tr> <td><i>successful</i></td> <td>appreciation: high +; inscribed</td> </tr> </table>	<i>considered</i>	Manner Pr.; thought <i>conclusively</i> ; afford	<i>successful</i>	appreciation: high +; inscribed	2a 3b 1b 2b	Q. Matter Manner Pr. D.C. Cause: purpose emb. Goal Q. Loc: place – inst: occ. Q. Cause: purpose
	<i>considered</i>	Manner Pr.; thought <i>conclusively</i> ; afford							
	<i>successful</i>	appreciation: high +; inscribed							
	27	A limit [of this approach] <i>is</i> that Graduates' perceptions do not necessarily match the perceptions of accountancy employers <i>[[(who are) wishing// to hire new Graduates.]]</i>	Identifying clause; Pr: simple present Topical Theme: Token Modality <table border="1"> <tr> <td>not necessarily</td> <td>med. probability</td> </tr> </table> Appraisal <table border="1"> <tr> <td><i>limit</i></td> <td>appreciation: med –; inscribed</td> </tr> </table>	not necessarily	med. probability	<i>limit</i>	appreciation: med –; inscribed		
not necessarily	med. probability								
<i>limit</i>	appreciation: med –; inscribed								
28.1	And while the De Lange et al. (2006) study <i>found</i>	Mental clause; Pr: simple past Topical theme: Sayer							
28.2	that students <i>reported</i> a significant skill deficiency [in the specific areas of “interpersonal skills” and “oral expression”] ,	Verbal clause; Pr: simple past Topical Theme: Sayer Appraisal <table border="1"> <tr> <td><i>significant</i></td> <td>gr/force/intensify/attribute</td> </tr> <tr> <td><i>in the specific¹ areas of “inter-personal skills” and “oral expression”</i></td> <td>gr/force/quantify/process/extent/ scope/space ¹gr/focus/valeur/specificity</td> </tr> </table>	<i>significant</i>	gr/force/intensify/attribute	<i>in the specific¹ areas of “inter-personal skills” and “oral expression”</i>	gr/force/quantify/process/extent/ scope/space ¹ gr/focus/valeur/specificity	2a	Q. Loc: place – abstract	
<i>significant</i>	gr/force/intensify/attribute								
<i>in the specific¹ areas of “inter-personal skills” and “oral expression”</i>	gr/force/quantify/process/extent/ scope/space ¹ gr/focus/valeur/specificity								
28.3	the range of possible skills <i>[[(that were) falling into these two broad categories]]</i> <i>remained</i> undifferentiated.	Attributive clause; Pr: simple past Topical Theme - Carrier Appraisal <table border="1"> <tr> <td><i>into these two¹ broad² categories</i></td> <td>gr/force/quantify/process/extent/scope/space ¹gr/force/quantify/thing ²gr/force/quantify/thing</td> </tr> </table>	<i>into these two¹ broad² categories</i>	gr/force/quantify/process/extent/scope/space ¹ gr/force/quantify/thing ² gr/force/quantify/thing	4b	Attribute (circ.) (spatial - abstract) emb. Q. Carrier			
<i>into these two¹ broad² categories</i>	gr/force/quantify/process/extent/scope/space ¹ gr/force/quantify/thing ² gr/force/quantify/thing								

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION									
	CI			Rk									
Sub-phase 4	29	There <u>remains</u> a very limited amount of scholarship [[<i>(that is)</i> focusing on the topic of specific oral communication skills in accountancy]] .	Existential clause; Pr: simple present Appraisal <table border="1"> <tr> <td><i>very</i></td> <td>gr/force/intensify/attribute</td> </tr> <tr> <td><i>limited</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>focusing</i></td> <td>Manner Pr; pay attention to <u>particularly</u>; flag</td> </tr> <tr> <td><i>specific</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	<i>very</i>	gr/force/intensify/attribute	<i>limited</i>	gr/force/quantify/thing	<i>focusing</i>	Manner Pr; pay attention to <u>particularly</u> ; flag	<i>specific</i>	gr/focus/valeur/specificity	3a 1b 2b	Manner Pr. D.C. Loc: place - abstract emb. Q. Existent Q. Loc: place - abstract Q. Matter
	<i>very</i>	gr/force/intensify/attribute											
	<i>limited</i>	gr/force/quantify/thing											
	<i>focusing</i>	Manner Pr; pay attention to <u>particularly</u> ; flag											
	<i>specific</i>	gr/focus/valeur/specificity											
30	A number of studies clearly <u>support</u> the position [[that accountancy employers want strong oral communication skills <u>in the Graduates</u> // (<i>whom</i>) they hire]] (see, e.g., Albrecht & Sack, 2000; McDonald, 2007; Morgan, 1997).	Material clause; Pr: simple present Topical Theme: Token Appraisal <table border="1"> <tr> <td><i>a number of</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>clearly</i></td> <td>gr/force/intensify/process</td> </tr> <tr> <td><i>support</i></td> <td>Manner Pr; present <u>positively</u>; flag</td> </tr> <tr> <td><i>strong</i></td> <td>appreciation: high +</td> </tr> </table>	<i>a number of</i>	gr/force/quantify/thing	<i>clearly</i>	gr/force/intensify/process	<i>support</i>	Manner Pr; present <u>positively</u> ; flag	<i>strong</i>	appreciation: high +	3a 2b	Manner Pr. Q. Loc: place - phys: people emb. Q. Scope	
<i>a number of</i>	gr/force/quantify/thing												
<i>clearly</i>	gr/force/intensify/process												
<i>support</i>	Manner Pr; present <u>positively</u> ; flag												
<i>strong</i>	appreciation: high +												
31	There <u>is</u> a similarly generally shared opinion [[that oral communication skills <u>in accountancy Graduates</u> are not at the required level]] .	Existential clause; Pr: simple present Appraisal <table border="1"> <tr> <td><i>similarly</i></td> <td>gr/focus/valeur/specificity</td> </tr> <tr> <td><i>generally</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>required</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	<i>similarly</i>	gr/focus/valeur/specificity	<i>generally</i>	gr/force/quantify/thing	<i>required</i>	gr/focus/valeur/specificity	2b 4b	Q. Loc: place phys: people emb. Q. Existent Attribute (circ.) (spatial - abstract) emb. Q. Existent			
<i>similarly</i>	gr/focus/valeur/specificity												
<i>generally</i>	gr/force/quantify/thing												
<i>required</i>	gr/focus/valeur/specificity												
32.1	Kryder (1997) <u>reports</u>	Verbal clause; Pr: simple present Topical Theme: Sayer											
32.2	that many new accountants <u>are</u> “surprised	Attributive clause; Pr: present Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>many</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>surprised</i></td> <td>affect (insecurity/surprise) - surge</td> </tr> </table>	<i>many</i>	gr/force/quantify/thing	<i>surprised</i>	affect (insecurity/surprise) - surge							
<i>many</i>	gr/force/quantify/thing												
<i>surprised</i>	affect (insecurity/surprise) - surge												
32.3	and (<i>they are</i>) dismayed”	Attributive clause; Pr: present passive Appraisal <table border="1"> <tr> <td><i>dismayed</i></td> <td>affect (unhappiness) - surge</td> </tr> </table>	<i>dismayed</i>	affect (unhappiness) - surge									
<i>dismayed</i>	affect (unhappiness) - surge												
32.4	to discover the communications skills [[<i>(that are)</i> required in the workplace]] .	Material clause; Pr: non-finite Appraisal <table border="1"> <tr> <td><i>required</i></td> <td>Manner Pr; wanted <u>compulsorily</u>; flag</td> </tr> <tr> <td><i>in the workplace</i></td> <td>gr/force/quantify/process/extent/ scope/ space</td> </tr> </table>	<i>required</i>	Manner Pr; wanted <u>compulsorily</u> ; flag	<i>in the workplace</i>	gr/force/quantify/process/extent/ scope/ space	3b 2b	Manner Pr. Q. Loc: place - abstract: occ. emb. Q. Scope					
<i>required</i>	Manner Pr; wanted <u>compulsorily</u> ; flag												
<i>in the workplace</i>	gr/force/quantify/process/extent/ scope/ space												

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION								
	CI			Rk								
Literature Review (cont.) Sub-phase 5	33.1	However, few studies <u>have identified</u>	Material clause; Pr: present perfect Topical Theme: Actor Appraisal <table border="1"><tr><td><i>few</i></td><td>gr/force/quantify/thing:</td></tr></table>	<i>few</i>	gr/force/quantify/thing:							
	<i>few</i>	gr/force/quantify/thing:										
	33.2	and (have) examined individual oral communication skills.	Material clause; Pr: present perfect Appraisal <table border="1"><tr><td><i>examined</i></td><td>Manner Pr; scrutinized carefully; flag</td></tr><tr><td><i>individual</i></td><td>gr/focus/valeur/specificity</td></tr></table>	<i>examined</i>	Manner Pr; scrutinized carefully; flag	<i>individual</i>	gr/focus/valeur/specificity	3a	Manner Pr.			
	<i>examined</i>	Manner Pr; scrutinized carefully; flag										
	<i>individual</i>	gr/focus/valeur/specificity										
	34.1	One such study, by Maes, Weldy and Icenogle (1997), surveyed business employers on Graduates' possession of 13 distinct oral communication skills	Material clause; Pr: simple past Topical Theme: Actor Appraisal <table border="1"><tr><td><i>one such</i></td><td>implied quantification</td></tr><tr><td><i>13</i></td><td>gr/force/quantify/thing</td></tr><tr><td><i>distinct</i></td><td>gr/focus/valeur/specificity</td></tr></table>	<i>one such</i>	implied quantification	<i>13</i>	gr/force/quantify/thing	<i>distinct</i>	gr/focus/valeur/specificity	1a	C. Matter	
<i>one such</i>	implied quantification											
<i>13</i>	gr/force/quantify/thing											
<i>distinct</i>	gr/focus/valeur/specificity											
34.2	but they <u>surveyed</u> 150 American managers across a broad array of industries.	Material clause; Pr: simple past Topical Theme: Actor Appraisal <table border="1"><tr><td><i>150</i></td><td>gr/force/quantify/thing</td></tr><tr><td><i>broad array</i></td><td>gr/force/quantify/thing</td></tr></table>	<i>150</i>	gr/force/quantify/thing	<i>broad array</i>	gr/force/quantify/thing	1a	C. Loc: place – ind. occ.				
<i>150</i>	gr/force/quantify/thing											
<i>broad array</i>	gr/force/quantify/thing											
35.1	Maes et al (1997) and McLaren (1990) both <u>included</u> listening in their lists of desirable communication skills	Attributive clause; Pr: simple past Topical Theme: Attributor Appraisal <table border="1"><tr><td><i>in their lists of desirable¹ communication skills</i></td><td>gr/force/quantify/thing/scope/space ¹appreciation: high +; inscribe</td></tr></table>	<i>in their lists of desirable¹ communication skills</i>	gr/force/quantify/thing/scope/space ¹ appreciation: high +; inscribe	1a	C. Loc: place – semiotic						
<i>in their lists of desirable¹ communication skills</i>	gr/force/quantify/thing/scope/space ¹ appreciation: high +; inscribe											
35.2	and the importance of listening [as a specific business communication skill] has been examined more recently by Goby and Lewis (2000).	Material clause; Pr: passive present perfect Topical Theme: Scope Appraisal <table border="1"><tr><td><i>specific</i></td><td>gr/focus/valeur/specificity</td></tr><tr><td><i>examined</i></td><td>Manner Pr; scrutinised carefully; flag</td></tr><tr><td><i>more</i></td><td>gr/force/intensify/process</td></tr><tr><td><i>recently</i></td><td>gr/force/quantify/process/extent/scope/time</td></tr></table>	<i>specific</i>	gr/focus/valeur/specificity	<i>examined</i>	Manner Pr; scrutinised carefully; flag	<i>more</i>	gr/force/intensify/process	<i>recently</i>	gr/force/quantify/process/extent/scope/time	2a 3a 5	Q. Role: guise Q. Target Manner Pr. Adjunct: temporal (located: indeterminate)
<i>specific</i>	gr/focus/valeur/specificity											
<i>examined</i>	Manner Pr; scrutinised carefully; flag											
<i>more</i>	gr/force/intensify/process											
<i>recently</i>	gr/force/quantify/process/extent/scope/time											

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION	
	CI			Rk	
Literature Review Sub-phase 5 (cont.)	36	With no agreement [on a catalogue of oral communication skills], other research has variously investigated conveying of expertise and giving intelligible explanations (Smythe & Nikolai, 2002), giving formal presentations (Wardrope, 2002) and giving more casual presentations (Zaid & Abraham, 1994) across a range of business industries.	Material clause; Pr: present perfect Marked Theme (comitative); Topical Theme: Actor Appraisal With no agreement en/contract/disclaim/deny variously gr/force/intensify/process investigated Manner Pr; looked into thoroughly; flag across a range of gr/force/quantify/thing	1a 2a 3a 1a	C. Accomp: comitative Q. Matter Q. Accomp: comitative Manner Pr. C. Loc: place – ind: occ.
	37.1	While Morgan (1997) identified 13 individual skill areas within oral communication activities in accountancy in a study of accounting professionals in England and Wales]	Material clause; Pr: simple past Topical Theme: Actor Appraisal 13 gr/force/quantify/thing individual gr/force/valeur/specificity Within oral ... and Wales gr/force/quantify/process/extent/ scope/space	2a 2b 2b 2b	Q. Loc: place – abstract Q. Scope Q. Loc: place – abstract Q. Loc: place – abstract Q. Loc: place – abstract Q. Loc: place – phys: geo. Q. Loc: place – semiotic
	37.2	his study is exceptional in its specific focus.	Attributive clause; Pr: present Topical Theme: Carrier Appraisal exceptional appreciation: high +; inscribe specific gr/focus/valeur/specificity	1a	C. Manner: quality
Research space	38	Thus a marked gap exists in the literature [on oral communication skills in the accountancy workplace].	Material clause; Pr: simple present Textual Theme: Conj. (summarises) Topical Theme: Scope Appraisal marked gr/force/quantify/thing gap appreciation: high –; inscribe in the literature ... workplace gr/force/quantify/process/extent/ scope/space	1a 2a 2b	C. Loc: place – semiotic Q. Matter Q. Loc: place - semiotic Q. Loc: place – abstract (institutional: occupational) Q. Matter

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION									
	CI			Rk									
Research space (cont.)	39	Further, since McLaren's 1990 study , the particular requirements for communication skills in the New Zealand accountancy workplace have not been comprehensively examined .	Material clause; Pr: passive present perfect Textual Theme: (extends argument) Marked Theme (temporal); Topical Theme: Scope Appraisal <table border="1"> <tr> <td><i>since... study</i></td> <td>gr/force/quantify/extent/scope/time</td> </tr> <tr> <td><i>particular</i></td> <td>gr/focus/valeur/specificity</td> </tr> <tr> <td><i>comprehensively</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>examined</i></td> <td>Manner Pr; scrutinised carefully; flag</td> </tr> </table>	<i>since... study</i>	gr/force/quantify/extent/scope/time	<i>particular</i>	gr/focus/valeur/specificity	<i>comprehensively</i>	gr/force/quantify/process/extent/scope/space	<i>examined</i>	Manner Pr; scrutinised carefully; flag	1a 2a 2b 3a 1a	C. Loc: time – loc: det. Q. Matter Q.Target Q. Loc: place – abstract (institutional: occupational) Q. Matter Manner Pr. C. Manner: degree
<i>since... study</i>	gr/force/quantify/extent/scope/time												
<i>particular</i>	gr/focus/valeur/specificity												
<i>comprehensively</i>	gr/force/quantify/process/extent/scope/space												
<i>examined</i>	Manner Pr; scrutinised carefully; flag												
Literature review Sub-phase 6	40	Like De Lange et al (2006) in Australia Rainsbury, Hodges, Burchell and Lay (2002) surveyed New Zealand business students and Graduates—but not employers— on their perceptions of the workplace importance of seven key skill areas .	Material clause; Pr: simple past Marked Theme (comparison) Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>in Australia</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>importance</i></td> <td>appreciation: high +; inscribe</td> </tr> <tr> <td><i>seven</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>key</i></td> <td>appreciation: high +; inscribe</td> </tr> </table>	<i>in Australia</i>	gr/force/quantify/process/extent/scope/space	<i>importance</i>	appreciation: high +; inscribe	<i>seven</i>	gr/force/quantify/thing	<i>key</i>	appreciation: high +; inscribe	1a 2a 1a	C. Manner: comparison Q. Loc: place – phys: geo. Q. Manner: comparison C. Matter
<i>in Australia</i>	gr/force/quantify/process/extent/scope/space												
<i>importance</i>	appreciation: high +; inscribe												
<i>seven</i>	gr/force/quantify/thing												
<i>key</i>	appreciation: high +; inscribe												
	41	Oral and written communication was again presented as a single skill area [within the seven] .	Material clause; Pr: simple past Topical Theme: Scope Appraisal <table border="1"> <tr> <td><i>again</i></td> <td>gr/force/quantify/process/frequency</td> </tr> <tr> <td><i>single</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>within the seven</i></td> <td>gr/force/quantify/quantify/process/extent/ scope/space</td> </tr> </table>	<i>again</i>	gr/force/quantify/process/frequency	<i>single</i>	gr/force/quantify/thing	<i>within the seven</i>	gr/force/quantify/quantify/process/extent/ scope/space	1a 2a	C. Role: guise Q. Loc: place – abstract Q. Role: guise		
<i>again</i>	gr/force/quantify/process/frequency												
<i>single</i>	gr/force/quantify/thing												
<i>within the seven</i>	gr/force/quantify/quantify/process/extent/ scope/space												
	42.1	In other New Zealand studies , Gardner, Milne, Stringer and Whiting (2005) engaged with the particular issue [of oral communication in accountancy students]	Behavioural clause; Pr: simple past Marked Theme (spatial) Topical Theme: Behavior Appraisal <table border="1"> <tr> <td><i>In other New Zealand studies</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>engaged with</i></td> <td>Manner Pr.; discussed <i>analytically</i>; flag</td> </tr> <tr> <td><i>particular</i></td> <td>gr/focus/valeur/specificity</td> </tr> <tr> <td><i>issue</i></td> <td>appreciation: high –; inscribe</td> </tr> </table>	<i>In other New Zealand studies</i>	gr/force/quantify/process/extent/scope/space	<i>engaged with</i>	Manner Pr.; discussed <i>analytically</i> ; flag	<i>particular</i>	gr/focus/valeur/specificity	<i>issue</i>	appreciation: high –; inscribe	1a 3a 1a 2b	C. Loc: place – semiotic Manner Pr. C. Accomp: comitative Q. Loc: place - phys: people Q. Accomp: comitative
<i>In other New Zealand studies</i>	gr/force/quantify/process/extent/scope/space												
<i>engaged with</i>	Manner Pr.; discussed <i>analytically</i> ; flag												
<i>particular</i>	gr/focus/valeur/specificity												
<i>issue</i>	appreciation: high –; inscribe												

PHASE	CONTENT		LINGUISTICS	CONTEXTUALISATION	
	CI			Rk	
Literature Review Sub-phase 6 (cont.)	42.2	but <i>(they)</i> examined it from the perspective of students' communication apprehension (CA) and the impact of their course of study [[in reducing student CA]] ,	Material clause; Pr: simple past Topical Theme: Actor Appraisal examined | Manner Pr; scrutinised carefully ; flag	3a 1a	Manner Pr. C. Angle: viewpoint
	42.3	rather than <i>(examining it)</i> in a workplace context .	Material clause (<i>process ellipsed</i>) Appraisal in a workplace context | gr/force/quantify/process/extent/scope/space	1a	C. Loc: place – abstract (institutional, occupational)
	43.1	Several Otago University studies recounted the development of teaching programs [[<i>(that were)</i> integrating generic skills with accounting knowledge	Verbal clause; Pr: simple past Topical Theme: Sayer Appraisal Several | gr/force/quantify/thing	1b	D.C. Accomp: comitative in Q. Verbiage
	43.2	but <i>(they)</i> drew on a skill-set [[<i>(that was)</i> articulated in the Society of Accountants' Admission policy]]	Material clause; Pr: simple past Appraisal in the Society ... Admission policy | gr/force/quantify/process/extent/scope/space	1b	D.C. Loc: place – semiotic in Q. Verbiage
	43.3	rather than <i>(drawing on)</i> employer demand (see, e.g., Adler & Milne, 1994; Milne, 1999; Milne & McConnell, 2001).	Material clause		

APPENDIX D4 Macpherson & Owen (2010) introduction: content and linguistics

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION										
	CI			Rk										
Intro. to topic	1	In 2004 , the Australian National University (ANU), Canberra, Australia, launched a graduate-entry medical degree.	Material clause; Pr: simple past Marked Theme (temporal) Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>In 2004</i></td> <td>gr/force/quantify/process/extent/scope/time</td> </tr> <tr> <td><i>launched</i></td> <td>Manner Pr; began <i>enthusiastically</i>; flag</td> </tr> </table>	<i>In 2004</i>	gr/force/quantify/process/extent/scope/time	<i>launched</i>	Manner Pr; began <i>enthusiastically</i> ; flag	1a 3a	C. Loc: time – loc: det. Manner Pr.					
	<i>In 2004</i>	gr/force/quantify/process/extent/scope/time												
	<i>launched</i>	Manner Pr; began <i>enthusiastically</i> ; flag												
	2	In 2005 , the Medical Education Unit commissioned research [on the ability of students [(who were) enrolled in that course [in the area of critical thinking.]]]	Material clause; Pr: simple past Marked Theme (temporal); Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>In 2005</i></td> <td>gr/force/quantify/process/extent/scope/time</td> </tr> <tr> <td><i>in that course [in the area of critical thinking]</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>In 2005</i>	gr/force/quantify/process/extent/scope/time	<i>in that course [in the area of critical thinking]</i>	gr/force/quantify/process/extent/scope/space	1a 2a 1b 2b	C. Loc: time – loc: det. Q. Matter Q. Goal D.C. Loc: place - inst: edu. emb - Goal Loc: place – abstract Q. Loc: place - inst: edu.					
<i>In 2005</i>	gr/force/quantify/process/extent/scope/time													
<i>in that course [in the area of critical thinking]</i>	gr/force/quantify/process/extent/scope/space													
3.1	The aim of the research was to monitor students' critical thinking skills	Identifying clause; Pr: simple past Topical Theme: Token Appraisal <table border="1"> <tr> <td><i>monitor</i></td> <td>Manner Pr; observe <i>critically</i>; flag</td> </tr> </table>	<i>monitor</i>	Manner Pr; observe <i>critically</i> ; flag	3a	Manner Pr.								
<i>monitor</i>	Manner Pr; observe <i>critically</i> ; flag													
3.2	as they experienced a range of educational styles [(that were) including problem-based learning]] in the first year [of their graduate medical studies].	Attributive clause; Pr: simple past Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>a range of</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>first</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>a range of</i>	gr/force/quantify/thing	<i>first</i>	gr/force/quantify/thing	1a 2a	C. Loc: time – unloc: det. Q. Matter Q. Loc: time - unloc: det.						
<i>a range of</i>	gr/force/quantify/thing													
<i>first</i>	gr/force/quantify/thing													
4	Research [into the success or otherwise of learning and teaching strategies [(that are) associated with the development of critical thinking ability]]] is important both in terms of education efficiencies [[and in terms of producing capable medical graduates]].	Attributive clause; Pr: simple present Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>success</i></td> <td>appreciation: high +; inscribed</td> </tr> <tr> <td><i>otherwise</i></td> <td>appreciation: med –; inscribed</td> </tr> <tr> <td><i>important</i></td> <td>appreciation: high +; inscribed</td> </tr> <tr> <td><i>both</i></td> <td>gr/force/intensify/attribute</td> </tr> <tr> <td><i>capable</i></td> <td>appreciation: high +; inscribed</td> </tr> </table>	<i>success</i>	appreciation: high +; inscribed	<i>otherwise</i>	appreciation: med –; inscribed	<i>important</i>	appreciation: high +; inscribed	<i>both</i>	gr/force/intensify/attribute	<i>capable</i>	appreciation: high +; inscribed	2a 1a	Q. Matter C. Cause: purpose
<i>success</i>	appreciation: high +; inscribed													
<i>otherwise</i>	appreciation: med –; inscribed													
<i>important</i>	appreciation: high +; inscribed													
<i>both</i>	gr/force/intensify/attribute													
<i>capable</i>	appreciation: high +; inscribed													

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION					
	CI			Rk					
Development Sub-phase 1	5	Critical thinking <u>comprises</u> 'a set of skills and strategies for [[making reasonable decisions// about what //to do //or believe]] (Rudinow & Barry 1999).	Identifying clause; Pr: active present Topical Theme: Value	2b 3b	C. Matter Manner Pr.				
	6	These skills <u>are</u> integral to effective clinical decision-making.	Attributive clause; Pr: simple present Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>integral</i></td> <td>appreciation: high +; inscribed</td> </tr> <tr> <td><i>effective</i></td> <td>appreciation: high +; inscribed</td> </tr> </table>	<i>integral</i>	appreciation: high +; inscribed	<i>effective</i>	appreciation: high +; inscribed		
	<i>integral</i>	appreciation: high +; inscribed							
	<i>effective</i>	appreciation: high +; inscribed							
	7	Beyer's (1987) classification <u>provides</u> a framework [[for developing an understand-ing [of the various components of thinking, // and (of) the role that critical thinking plays]].	Material clause; Pr: simple present Topical Theme: Actor	2b	C. Matter				
	8.1	Beyer <u>describes</u> three components	Identifying clause; Pr: active simple present Topical Theme: Assigner						
	8.2	<<all of which <u>have to be present</u> >>	Attributive clause; Pr: modal Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>all</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>all</i>	gr/force/quantify/thing				
	<i>all</i>	gr/force/quantify/thing							
	8.3	for clear thinking to occur.	Material clause; non-finite Appraisal <table border="1"> <tr> <td><i>clear</i></td> <td>appreciation: high +; inscribe</td> </tr> </table>	<i>clear</i>	appreciation: high +; inscribe				
<i>clear</i>	appreciation: high +; inscribe								
9	Domain-specific knowledge <u>is</u> the body of knowledge [[that a student acquires // when studying, for example, medicine or law]].	Identifying clause; Pr: simple present Topical Theme: Token Appraisal <table border="1"> <tr> <td><i>specific</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	<i>specific</i>	gr/focus/valeur/specificity					
<i>specific</i>	gr/focus/valeur/specificity								

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION									
	CI			Rk									
Development Sub-phase 1 (cont.)	10.1	Attitudes [[<i>(that are)</i> important to (for) the development of sound thinking skills,]] << >> include respect for evidence, healthy skepticism and curiosity, and desire (motivation) [[to solve a problem]].	Identifying clause; Pr: simple present Topical Theme: Token Appraisal <table border="1"> <tr> <td><i>important</i></td> <td>appreciaton: high +; inscribe</td> </tr> <tr> <td><i>sound</i></td> <td>appreciation: high +; inscribe</td> </tr> <tr> <td><i>healthy</i></td> <td>appreciation: high +; inscribe</td> </tr> <tr> <td><i>desire</i></td> <td>affect: + inclination</td> </tr> </table>	<i>important</i>	appreciaton: high +; inscribe	<i>sound</i>	appreciation: high +; inscribe	<i>healthy</i>	appreciation: high +; inscribe	<i>desire</i>	affect: + inclination	1b 2b	D.C. Cause: purpose emb Q. Token C. Matter
	<i>important</i>	appreciaton: high +; inscribe											
	<i>sound</i>	appreciation: high +; inscribe											
	<i>healthy</i>	appreciation: high +; inscribe											
<i>desire</i>	affect: + inclination												
10.2	<< Beyer suggests, >>	Verbal clause; Pr: active simple present Appraisal <table border="1"> <tr> <td><i>suggests</i></td> <td>Manner Pr.; states <u>tentatively</u>; afford</td> </tr> </table>	<i>suggests</i>	Manner Pr.; states <u>tentatively</u> ; afford	3a	Manner Pr.							
<i>suggests</i>	Manner Pr.; states <u>tentatively</u> ; afford												
11	Cognitive operations <u>include</u> three over-arching strategies of conceptualized problem-solving and decision-making.	Identifying clause; Pr: active simple present Topical Theme: Token Appraisal <table border="1"> <tr> <td><i>three</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>over-arching</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>three</i>	gr/force/quantify/thing	<i>over-arching</i>	gr/force/quantify/thing							
<i>three</i>	gr/force/quantify/thing												
<i>over-arching</i>	gr/force/quantify/thing												
11.2	and these strategies <u>are underpinned</u> by critical thinking skills such as detecting fallacious argument, identifying inferences and determining relevance.	Material clause; Pr: passive present simple Topical Theme: Goal Appraisal <table border="1"> <tr> <td><i>underpinned</i></td> <td>Manner Pr; supported <u>securely</u>; flag</td> </tr> <tr> <td><i>fallacious</i></td> <td>appreciation: high –; inscribe</td> </tr> </table>	<i>underpinned</i>	Manner Pr; supported <u>securely</u> ; flag	<i>fallacious</i>	appreciation: high –; inscribe	3a	Manner Pr.					
<i>underpinned</i>	Manner Pr; supported <u>securely</u> ; flag												
<i>fallacious</i>	appreciation: high –; inscribe												
Literature review	12.1	The development of critical thinking ability [at the level of tertiary education] has been a major area of research in recent years:	Attributive clause; Pr: present perfect Topical Theme: Carrier Appraisal <table border="1"> <tr> <td>at the level of tertiary education</td> <td>gr/force/quantify/process/ extent/scope/space</td> </tr> <tr> <td><i>major</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td>in recent years</td> <td>gr/force/quantify/process/ extent/ distance/time ¹gr/force/quantify/thing</td> </tr> </table>	at the level of tertiary education	gr/force/quantify/process/ extent/scope/space	<i>major</i>	gr/force/quantify/thing	in recent years	gr/force/quantify/process/ extent/ distance/time ¹ gr/force/quantify/thing	2a 1a	Q. Loc: place – abstract C. Loc: time: loc: indet.		
	at the level of tertiary education	gr/force/quantify/process/ extent/scope/space											
<i>major</i>	gr/force/quantify/thing												
in recent years	gr/force/quantify/process/ extent/ distance/time ¹ gr/force/quantify/thing												
12.2	for example, van Gelder (2005) has reviewed the efficacy of critical thinking courses:	Material clause; Pr: present perfect Topical Theme: Actor Appraisal <table border="1"> <tr> <td>reviewed</td> <td>Manner Pr.: discussed <u>critically</u>; afford</td> </tr> </table>	reviewed	Manner Pr.: discussed <u>critically</u> ; afford	3a	Manner Pr.							
reviewed	Manner Pr.: discussed <u>critically</u> ; afford												

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION						
	CI			Rk						
Literature review (cont.)	13	Vesely and Sherlock (2005) <u>have described</u> pedagogical tools;	Identifying clause; Pr: present perfect Topical Theme: Assigner							
	14	others (Deloach and Greenlaw 2005) <u>have considered</u> the efficacy of electronic discussions [in the development of critical thinking].	Mental clause; Pr: present perfect Topical Theme: Senser Appraisal <table border="1"><tr><td><i>considered</i></td><td>Manner Pr; thought <u>carefully</u> about; afford</td></tr></table>	<i>considered</i>	Manner Pr; thought <u>carefully</u> about; afford	3a 2a	Manner Pr. Q. Cause: purpose Q. Target			
<i>considered</i>	Manner Pr; thought <u>carefully</u> about; afford									
Development Sub-phase 2	15.1	Developing students' critical thinking ability <u>is</u> of central importance	Attributive clause; Pr: present simple Topical Theme: Carrier Appraisal <table border="1"><tr><td><i>central</i></td><td>gr/force/intensify/attribute</td></tr></table>	<i>central</i>	gr/force/intensify/attribute					
	<i>central</i>	gr/force/intensify/attribute								
	15.2	as it <u>underpins</u> effective decision-making; for example, diagnosis (Macpherson 2005).	Material clause; Pr: active simple present Topical Theme: Actor Appraisal <table border="1"><tr><td><i>underpins</i></td><td>Manner Pr; supports <u>securely</u>; flag</td></tr><tr><td><i>effective</i></td><td>appreciation: high +; inscribe</td></tr></table>	<i>underpins</i>	Manner Pr; supports <u>securely</u> ; flag	<i>effective</i>	appreciation: high +; inscribe	3a	Manner Pr.	
	<i>underpins</i>	Manner Pr; supports <u>securely</u> ; flag								
<i>effective</i>	appreciation: high +; inscribe									
16	Critical thinking biases and errors <u>are</u> a category of human error [[that is implicated in a broad range of medical adverse events]] (Reason 2000, 2005; Croskerry 2002, 2003).	Identifying clause; Pr: active simple present Topical Theme: Value Appraisal <table border="1"><tr><td><i>broad</i></td><td>gr/force/quant/thing</td></tr><tr><td><i>range of</i></td><td>gr/force/quant/thing</td></tr><tr><td><i>adverse</i></td><td>appreciation: high -; inscribed</td></tr></table>	<i>broad</i>	gr/force/quant/thing	<i>range of</i>	gr/force/quant/thing	<i>adverse</i>	appreciation: high -; inscribed	4b	Attribute (circ.) (Spatial - abstract) emb Q. Token
<i>broad</i>	gr/force/quant/thing									
<i>range of</i>	gr/force/quant/thing									
<i>adverse</i>	appreciation: high -; inscribed									
17.1	In Australia , patient harm <u>results from</u> 1 in 10 hospital admissions.	Causative (material) clause; Pr: simple present Marked Theme (spatial); Topical Theme: Value Appraisal <table border="1"><tr><td><i>in Australia</i></td><td>gr/force/quantify/process/extent/scope/space</td></tr><tr><td><i>harm</i></td><td>appreciation: high -; inscribe</td></tr></table>	<i>in Australia</i>	gr/force/quantify/process/extent/scope/space	<i>harm</i>	appreciation: high -; inscribe	1a	C. Loc: place - phys: geo.		
<i>in Australia</i>	gr/force/quantify/process/extent/scope/space									
<i>harm</i>	appreciation: high -; inscribe									
17.2	and 2% of these <u>lead to</u> death or serious disability (Runciman 2002).	Causative (material) clause; Pr: active simple present Topical Theme: Actor Appraisal <table border="1"><tr><td><i>death</i></td><td>appreciation: high-; invoke affect: reaction</td></tr><tr><td><i>serious</i></td><td>gr/force/intensifying/attribute</td></tr></table>	<i>death</i>	appreciation: high-; invoke affect: reaction	<i>serious</i>	gr/force/intensifying/attribute				
<i>death</i>	appreciation: high-; invoke affect: reaction									
<i>serious</i>	gr/force/intensifying/attribute									

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION	
	CI			Rk	
Development Sub-phase 2 (cont.)	18	There were 1.5 million admissions to New South Wales hospitals in 2003/4 (NSW Health: Patient Safety and Clinical Quality Program 2004).	Existential clause; Pr: simple past Appraisal to New South Wales Hospitals | gr/force/quantify/process/extent/scope/space in 2003/4 | gr/force/quantify/process/extent/scope/time	1a 1a	C. Loc: place – inst: occ. C. Loc: time – loc: det.
	19.1	Human error plays a significant role in nearly 82% of these adverse events,	Identifying clause; Pr: active simple present Topical Theme: Token Appraisal significant | gr/force/quantify/thing in nearly ¹ 82% ² of these adverse ³ events | gr/force/quantify/process/extent/scope/space ¹ gr/force/intensify/attribute ² gr/force /quantify/thing ³ appreciation: high -; inscribe	1a 2c	C. Loc: place - abstract: gen Manner: degree emb Loc. place – abstract
	19.2	and error [(that is) associated with failure [of cognitive function]] (e.g. failure to synthesise// and/or (to) act on information)] is second only after 'failure in technical performance [of an indicated procedure]' as the most frequent cause [of preventable medical error] (Wilson et al 1999).	Attributive clause; Pr: simple present Topical Theme: Carrier Appraisal error | appreciation: high –; inscribe; failure (x3) | appreciation: high –; inscribe; invoke negative judgement; capacity only | gr/force/intensify/attribute the most | gr/force/intensify/attribute frequent | gr/force/quantify/thing	1a 1a	C. Loc: time –unloc: indet. C. Role: guise
	20	Similar rates of error have been found in other Western countries such as the UK, Denmark, Canada and France (Wilson and van der Weyden 2005).	Identifying clause; Pr: present perfect Topical Theme: Value Appraisal in other ... and France | gr/force/quantify/process/extent/scope/space	1a	C. Loc: place – phys: geo

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION									
	CI			Rk									
Purpose-value	21	In view of the importance [of the development of such critical thinking skills for effective professional practice,] it is appropriate [[to test the level //at which first-year students (<i>who are</i>) in a new graduate medical degree possess such skills]].	Attributive clause; Pr: simple present Marked Theme (viewpoint); Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>importance</i></td> <td>appreciation: high +; inscribed</td> </tr> <tr> <td><i>effective</i></td> <td>judgement: capacity high +</td> </tr> <tr> <td><i>appropriate</i></td> <td>judgement: sanction - propriety +</td> </tr> <tr> <td><i>in a new graduate medical degree</i></td> <td>gr/force/quantify/process/ extent/scope/space</td> </tr> </table>	<i>importance</i>	appreciation: high +; inscribed	<i>effective</i>	judgement: capacity high +	<i>appropriate</i>	judgement: sanction - propriety +	<i>in a new graduate medical degree</i>	gr/force/quantify/process/ extent/scope/space	1a 2b 4b	C. Angle: viewpoint Q. Cause: purpose emb Q. Angle: viewpoint Attribute (circ.) (spatial – semiotic) emb Q. Attribute
<i>importance</i>	appreciation: high +; inscribed												
<i>effective</i>	judgement: capacity high +												
<i>appropriate</i>	judgement: sanction - propriety +												
<i>in a new graduate medical degree</i>	gr/force/quantify/process/ extent/scope/space												

APPENDIX D5 Bowen (2010) introduction: content, linguistic and contextual resources

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION									
	CI			Rk									
Intro. to topic	1	The arrival of some 35,000 Chinese gold miners [to Victoria] during the 1850s increased demand [for fish, [(which was) a Chinese dietary staple]]].	Material clause; Pr: simple past Topical Theme: Actor Appraisal <table border="1"> <tr> <td>to Victoria</td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td>during the 1850s</td> <td>gr/force/quantify/process/extent/scope/time</td> </tr> </table>	to Victoria	gr/force/quantify/process/extent/scope/space	during the 1850s	gr/force/quantify/process/extent/scope/time	2a 1a 2a	Q. Loc: place - phys: geo. C. Loc: time – loc: det. Q. Cause: purpose				
	to Victoria	gr/force/quantify/process/extent/scope/space											
	during the 1850s	gr/force/quantify/process/extent/scope/time											
	2	The majority of these migrants were impoverished lower class men [(who were) from the provinces of Guangdong and Fujian and the island of Amoy]] .	Identifying clause; Pr: past Topical Theme: Value Appraisal <table border="1"> <tr> <td>lower</td> <td>gr/force/quantify/thing</td> </tr> <tr> <td>from the provinces of Guangdong and Fujian and the island of Amoy</td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td>majority</td> <td>gr/force/quantify/thing</td> </tr> <tr> <td>impoverished</td> <td>appreciation: high –; inscribed</td> </tr> </table>	lower	gr/force/quantify/thing	from the provinces of Guangdong and Fujian and the island of Amoy	gr/force/quantify/process/extent/scope/space	majority	gr/force/quantify/thing	impoverished	appreciation: high –; inscribed	1b	D.C. Loc: place - phys: geo emb. Q.Token
	lower	gr/force/quantify/thing											
from the provinces of Guangdong and Fujian and the island of Amoy	gr/force/quantify/process/extent/scope/space												
majority	gr/force/quantify/thing												
impoverished	appreciation: high –; inscribed												
3	In each of these regions fishing has historically played a major economic role.	Material clause; Pr: present perfect Marked Theme (spatial); Topical Theme: Actor Appraisal <table border="1"> <tr> <td>In each¹ of these regions</td> <td>gr/force/quantify/process/extent/scope/space¹gr/focus/valeur/specificity</td> </tr> <tr> <td>major</td> <td>gr/force/quantify/thing</td> </tr> </table>	In each¹ of these regions	gr/force/quantify/process/extent/scope/space ¹ gr/focus/valeur/specificity	major	gr/force/quantify/thing	1a 5	C. Loc: place - phys: geo Temporal Adjunct (Loc: time – loc: indet.)					
In each¹ of these regions	gr/force/quantify/process/extent/scope/space ¹ gr/focus/valeur/specificity												
major	gr/force/quantify/thing												
4	Many of these Chinese migrants probably already had commercial fishing experience.	Attributive (poss.) clause; Pr: past (modality: med. prob.) Topical Theme: Carrier Appraisal <table border="1"> <tr> <td>already</td> <td>gr/force/intensify/process</td> </tr> </table>	already	gr/force/intensify/process	5	Temporal Adjunct (Loc: time – unloc: det.)							
already	gr/force/intensify/process												
5	Given (because of) the Chinese cultural preference for a fish-based diet some Chinese people very successfully entered Australia's colonial fishing industry.	Material clause; Pr: past continuous Marked Theme (Cause: reason); Topical Theme: Actor Appraisal <table border="1"> <tr> <td>very successfully</td> <td>gr/force/intensify process</td> </tr> </table>	very successfully	gr/force/intensify process	1a 2a 1a	C. Cause: reason Q. Matter Q Cause: reason C. Manner: quality							
very successfully	gr/force/intensify process												

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION															
	CI			Rk															
Intro. to topic (cont.)	6	<p>At a time [[when most Melbourne and Sydney-based European fishermen were earning approximately £50 per year]] Chinese people [[(who were) working in Australia]] were earning that much (money) every day.</p>	<p>Material clause; Pr: past continuous Marked Theme (temporal); Topical Theme: Actor Appraisal</p> <table border="1"> <tr> <td>most</td> <td>gr/force/quantify/thing</td> </tr> <tr> <td>approximately</td> <td>gr/force/quantify/thing</td> </tr> <tr> <td>that much</td> <td>gr/force/quantify/thing</td> </tr> <tr> <td>per year</td> <td>gr/force/quantify/process/frequency</td> </tr> <tr> <td>in Australia</td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td>every day</td> <td>gr/force/quantify/process/frequency</td> </tr> </table>	most	gr/force/quantify/thing	approximately	gr/force/quantify/thing	that much	gr/force/quantify/thing	per year	gr/force/quantify/process/frequency	in Australia	gr/force/quantify/process/extent/scope/space	every day	gr/force/quantify/process/frequency	<p>1a C. Loc: time – unloc: det. 1b D.C. Extent: frequency emb. Q. Loc: time 1b D.C. Loc: place - phys: geo emb. Q. Actor 1a C. Extent: frequency</p>			
	most	gr/force/quantify/thing																	
	approximately	gr/force/quantify/thing																	
that much	gr/force/quantify/thing																		
per year	gr/force/quantify/process/frequency																		
in Australia	gr/force/quantify/process/extent/scope/space																		
every day	gr/force/quantify/process/frequency																		
7.1	<p>During the 1860s, one Chinese fish dealer << 7.2 >> earned over ten times more from fish sales annually than both Melbourne's and Sydney's European fish markets [[combined]].</p>	<p>Material clause; Pr: simple past Marked Theme (temporal); Topical Theme: Actor Appraisal</p> <table border="1"> <tr> <td>During the 1860s</td> <td>gr/force/quantify/process/extent/scope/time</td> </tr> <tr> <td>one</td> <td>gr/force/quantify/thing (as example)</td> </tr> <tr> <td>over</td> <td>gr/force/intensify/attribute</td> </tr> <tr> <td>ten times</td> <td>gr/force/quantify/thing</td> </tr> <tr> <td>more</td> <td>gr/force/intensify attribute</td> </tr> <tr> <td>annually</td> <td>gr/force/quantify/process/frequency</td> </tr> <tr> <td>both</td> <td>gr/force/quantify/thing</td> </tr> <tr> <td>combined</td> <td>gr/force/quantify/thing</td> </tr> </table>	During the 1860s	gr/force/quantify/process/extent/scope/time	one	gr/force/quantify/thing (as example)	over	gr/force/intensify/attribute	ten times	gr/force/quantify/thing	more	gr/force/intensify attribute	annually	gr/force/quantify/process/frequency	both	gr/force/quantify/thing	combined	gr/force/quantify/thing	<p>1a C. Loc: time – unloc: det. 1a C. Loc: place - abstract 1a C. Extent: frequency</p>
During the 1860s	gr/force/quantify/process/extent/scope/time																		
one	gr/force/quantify/thing (as example)																		
over	gr/force/intensify/attribute																		
ten times	gr/force/quantify/thing																		
more	gr/force/intensify attribute																		
annually	gr/force/quantify/process/frequency																		
both	gr/force/quantify/thing																		
combined	gr/force/quantify/thing																		
7.2	<p><< and there were many >></p>	<p>Existential clause: Pr: past Appraisal</p> <table border="1"> <tr> <td>many</td> <td>gr/force/quantify/thing</td> </tr> </table>	many	gr/force/quantify/thing															
many	gr/force/quantify/thing																		
Research space	8	<p>Chinese participation [in Australia's early commercial fishing industry] has not received the same attention as that [(which was received in the United states of America (US))].</p>	<p>Material clause: Pr: present perfect Topical Theme: Recipient Appraisal</p> <table border="1"> <tr> <td>in Australia's early commercial fishing industry</td> <td rowspan="2">gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td>in the United States of America (US)</td> </tr> </table>	in Australia's early commercial fishing industry	gr/force/quantify/process/extent/scope/space	in the United States of America (US)	<p>2a Q. Loc: place – historical Q. Receiver 1b D.C. Loc: place - phys: geo emb. Q. Scope</p>												
in Australia's early commercial fishing industry	gr/force/quantify/process/extent/scope/space																		
in the United States of America (US)																			

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION							
	CI			Rk							
Research space (cont.)	9.1	As <u>will be shown</u> ,	Verbal clause Pr: future passive <table border="1"><tr><td><i>shown</i></td><td>en/contract/proclaim/endorse</td></tr></table>	<i>shown</i>	en/contract/proclaim/endorse						
	<i>shown</i>	en/contract/proclaim/endorse									
9.2	the Australian example mirrors the situation [in the US [[where Chinese immigrants (<i>who came</i>) to the mid-nineteenth century gold rushes // took up niche economic positions [in labour-intensive work areas such as market gardening and fishing]].	Material clause; Pr: simple present Topical Theme: Actor Appraisal <table border="1"><tr><td><i>mirrors</i></td><td>Manner Pr; (comparison); <u>exactly</u> resembles; flag</td></tr><tr><td><i>in the US</i></td><td rowspan="3">gr/force/quantify/process/extent/ scope/space ¹gr/force/quantify/thing (implied)</td></tr><tr><td><i>to the mid- nineteenth century gold rushes</i></td></tr><tr><td><i>in labour intensive work areas such as¹ market gardening and fishing</i></td></tr></table>	<i>mirrors</i>	Manner Pr; (comparison); <u>exactly</u> resembles; flag	<i>in the US</i>	gr/force/quantify/process/extent/ scope/space ¹ gr/force/quantify/thing (implied)	<i>to the mid- nineteenth century gold rushes</i>	<i>in labour intensive work areas such as¹ market gardening and fishing</i>	3a 2a 1b 1b	Manner Pr. Q. Loc: place - phys. geo. Q. 1 Scope D.C. Loc: place - historical Q. Actor in Q. 2 Scope D.C. Loc: place – abstract emb. Q. 2 Scope	
<i>mirrors</i>	Manner Pr; (comparison); <u>exactly</u> resembles; flag										
<i>in the US</i>	gr/force/quantify/process/extent/ scope/space ¹ gr/force/quantify/thing (implied)										
<i>to the mid- nineteenth century gold rushes</i>											
<i>in labour intensive work areas such as¹ market gardening and fishing</i>											
Development	10.1	For approximately twenty years from the early-1850s Chinese people [in the US] <u>caught</u>	Material clause: Pr: simple past Marked Themes (temporal); Topical Theme: Actor Appraisal <table border="1"><tr><td><i>For approximately¹ 20² years</i></td><td>gr/force/quantify/process/extent/scope/time ¹gr/force/quantify/thing ²gr/force/quantify/thing</td></tr><tr><td><i>from the early-1850s</i></td><td>gr/force/quantify/process/extent/scope/time</td></tr><tr><td><i>in the US</i></td><td>gr/force/quantify/process/extent/scope/space</td></tr></table>	<i>For approximately¹ 20² years</i>	gr/force/quantify/process/extent/scope/time ¹ gr/force/quantify/thing ² gr/force/quantify/thing	<i>from the early-1850s</i>	gr/force/quantify/process/extent/scope/time	<i>in the US</i>	gr/force/quantify/process/extent/scope/space	1a 1a 2a	C. Extent: duration C. Loc: time – loc: det. Q. Loc: place - phys: geo.
			<i>For approximately¹ 20² years</i>	gr/force/quantify/process/extent/scope/time ¹ gr/force/quantify/thing ² gr/force/quantify/thing							
	<i>from the early-1850s</i>	gr/force/quantify/process/extent/scope/time									
	<i>in the US</i>	gr/force/quantify/process/extent/scope/space									
10.2	and <u>cured</u> whatever fish [[came into their nets]].	Material clause; Pr: simple past Appraisal <table border="1"><tr><td><i>whatever</i></td><td>gr/force/quantify/thing</td></tr><tr><td><i>into their nets</i></td><td>gr/force/quantify/process/extent/scope/space</td></tr></table>	<i>whatever</i>	gr/force/quantify/thing	<i>into their nets</i>	gr/force/quantify/process/extent/scope/space	1b	D.C. Loc: place - phys: loc. emb. Q. Goal			
<i>whatever</i>	gr/force/quantify/thing										
<i>into their nets</i>	gr/force/quantify/process/extent/scope/space										
11.1	By the 1870s , specialized [[<u>catching // and curing</u>]] camps <u>were established</u>	Material clause: Pr: passive simple past Marked Theme (temporal); Topical Theme: Goal Appraisal <table border="1"><tr><td><i>By the 1870s</i></td><td>gr/force/quantify/process/extent/scope/time</td></tr></table>	<i>By the 1870s</i>	gr/force/quantify/process/extent/scope/time	1a	C. Loc: time: loc: indet.					
<i>By the 1870s</i>	gr/force/quantify/process/extent/scope/time										
11.2	[[to target individual fish species such as sturgeon, herring, flounder, shrimp, abalone and squid]].	Material clause; Pr: non-finite Appraisal <table border="1"><tr><td><i>target</i></td><td>Manner Pr; aim at precisely; flag</td></tr></table>	<i>target</i>	Manner Pr; aim at precisely; flag	3a	Manner Pr.					
<i>target</i>	Manner Pr; aim at precisely; flag										

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION							
	CI			Rk							
Development (cont.)	12.1	Only a small quantity of Chinese cured fish was consumed in the US ,	Material clause; Pr: passive simple past Topical Theme: Goal Appraisal <table border="1"> <tr> <td><i>Only</i></td> <td>gr/focus/ valeur/specificity</td> </tr> <tr> <td><i>small</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>in the US</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>Only</i>	gr/focus/ valeur/specificity	<i>small</i>	gr/force/quantify/thing	<i>in the US</i>	gr/force/quantify/process/extent/scope/space	1a	C. Loc: place - phys: geo.
	<i>Only</i>	gr/focus/ valeur/specificity									
	<i>small</i>	gr/force/quantify/thing									
	<i>in the US</i>	gr/force/quantify/process/extent/scope/space									
	12.2	[[the majority going to market in China in both a dry state [in bags] ¹ // and (having been) pickled in casks ²]].	Material Clause; Pr: non-finite Topical Theme: Goal Appraisal <table border="1"> <tr> <td><i>majority</i></td> <td>gr/force/intensify/thing (amount)</td> </tr> <tr> <td><i>in China</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>both</i></td> <td>gr/force/quantify/thing (variety)</td> </tr> </table>	<i>majority</i>	gr/force/intensify/thing (amount)	<i>in China</i>	gr/force/quantify/process/extent/scope/space	<i>both</i>	gr/force/quantify/thing (variety)	1a 2a 1a 2b 1b	C. Loc: place – phys. loc. Q. Loc: place - phys. geo. C. Manner: means ¹ Q. Manner: means ² D.C. Manner: means
<i>majority</i>	gr/force/intensify/thing (amount)										
<i>in China</i>	gr/force/quantify/process/extent/scope/space										
<i>both</i>	gr/force/quantify/thing (variety)										
13	In 1880 , an estimated \$229,858 (US) worth of Chinese cured fish was exported from San Francisco to Hong Kong .	Material clause; Pr: passive simple past Marked Theme (temporal); Topical Theme: Goal Appraisal <table border="1"> <tr> <td><i>in 1880</i></td> <td>gr/force/quantify/process/extent/scope/time</td> </tr> <tr> <td><i>from San Francisco to Hong Kong</i></td> <td>gr/force/quantify/process/ extent/distance/space</td> </tr> </table>	<i>in 1880</i>	gr/force/quantify/process/extent/scope/time	<i>from San Francisco to Hong Kong</i>	gr/force/quantify/process/ extent/distance/space	1a 1a	C. Loc: time – loc: det. C. Loc: place - phys: geo.			
<i>in 1880</i>	gr/force/quantify/process/extent/scope/time										
<i>from San Francisco to Hong Kong</i>	gr/force/quantify/process/ extent/distance/space										
14.1	This <u>was</u> a substantial amount	Attributive clause; Pr: past Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>substantial</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>substantial</i>	gr/force/quantify/thing							
<i>substantial</i>	gr/force/quantify/thing										
14.2	[[especially considering	Mental clause; Pr: non-finite Appraisal <table border="1"> <tr> <td><i>especially</i></td> <td>gr/force/intensify/process</td> </tr> <tr> <td><i>considering</i></td> <td>Manner Pr; thought about <u>carefully</u>; afford</td> </tr> </table>	<i>especially</i>	gr/force/intensify/process	<i>considering</i>	Manner Pr; thought about <u>carefully</u> ; afford	3a	Manner Pr.			
<i>especially</i>	gr/force/intensify/process										
<i>considering</i>	Manner Pr; thought about <u>carefully</u> ; afford										

PHASE	CONTENT		LINGUISTIC ANALYSIS		CONTEXTUALISATION	
	CI				Rk	
Development (cont.)	14.3	that the retail value of all fresh fish // (<i>that were</i>) sold [in the San Francisco fish markets during 1877] // <u>was</u> only US\$220,000].	Attributive clause; Pr: past Topical Theme: Carrier Appraisal		1b	D.C. Loc: place - phys. geo emb. Q. Carrier
			<i>all</i>	gr/force/quantify/thing (max.)			1b	D.C. Loc: time – loc: det. emb. Q. Carrier
		<i>in the San Francisco fish markets</i>	gr/force/quantify/process/extent/scope/space			
			<i>during 1877</i>	gr/force/quantify/process/extent/scope/time		
			<i>only</i>	gr/focus/ valeur/specificity		
Literature Review	15.1	As [in Australia], there are documented complaints in the US about the methods [[the Chinese used to catch fish]],	Existential clause; Pr: present Marked Theme (spatial, comparison) Appraisal		1a 2b 1a 1a	C. Manner: comparison Q. Loc: place - phys: geo. C. Loc: place - phys. geo. C. Matter
			<i>in Australia</i>	gr/force/quantify/process/extent/scope/space		
			<i>in the US</i>	gr/focus/valeur/authenticity		
			<i>documented</i>	gr/focus/valeur/authenticity		
			<i>complaints</i>	appreciation: high –; inscribe		
			<i>questionable</i>	gr/focus/valeur/authenticity		
	15.2	though the validity of these complaints <u>is</u> questionable.	Attributive clause; Pr: present Topical Theme: Carrier Appraisal			
			<i>complaints</i>	appreciation: high –; inscribe		
			<i>questionable</i>	gr/focus/valeur/authenticity		
	16.1	Archival and archeological evidence [from America's Chinese fishing history] correlates with recent research [from Australia]	Material clause; Pr: simple present Topical Theme: Actor Appraisal		2a 1a 2a	Q. Loc: place – semiotic Q. Actor C. Accomp: comitative Q. Loc: place - phys: geo.
<i>from America's ... fishing history</i>			gr/force/quantify/process/extent/scope/space			
<i>recent</i>			gr/force/quantify/process/extent/distance/time			
<i>from Australia</i>			gr/force/quantify/process/extent/scope/space			

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION											
	CI			Rk											
Literature Review (cont.)	16.2	[[to suggest material connections// that provide an important basis// for studying Chinese migrations [during the nineteenth century]]].	Verbal clause; Pr: non-finite Appraisal <table border="1"> <tr> <td><i>suggest</i></td> <td>Manner Pr; state <u>tentatively</u>: afford; en/expand/entertain;</td> </tr> <tr> <td><i>material</i></td> <td>gr/focus/valeur/authenticity</td> </tr> <tr> <td><i>important</i></td> <td>appreciation: high +; inscribe</td> </tr> <tr> <td><i>studying</i></td> <td>Manner Pr; looking at <u>analytically</u>; flag</td> </tr> <tr> <td><i>during the nineteenth century</i></td> <td>gr/force/quantify/process/extent/scope/ time</td> </tr> </table>	<i>suggest</i>	Manner Pr; state <u>tentatively</u> : afford; en/expand/entertain;	<i>material</i>	gr/focus/valeur/authenticity	<i>important</i>	appreciation: high +; inscribe	<i>studying</i>	Manner Pr; looking at <u>analytically</u> ; flag	<i>during the nineteenth century</i>	gr/force/quantify/process/extent/scope/ time	3a 3b 2b	Manner Pr. Manner Pr. Q. Loc: time: loc. det. emb. Q. Verbiage
<i>suggest</i>	Manner Pr; state <u>tentatively</u> : afford; en/expand/entertain;														
<i>material</i>	gr/focus/valeur/authenticity														
<i>important</i>	appreciation: high +; inscribe														
<i>studying</i>	Manner Pr; looking at <u>analytically</u> ; flag														
<i>during the nineteenth century</i>	gr/force/quantify/process/extent/scope/ time														
Purpose-value	17	This article offers an overview of Chinese fish-curing operations [in colonial Australia] .	Material clause; Pr: simple present Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>offers</i></td> <td>Manner Pr; provides <u>tentatively</u>: afford</td> </tr> <tr> <td><i>in colonial Australia</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>offers</i>	Manner Pr; provides <u>tentatively</u> : afford	<i>in colonial Australia</i>	gr/force/quantify/process/extent/scope/space	3a 2a	Manner Pr. Q. Loc: place – historical Q. Scope						
	<i>offers</i>	Manner Pr; provides <u>tentatively</u> : afford													
	<i>in colonial Australia</i>	gr/force/quantify/process/extent/scope/space													
	18.1	It uses primary documents and field research	Material clause; Pr: simple present Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>primary</i></td> <td>appreciation: high +; inscribe importance</td> </tr> </table>	<i>primary</i>	appreciation: high +; inscribe importance										
<i>primary</i>	appreciation: high +; inscribe importance														
18.2	to supplement the limited discussion [in Australia's written histories and scholarly works] .	Material clause; Pr: non-finite Appraisal <table border="1"> <tr> <td><i>limited</i></td> <td>appreciation: high –; inscribe limitation</td> </tr> <tr> <td><i>in Australia's written histories and scholarly works</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>limited</i>	appreciation: high –; inscribe limitation	<i>in Australia's written histories and scholarly works</i>	gr/force/quantify/process/extent/scope/space	2a	Q. Loc: place – semiotic Q. Goal							
<i>limited</i>	appreciation: high –; inscribe limitation														
<i>in Australia's written histories and scholarly works</i>	gr/force/quantify/process/extent/scope/space														
19	The likely internal structure of Chinese fish-curing establishments [such as ownership, management arrangements and labour requirements] is examined along with a range of questions [[(that are) concerning the activities of Chinese fish curers [in colonial Australia]]].	Material clause, Pr: present passive Topical Theme: Scope Appraisal <table border="1"> <tr> <td><i>examined</i></td> <td>Manner Pr; scrutinised <u>thoroughly</u>; flag</td> </tr> <tr> <td><i>a range of</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>examined</i>	Manner Pr; scrutinised <u>thoroughly</u> ; flag	<i>a range of</i>	gr/force/quantify/thing	3a 1a 2b	Manner Pr. C. Accomp: comitative Q. Loc: place – historical emb. Q. C. Accomp: com.							
<i>examined</i>	Manner Pr; scrutinised <u>thoroughly</u> ; flag														
<i>a range of</i>	gr/force/quantify/thing														

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION										
	CI			Rk										
Purpose-value (cont.)	20.1	Ultimately it is demonstrated	Verbal clause; Pr: passive simple present Marked Theme (temporal); Topical Theme: Verbiage Appraisal <table border="1"> <tr> <td><i>Ultimately</i></td> <td>gr/force/quantify/process/extent/distance/time</td> </tr> <tr> <td><i>demonstrated</i></td> <td>Manner Pr; shown <i>evidentially</i>; flag; en/contract/proclaim/endorse</td> </tr> </table>	<i>Ultimately</i>	gr/force/quantify/process/extent/distance/time	<i>demonstrated</i>	Manner Pr; shown <i>evidentially</i> ; flag; en/contract/proclaim/endorse	5 3a	Temporal Adjunct (Loc: time - unloc: indet.) Manner Pr.					
	<i>Ultimately</i>	gr/force/quantify/process/extent/distance/time												
<i>demonstrated</i>	Manner Pr; shown <i>evidentially</i> ; flag; en/contract/proclaim/endorse													
20.2	that Chinese people generated far greater wealth [from Australia's colonial fishing industry] [[than <i>has been</i> previously realized]].	Material clause; Pr: simple past Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>far</i></td> <td>gr/force/intensify/attribute</td> </tr> <tr> <td><i>greater</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>wealth</i></td> <td>appreciation: high +; inscribe</td> </tr> <tr> <td><i>from Australia's colonial fishing industry</i></td> <td>gr/force/quantify/process/extent/ scope/space</td> </tr> <tr> <td><i>previously</i></td> <td>gr/force/quantify/process/extent/scope/time</td> </tr> </table>	<i>far</i>	gr/force/intensify/attribute	<i>greater</i>	gr/force/quantify/thing	<i>wealth</i>	appreciation: high +; inscribe	<i>from Australia's colonial fishing industry</i>	gr/force/quantify/process/extent/ scope/space	<i>previously</i>	gr/force/quantify/process/extent/scope/time	2a 5	Q. Loc: place – abstract Q. Goal Temporal Adjunct (Loc: time – unloc: det.)
<i>far</i>	gr/force/intensify/attribute													
<i>greater</i>	gr/force/quantify/thing													
<i>wealth</i>	appreciation: high +; inscribe													
<i>from Australia's colonial fishing industry</i>	gr/force/quantify/process/extent/ scope/space													
<i>previously</i>	gr/force/quantify/process/extent/scope/time													

Appendix D6 Patrick (2011) introduction: content and linguistics

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION	
	CI			Rk	
Intro. to topic Sub-phase 1	1.1	In 1938 the New Zealand Education Department gave notice to its teachers of a “Centennial Competition” <i>[[that was) to be held in 1940]]</i>	Material clause; Pr: simple past Marked Theme (temporal); Topical Theme: Actor <i>In 1938</i> gr/force/quantify/process/extent/scope/time <i>in 1940</i>	1a 1b	C. Loc: time – loc: det. D.C. Loc: time – loc det. emb. Q. Scope
	1.2	<i>[[to judge the best ‘regional surveys’ <i>[[that were to be) submitted from primary, native, secondary and technical schools around the country]]]</i>]].</i>	Material clause; Pr: non-finite Appraisal <i>best</i> appreciation: high +; inscribe	1b 2b	D.C. Loc: place – inst: edu. Q. Loc: place – phys: geo.
	2	By the time <i>[[the competition closed]]</i> 70 schools’ entries had been received.	Material clause; Pr: passive simple past Marked Theme (temporal); Topical Theme: Scope Appraisal <i>By the time...</i> gr/force/quantify/process/extent/scope/time <i>70</i> gr/force/quantify/thing	1a	C. Loc: time – unloc: det.
Sub-phase 2	3	Afterwards, W. B. Harris, <i>[[who was) a lecturer at the Christchurch Teachers’ Training College]]</i> , and H.C.D. Somerset, <i>[[who was) an expert in rural education]</i> and the author of the celebrated <i>Littledene</i> , <i>[[which was) a study of a New Zealand rural community]]</i> , reflected upon some of the competition’s results.	Mental clause; Pr: simple past Topical Theme: Sayer Appraisal <i>Afterwards</i> gr/force/quantify/process/extent/ scope/time <i>expert</i> appreciation: high + (value) inscribe <i>in rural education</i> gr/force/quantify/process/ extent/scope/space <i>celebrated</i> appreciation: high + (value) inscribe <i>reflected upon</i> Manner Pr.; thought <i>carefully</i> about; afford <i>some of</i> gr/force/quantify/thing	1b 1b 3a	D.C. Loc: place – inst: edu emb. Q. Sayer D.C. Loc: place – abstract emb. Q. Sayer Manner Pr.
	4.1	In some areas of the country , they reported.	Verbal clause; Pr: simple past Marked Theme (spatial); Topical Theme: Sayer Appraisal <i>In some¹ areas of the country</i> gr/force/quantify/process/extent/ scope/space ¹ gr/force/quantify/thing	1a	C. Loc: place – phys: geo.

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION	
	CI			Rk	
Intro to topic Sub-phase 2 (cont.)	4.2	the competition had <u>prompted</u> participating schools	Material clause; Pr: past perfect Topical Theme: Initiator		
	4.3	[[to document the local histories of their districts for the first time.]]	Material clause; Pr: non-finite Appraisal <i>for the first time</i> gr/force/quantify/process/frequency	5	Temporal Adjunct (Loc: time – unloc: det.)
	5.1	The pupils of the Kairakau Primary School in the Chatham Islands , for instance, had collected stories [about the Moriori, Maori and Pakeha habitation of their islands] ,	Material clause: Pr: past perfect Topical Theme: Actor Appraisal <i>in the Chatham Islands</i> gr/force/quantify/process/extent/scope/space <i>for instance</i> gr/force/quantify/thing; implied quantifying	1a 2a	C. Loc: place – phys: geo. Q. Matter
	5.2	<i>(and had been)</i> circulating them among the local community for verification.	Material clause; Pr: perfect past continuous Appraisal <i>among the local community</i> gr/force/quantify/process/extent/scope/space	1a 1a	C. Loc: place – sociological C. Cause: purpose
Sub-phase 3	6.1	Kairakau School, << >> was 'the centre of a community [[which had suddenly become history-conscious']].	Identifying clause; Pr: past perfect Topical Theme: Token Appraisal <i>centre</i> gr/force/quantify/thing <i>suddenly</i> gr/force/intensify/process	1b	D.C. Manner: quality emb. Q. Value
	6.2	<< Harris and Somerset wrote, >>	Verbal clause; Pr: simple past Topical Theme: Sayer		
	7.1	While the 1940 Centennial <u>formed</u> the immediate impetus	Material clause; Pr: simple past Topical Theme: Actor		
	7.2	for the pupils of Kairakau and other schools <u>to research</u> their local history	Material clause; non-finite		
	7.3	and <i>(it)</i> <u>prompted</u> considerable official and public effort towards [[putting New Zealand's past on permanent record]]	Material (causative) clause; Pr: simple past Appraisal <i>considerable</i> gr/force/quantify/thing <i>permanent</i> gr/force/quantify/thing	1b	D.C. Loc: place – semiotic

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION							
	CI			Rk							
Intro to topic Sub-phase 3 (cont.)	7.4	the undertaking of local history research [by primary school children] <u>had</u> educational precedents.	Attributive (possessive) clause; Pr: simple past Topical Theme: Carrier: possessor								
	8	[[Situating the history-making efforts of the schools [[who contributed work to the Centennial competition]] alongside earlier educational initiatives [[to promote local history research [by primary school children]]]] highlights the significance of the local within the pedagogy of the early twentieth century New Education movement .	Material clause; Pr: simple present Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>highlights</i></td> <td>Manner Pr; indicates <u>strongly</u>; flag; en/contract/proclaim/endorse</td> </tr> <tr> <td><i>significance</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>within the pedagogy of the early twentieth century New Education movement</i></td> <td>gr/force/quantify/process/ extent/scope/space</td> </tr> </table>	<i>highlights</i>	Manner Pr; indicates <u>strongly</u> ; flag; en/contract/proclaim/endorse	<i>significance</i>	gr/force/quantify/thing	<i>within the pedagogy of the early twentieth century New Education movement</i>	gr/force/quantify/process/ extent/scope/space	1b 3a 1a	D.C. Accomp: comitative Manner Pr. C. Loc: place – abstract
	<i>highlights</i>	Manner Pr; indicates <u>strongly</u> ; flag; en/contract/proclaim/endorse									
	<i>significance</i>	gr/force/quantify/thing									
	<i>within the pedagogy of the early twentieth century New Education movement</i>	gr/force/quantify/process/ extent/scope/space									
9.1	History was a component of a school system [[that <u>was</u> both imperial and national in orientation]],	Identifying clause; Pr: simple past Topical Theme: Token Appraisal <table border="1"> <tr> <td><i>both</i></td> <td>gr/force/intensify/attribute</td> </tr> </table>	<i>both</i>	gr/force/intensify/attribute	2b	Q. Manner: quality emb. Q. Value					
<i>both</i>	gr/force/intensify/attribute										
9.2	and the national primary curriculum and textbooks <u>performed</u> many functions [[that can be seen as [[legitimizing colonial authority]]]].	Material clause; Pr: simple past Topical Theme: Actor									
10.1	However, local histories [[(<i>that are</i>) produced by schools]] << >> also need to be understood in the context [of a set of imported pedagogical theories and educational practices] [[that had less to do with a colonial context // than (<i>it had</i>) with the aim of [[developing particular Qualities and capacities [in children] through the medium of locally based lessons]]]].	Mental clause; Pr: modal (high obligation) Textual Theme – conjunctive; Topical Theme: Phenom. Appraisal <table border="1"> <tr> <td><i>need</i></td> <td>Manner Pr; require <u>necessarily</u></td> </tr> <tr> <td><i>in the context of a set¹ of imported pedagogical theories and educational practices that had less² to do</i></td> <td>gr/force/quantify/process/ extent/scope/ space ¹ gr/force/quantify/thing ² gr/force/quantify/process/ extent/scope/space</td> </tr> <tr> <td><i>particular</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	<i>need</i>	Manner Pr; require <u>necessarily</u>	<i>in the context of a set¹ of imported pedagogical theories and educational practices that had less² to do</i>	gr/force/quantify/process/ extent/scope/ space ¹ gr/force/quantify/thing ² gr/force/quantify/process/ extent/scope/space	<i>particular</i>	gr/focus/valeur/specificity	3a 1a 1b 1b 1b 1b 1b	Manner process C. Loc: place – abstract D.C. Accomp: comitative emb. Loc: place - abstract D.C. Accomp: comitative emb. Loc: place - abstract D.C. Loc: place - people emb. D.C. Accomp: com. D.C. Manner: means emb. D.C. Accomp: com. D.C. Loc: place - phys: gnl. emb. D.C. Manner: means	
<i>need</i>	Manner Pr; require <u>necessarily</u>										
<i>in the context of a set¹ of imported pedagogical theories and educational practices that had less² to do</i>	gr/force/quantify/process/ extent/scope/ space ¹ gr/force/quantify/thing ² gr/force/quantify/process/ extent/scope/space										
<i>particular</i>	gr/focus/valeur/specificity										

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION															
	CI			Rk															
Intro to topic Sub-phase 3 (cont.)	10.2	<< this article contends >>	Verbal clause; Pr: simple present Topical Theme: Sayer Appraisal <table border="1"><tr><td><i>contends</i></td><td>Manner Pr; assert <u>strongly</u>; flag en/contract/proclaim/pronounce</td></tr></table>	<i>contends</i>	Manner Pr; assert <u>strongly</u> ; flag en/contract/proclaim/pronounce	3a	Manner Pr.												
<i>contends</i>	Manner Pr; assert <u>strongly</u> ; flag en/contract/proclaim/pronounce																		
Development	11	Recently , several historians have attempted to shift the context of the historical debate [over the connections between knowledge and colonialism in New Zealand] from one [[<i>that is</i>] almost exclusively devoted//to examining the 'textual outputs' of colonial knowledge]] .	Material clause; Pr: present in past Topical Theme: Actor Appraisal <table border="1"><tr><td><i>Recently</i></td><td>gr/force/quantify/process/extent/distance/time</td></tr><tr><td><i>several</i></td><td>gr/force/quantify/thing</td></tr><tr><td><i>attempted</i></td><td>gr/focus/fulfillment/ actualisation</td></tr><tr><td><i>almost</i></td><td>gr/force/intensify/process</td></tr><tr><td><i>exclusively</i></td><td>gr/force/intensify/process</td></tr><tr><td><i>devoted</i></td><td>Manner Pr; <u>wholly</u> concerned with; flag</td></tr><tr><td><i>to examining</i></td><td>Manner Pr; scrutinizing <u>thoroughly</u>; flag</td></tr></table>	<i>Recently</i>	gr/force/quantify/process/extent/distance/time	<i>several</i>	gr/force/quantify/thing	<i>attempted</i>	gr/focus/fulfillment/ actualisation	<i>almost</i>	gr/force/intensify/process	<i>exclusively</i>	gr/force/intensify/process	<i>devoted</i>	Manner Pr; <u>wholly</u> concerned with; flag	<i>to examining</i>	Manner Pr; scrutinizing <u>thoroughly</u> ; flag	5 2b 2b 2b 1a 1b 3b 3b	Temporal Adjunct (Loc: time – loc: indet.) Q. Matter Q. Goal Q. Loc: place – abstract emb. Q. Matter Q. Loc: place – phys: geo. C. Loc: place – abstract D.C. Manner: quality emb. Q. Loc: place - abstract Manner Pr. Manner Pr.
	<i>Recently</i>	gr/force/quantify/process/extent/distance/time																	
<i>several</i>	gr/force/quantify/thing																		
<i>attempted</i>	gr/focus/fulfillment/ actualisation																		
<i>almost</i>	gr/force/intensify/process																		
<i>exclusively</i>	gr/force/intensify/process																		
<i>devoted</i>	Manner Pr; <u>wholly</u> concerned with; flag																		
<i>to examining</i>	Manner Pr; scrutinizing <u>thoroughly</u> ; flag																		
	12.1	Instead, they argue ,	Verbal clause; Pr: simple present Topical Theme: Sayer Appraisal <table border="1"><tr><td><i>argue</i></td><td>Manner Pr.; reason <u>strongly</u>; flag en/expand/attribute/acknowledge</td></tr></table>	<i>argue</i>	Manner Pr.; reason <u>strongly</u> ; flag en/expand/attribute/acknowledge	3a	Manner Pr.												
<i>argue</i>	Manner Pr.; reason <u>strongly</u> ; flag en/expand/attribute/acknowledge																		
	12.2	scholars need to recognize the importance of the institutional foundations of intellectual life [in the shaping of colonial knowledge] and of the sets of processes and practices [[that governed knowledge's production and reception]] .	Mental clause; Pr: modal (high obligation) Topical Theme: Sayer Appraisal <table border="1"><tr><td><i>need</i></td><td>Manner Pr; require <u>necessarily</u>; flag; en/expand/entertain</td></tr><tr><td><i>importance</i></td><td>appreciation: high +; inscribe</td></tr></table>	<i>need</i>	Manner Pr; require <u>necessarily</u> ; flag; en/expand/entertain	<i>importance</i>	appreciation: high +; inscribe	3a 2a	Manner Pr. Q. Loc: place - abstract Q. Phenomenon										
<i>need</i>	Manner Pr; require <u>necessarily</u> ; flag; en/expand/entertain																		
<i>importance</i>	appreciation: high +; inscribe																		
Purpose Sub-phase 1	13.1	In this piece , I extend this critique to the domain of education	Material clause; Pr: simple present Marked Theme (spatial); Topical Theme: Actor Appraisal <table border="1"><tr><td><i>In this piece</i></td><td>gr/force/quantify/process/ extent/scope/ space</td></tr><tr><td><i>to the domain of education</i></td><td></td></tr><tr><td><i>extend</i></td><td>en/contract/proclaim/pronounce</td></tr></table>	<i>In this piece</i>	gr/force/quantify/process/ extent/scope/ space	<i>to the domain of education</i>		<i>extend</i>	en/contract/proclaim/pronounce	1a 1a	C. Loc: place – semiotic C. Loc: place – abstract								
<i>In this piece</i>	gr/force/quantify/process/ extent/scope/ space																		
<i>to the domain of education</i>																			
<i>extend</i>	en/contract/proclaim/pronounce																		

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION	
	CI			Rk	
	13.2	(and) specifically (I extend it to) history education.	Behavioural clause; Pr: simple present ellipsed Topical Theme: Behavior (ellipsed) Appraisal specifically gr/focus/valeur/specificity (to) history education gr/force/quantify/process/extent/scope/space	1a	C. Loc: place – abstract
Research Space	14.1	New Zealand historians have long been attentive (with respect) to the potential power of schooling << >> [in the work of cultural transmission, [[such as in instilling imperial ideologies]]].	Attributive clause; Pr: present perfect Topical Theme: Carrier Appraisal long gr/force/quantify/process/extent/ scope/time potential gr/focus/fulfill/actualisation power Inscribed importance in the work of cultural transmission, such as ¹ in instilling imperial ideologies ¹ gr/force/quantify/process/ extent/scope/space ¹ gr/force/quantify/thing (implied)	1a 1a 2a	C. Extent: duration C. Matter Q. Loc: place – abstract Q. Matter
	14.2	<< —(that is, they have long been) particularly (attentive with respect to) the compulsory state primary school system— >>	Attributive clause; Pr: present perfect (ellipsed) Appraisal particularly gr/focus/valeur/specificity	1a 2a	C. Manner: quality C. Matter
	15.1	However, despite several decades [of scholarly interest [in the role of knowledge [[in furthering colonization// that followed Peter Gibbons' influential theorisations of 'cultural colonization']]], this avenue of investigation has yet to be taken up by historians of education in this country	Material clause Textual Theme: counter-expectancy Marked Theme (concessional); Topical Theme: Scope Appraisal However en/contract/disclaim/counter several gr/force/quantify/thing decades gr/force/quantify/thing/extent/scope/time scholarly appreciation: high +; inscribed in the role of knowledge in furthering colonization gr/force/quantify/process/ extent/scope space influential appreciation: high +; inscribed yet en/contract/disclaim/counter in this country gr/force/quantify/process/extent/scope/space	1a 2a 1a	C. Contingency: concess. Q. Loc. place - abstract Q. Contingency: concession C. Loc: pace – phys: geo.

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION									
	CI			Rk									
Research Space (cont.)	15.2	although Gibbon himself signaled the possibilities [for further research in this area].	Material clause; Pr: simple past Topical theme: Actor Appraisal <table border="1"> <tr> <td>further</td> <td>gr/force/quantify/thing</td> </tr> <tr> <td>in this area</td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	further	gr/force/quantify/thing	in this area	gr/force/quantify/process/extent/scope/space	2a 2b	Q. Cause: purpose Q. Scope Q. Loc: place – semiotic Q. Cause: purpose				
further	gr/force/quantify/thing												
in this area	gr/force/quantify/process/extent/scope/space												
Literature Review Sub-phase 1	16.1	While a body of scholarly writing [(that is) engaging with Gibbons' work] has appeared over the past few decades,	Material clause; Pr: present perfect Topical Theme: Scope Appraisal <table border="1"> <tr> <td>body</td> <td>gr/force/quantify/thing</td> </tr> <tr> <td>over the past few decades</td> <td>gr/force/quantify/process/extent/scope/time</td> </tr> <tr> <td>few</td> <td>gr/force/quantify/thing</td> </tr> </table>	body	gr/force/quantify/thing	over the past few decades	gr/force/quantify/process/extent/scope/time	few	gr/force/quantify/thing	3b 1b 1a	Manner process. D.C. Accomp: comitative C. Extent: duration		
body	gr/force/quantify/thing												
over the past few decades	gr/force/quantify/process/extent/scope/time												
few	gr/force/quantify/thing												
	16.2	critiques of the approach [(that was) taken by Gibbons and historians// (who were) influenced by his ideas] have also begun to surface.	Identifying clause; Pr: passive simple past Topical Theme: Value Appraisal <table border="1"> <tr> <td>also</td> <td>gr/force/intensify/process</td> </tr> <tr> <td>surface</td> <td>Manner Pr; arise significantly; flag</td> </tr> </table>	also	gr/force/intensify/process	surface	Manner Pr; arise significantly; flag	3a	Manner Pr.				
also	gr/force/intensify/process												
surface	Manner Pr; arise significantly; flag												
	17.1	Chris Hilliard first pointed to some of the limitations of the cultural colonization approach in 2002,	Verbal clause; Pr: simple past Topical Theme: Sayer Appraisal <table border="1"> <tr> <td>first</td> <td>gr/force/intensify/process</td> </tr> <tr> <td>pointed to</td> <td>Manner Pr; Indicated particularly; flag; en/expand/attribute/acknowledge</td> </tr> <tr> <td>some of</td> <td>gr/force/quantify/thing</td> </tr> <tr> <td>in 2002</td> <td>gr/force/quantify/process/extent/scope/time</td> </tr> </table>	first	gr/force/intensify/process	pointed to	Manner Pr; Indicated particularly; flag; en/expand/attribute/acknowledge	some of	gr/force/quantify/thing	in 2002	gr/force/quantify/process/extent/scope/time	3a 1a	Manner Pr. C. Loc: time – loc: det.
first	gr/force/intensify/process												
pointed to	Manner Pr; Indicated particularly; flag; en/expand/attribute/acknowledge												
some of	gr/force/quantify/thing												
in 2002	gr/force/quantify/process/extent/scope/time												
	17.2	(and he was) arguing	Verbal clause; Pr: non-finite Appraisal <table border="1"> <tr> <td>arguing</td> <td>Manner Pr; Reason strongly; flag; en/expand/attribute/ acknowledge</td> </tr> </table>	arguing	Manner Pr; Reason strongly; flag; en/expand/attribute/ acknowledge	3a	Manner Pr.						
arguing	Manner Pr; Reason strongly; flag; en/expand/attribute/ acknowledge												

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION												
	CI			Rk												
Literature Review Sub-phase 1 (cont.)	17.3	that 'while hardly anything in New Zealand is unconnected with colonization ,	Attributive (circ.) clause; Pr: simple present Topical Theme: Token Appraisal <table border="1"> <tr> <td><i>hardly</i></td> <td>gr/force/intensify/ thing</td> </tr> <tr> <td><i>anything</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>in New Zealand</i></td> <td>gr/force/quantify/process/extent/scope/ space</td> </tr> </table>	<i>hardly</i>	gr/force/intensify/ thing	<i>anything</i>	gr/force/quantify/thing	<i>in New Zealand</i>	gr/force/quantify/process/extent/scope/ space	2a 4a	Q. Loc: place – phys: geo. Q. Carrier Circ. Attribute (Accomp: comitative)					
	<i>hardly</i>	gr/force/intensify/ thing														
	<i>anything</i>	gr/force/quantify/thing														
	<i>in New Zealand</i>	gr/force/quantify/process/extent/scope/ space														
17.4	not everything is adequately explained by its colonial entanglements'.	Verbal clause; Pr: passive simple present Topical Theme: Verbiage Appraisal <table border="1"> <tr> <td><i>not everything</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>adequately</i></td> <td>gr/force/intensify/process</td> </tr> </table>	<i>not everything</i>	gr/force/quantify/thing	<i>adequately</i>	gr/force/intensify/process	1a	C. Manner: quality								
<i>not everything</i>	gr/force/quantify/thing															
<i>adequately</i>	gr/force/intensify/process															
18.1	In two recent articles Tony Ballantyne has criticized the tendency of historians of colonialism [in New Zealand] [[to concentrate on the products of the textual exchanges of a small national intellectual elite]]]	Behavioural clause; Pr: present perfect Marked Theme (semiotic); Topical Theme: Behavior Appraisal <table border="1"> <tr> <td><i>In two recent articles</i></td> <td>gr/force/quantify/process/extent/ scope/ space ¹G/force/quantify/thing</td> </tr> <tr> <td><i>criticized</i></td> <td>Manner Pr; commented <u>unfavourably</u>; flag</td> </tr> <tr> <td><i>concentrate</i></td> <td>Manner Pr; <u>exclusively</u> focus on; flag</td> </tr> <tr> <td><i>on the products of the textual exchanges of a small national elite</i></td> <td>gr/force/quantify/process/ extent/scope/space</td> </tr> <tr> <td><i>small</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>elite</i></td> <td>appreciation: high + (value); inscribe</td> </tr> </table>	<i>In two recent articles</i>	gr/force/quantify/process/extent/ scope/ space ¹ G/force/quantify/thing	<i>criticized</i>	Manner Pr; commented <u>unfavourably</u> ; flag	<i>concentrate</i>	Manner Pr; <u>exclusively</u> focus on; flag	<i>on the products of the textual exchanges of a small national elite</i>	gr/force/quantify/process/ extent/scope/space	<i>small</i>	gr/force/quantify/thing	<i>elite</i>	appreciation: high + (value); inscribe	1a 3a 2a 3b 1b	C. Loc: place – semiotic Manner Pr. Q. Loc: place – phys: geo. Q. Target Manner Pr. D.C. Loc: place - semiotic emb. Q. Target
<i>In two recent articles</i>	gr/force/quantify/process/extent/ scope/ space ¹ G/force/quantify/thing															
<i>criticized</i>	Manner Pr; commented <u>unfavourably</u> ; flag															
<i>concentrate</i>	Manner Pr; <u>exclusively</u> focus on; flag															
<i>on the products of the textual exchanges of a small national elite</i>	gr/force/quantify/process/ extent/scope/space															
<i>small</i>	gr/force/quantify/thing															
<i>elite</i>	appreciation: high + (value); inscribe															
18.2	while (<i>they are</i>) ignoring the vast amount of everyday interactions and knowledge practices [[that went on 'under' the nation, // (and that) centred on 'specific practices, institutions and sites']].	Mental clause; Pr: present continuous (<i>ellipsed</i>) Appraisal <table border="1"> <tr> <td><i>ignoring</i></td> <td>Manner Pr; <u>wilfully</u> not notice; flag</td> </tr> <tr> <td><i>vast amount of</i></td> <td>gr/force/ quantify/thing</td> </tr> <tr> <td><i>'under' the nation</i></td> <td>gr/force/quantify/process/extent/scope/ space</td> </tr> <tr> <td><i>centred</i></td> <td>Manner Pr; <u>centrally</u> concerned with; flag</td> </tr> <tr> <td><i>specific</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	<i>ignoring</i>	Manner Pr; <u>wilfully</u> not notice; flag	<i>vast amount of</i>	gr/force/ quantify/thing	<i>'under' the nation</i>	gr/force/quantify/process/extent/scope/ space	<i>centred</i>	Manner Pr; <u>centrally</u> concerned with; flag	<i>specific</i>	gr/focus/valeur/specificity	3a 1b 3b 1b	Manner Pr. D.C. Loc: place – abstract Manner Pr. D.C. Loc: place - abstract		
<i>ignoring</i>	Manner Pr; <u>wilfully</u> not notice; flag															
<i>vast amount of</i>	gr/force/ quantify/thing															
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PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION											
	CI			Rk											
Purpose Sub-phase 2	19	This article examines how a nationally controlled state school system <i>[(that was) deriving its institutional frameworks and practices from British patterns// interacted with a set of imported pedagogical theories //which prioritized local knowledge, // and (which) were then translated into local-level teaching practices [in primary schools]]</i> .	Material clause; Pr: simple past Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>examines</i></td> <td>Manner Pr; scrutinises <i>thoroughly</i>; flag</td> </tr> <tr> <td><i>from British patterns</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>a set of</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>prioritized</i></td> <td>Manner Pr; arranged <i>purposefully</i>, i.e., in order of perceived importance; flag</td> </tr> <tr> <td><i>in primary schools</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>examines</i>	Manner Pr; scrutinises <i>thoroughly</i> ; flag	<i>from British patterns</i>	gr/force/quantify/process/extent/scope/space	<i>a set of</i>	gr/force/quantify/thing	<i>prioritized</i>	Manner Pr; arranged <i>purposefully</i> , i.e., in order of perceived importance; flag	<i>in primary schools</i>	gr/force/quantify/process/extent/scope/space	3a 1b 1b 3b 1b 2b	Manner Pr. D.C. Loc: place – semiotic emb. Q. Scope D.C. Accomp: comitative emb.. Q. Scope Manner Pr. D.C. Role: product emb. Q. Scope Q. Loc: place – phys: loc. Q. Role: product
<i>examines</i>	Manner Pr; scrutinises <i>thoroughly</i> ; flag														
<i>from British patterns</i>	gr/force/quantify/process/extent/scope/space														
<i>a set of</i>	gr/force/quantify/thing														
<i>prioritized</i>	Manner Pr; arranged <i>purposefully</i> , i.e., in order of perceived importance; flag														
<i>in primary schools</i>	gr/force/quantify/process/extent/scope/space														
Literature review Sub-phase 2	20	A ‘top-down’ and textually focused approach <i>[(that is) similar to that // (which was) criticized by Ballantyne in relation to histories of colonialism]]</i> has also characterized histories of history <i>[in New Zealand education]</i> .	Identifying clause; Pr: present perfect Topical Theme: Value Appraisal <table border="1"> <tr> <td><i>criticized</i></td> <td>Manner Pr; commented unfavourably; flag</td> </tr> <tr> <td><i>in New Zealand education</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>criticized</i>	Manner Pr; commented unfavourably; flag	<i>in New Zealand education</i>	gr/force/quantify/process/extent/scope/space	3b 1b 2a	Manner Pr. D.C. Matter emb. Q. Value Q. Loc: place – abstract						
<i>criticized</i>	Manner Pr; commented unfavourably; flag														
<i>in New Zealand education</i>	gr/force/quantify/process/extent/scope/space														
	21	There has been an overwhelming focus <i>on educational content [(that is) usually in the form of nationally produced textbooks and curriculum topics, to the exclusion of pedagogy and educational practice]]</i> ,	Existential clause; Pr: present perfect Appraisal <table border="1"> <tr> <td><i>nationally</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>overwhelming</i></td> <td>gr/force/quantify/thing; invoke importance</td> </tr> <tr> <td><i>usually</i></td> <td>gr/force/intensify/process</td> </tr> <tr> <td><i>exclusion</i></td> <td>appreciation: high – inscribe</td> </tr> </table>	<i>nationally</i>	gr/force/quantify/process/extent/scope/space	<i>overwhelming</i>	gr/force/quantify/thing; invoke importance	<i>usually</i>	gr/force/intensify/process	<i>exclusion</i>	appreciation: high – inscribe	1a 2b 2b	C. Matter Q. Manner: quality emb. Q. Matter Q. Role: guise emb. Q. Matter		
<i>nationally</i>	gr/force/quantify/process/extent/scope/space														
<i>overwhelming</i>	gr/force/quantify/thing; invoke importance														
<i>usually</i>	gr/force/intensify/process														
<i>exclusion</i>	appreciation: high – inscribe														
	22.1	In general , <i>[(while textbooks loom large in the historiography of history education)]</i> ,	Attributive clause; Pr: simple present Marked Theme (degree); Topical Theme: Carrier Appraisal <table border="1"> <tr> <td><i>In general</i></td> <td>gr/focus/valeur/specificity</td> </tr> <tr> <td><i>loom</i></td> <td>Manner Pr; <i>overwhelmingly</i> dominate; flag</td> </tr> <tr> <td><i>large</i></td> <td>gr/force/quantify/process</td> </tr> <tr> <td><i>in the historiography of history education</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>In general</i>	gr/focus/valeur/specificity	<i>loom</i>	Manner Pr; <i>overwhelmingly</i> dominate; flag	<i>large</i>	gr/force/quantify/process	<i>in the historiography of history education</i>	gr/force/quantify/process/extent/scope/space	1a 3b 1a	C. Manner: degree Manner Pr. C. Loc: place – semiotic		
<i>In general</i>	gr/focus/valeur/specificity														
<i>loom</i>	Manner Pr; <i>overwhelmingly</i> dominate; flag														
<i>large</i>	gr/force/quantify/process														
<i>in the historiography of history education</i>	gr/force/quantify/process/extent/scope/space														

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION					
	CI			Rk					
Literature review Sub-phase 2 (cont.)	22.2	historians of education have failed¹ to interrogate² the limitations of textbooks as sources of information [on [[what history education was 'like' in the past]]] :	Behavioural clause; Pr: simple past Topical Theme: Behavior Appraisal <table border="1"> <tr> <td><i>failed to</i></td> <td>Manner Pr; ¹utterly deficient, inscribe;</td> </tr> <tr> <td><i>interrogate</i></td> <td>²Investigate closely; flag</td> </tr> </table>	<i>failed to</i>	Manner Pr; ¹ utterly deficient, inscribe;	<i>interrogate</i>	² Investigate closely; flag	3a 1a 2a 1b	Manner Pr. C. Role: guise Q. Matter Q. Role: guise D.C. Loc: time - loc: indet. emb. Q. Matter
	<i>failed to</i>	Manner Pr; ¹ utterly deficient, inscribe;							
	<i>interrogate</i>	² Investigate closely; flag							
	22.3	by asking	Verbal clause; Pr: non-finite						
	22.4	for instance, how textbooks might have actually been used in classrooms ,	Material clause; Pr: modalised (probability) Appraisal <table border="1"> <tr> <td><i>actually</i></td> <td>gr/focus/valeur/authenticity</td> </tr> <tr> <td><i>in classrooms</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>actually</i>	gr/focus/valeur/authenticity	<i>in classrooms</i>	gr/force/quantify/process/extent/scope/space	1a 1a	C. Manner: quality C. Loc: place – phys: loc.
	<i>actually</i>	gr/focus/valeur/authenticity							
	<i>in classrooms</i>	gr/force/quantify/process/extent/scope/space							
	22.5	what their intended pedagogical outcomes were	Identifying clause; Pr: simple past						
26.6	and what other strategies teachers might have employed alongside or instead of textbooks	Material clause; Pr: modalised (med. probability) Topical Themes: Goal & Actor	1a	C. Accomp: comitative					
22.7	to convey historical content or skills to their pupils.	Material clause; Pr: non-finite							
23	The observations of Peter Taylor and Julian Thomas in relation to the historiography of history education [in Australia] also apply to New Zealand .	Material clause; Pr: simple present Topical Theme: Scope Appraisal <table border="1"> <tr> <td><i>in Australia</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> <tr> <td><i>to New Zealand</i></td> <td></td> </tr> </table>	<i>in Australia</i>	gr/force/quantify/process/extent/scope/space	<i>to New Zealand</i>		1a 2a 1a	C. Matter Q. Loc: place – phys: geo. C. Loc: place – phys: geo.	
<i>in Australia</i>	gr/force/quantify/process/extent/scope/space								
<i>to New Zealand</i>									
24.1	Taylor and Thomas contend	Verbal clause; Pr: simple present Appraisal <table border="1"> <tr> <td><i>contend</i></td> <td>Manner Pr; argue strongly; flag; en/contract/proclaim/pronounce</td> </tr> </table>	<i>contend</i>	Manner Pr; argue strongly ; flag; en/contract/proclaim/pronounce	3a	Manner Pr.			
<i>contend</i>	Manner Pr; argue strongly ; flag; en/contract/proclaim/pronounce								

PHASE	CONTENT		LINGUISTIC ANALYSIS	CONTEXTUALISATION												
	CI			Rk												
Literature review Sub-phase 2 (cont.)	24.2	that Australian studies of history education have been preoccupied with identifying the political ideologies <i>[(that are) contained in history lessons]</i>	Material clause; Pr: present perfect Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>preoccupied</i></td> <td>Manner Pr; focused <u>exclusively on</u>; flag</td> </tr> <tr> <td><i>in history lessons</i></td> <td>gr/force/quantify/process/extent/scope/space</td> </tr> </table>	<i>preoccupied</i>	Manner Pr; focused <u>exclusively on</u> ; flag	<i>in history lessons</i>	gr/force/quantify/process/extent/scope/space	3a 1b	Manner Pr. D.C. Loc: place – semiotic emb. Q. Scope							
	<i>preoccupied</i>	Manner Pr; focused <u>exclusively on</u> ; flag														
	<i>in history lessons</i>	gr/force/quantify/process/extent/scope/space														
24.3	-- often <i>(they are)</i> condemning such lessons as 'unnecessarily or falsely ' ideological—	Attributive clause: Pr: non-finite Appraisal <table border="1"> <tr> <td><i>often</i></td> <td>gr/force/quantify/process/frequency</td> </tr> <tr> <td><i>condemning</i></td> <td>Manner Pr.; disapproving <u>severely</u>; flag</td> </tr> <tr> <td><i>unnecessarily</i></td> <td>gr/force/intensify/attribute</td> </tr> <tr> <td><i>falsely</i></td> <td>gr/force/intensify/attribute</td> </tr> </table>	<i>often</i>	gr/force/quantify/process/frequency	<i>condemning</i>	Manner Pr.; disapproving <u>severely</u> ; flag	<i>unnecessarily</i>	gr/force/intensify/attribute	<i>falsely</i>	gr/force/intensify/attribute	1a 3a 2c 2c	C. Extent: frequency Manner Pr. Manner: quality Manner: quality				
<i>often</i>	gr/force/quantify/process/frequency															
<i>condemning</i>	Manner Pr.; disapproving <u>severely</u> ; flag															
<i>unnecessarily</i>	gr/force/intensify/attribute															
<i>falsely</i>	gr/force/intensify/attribute															
24.4	while <i>(they have been)</i> 'ignoring' the ways <i>[[in which the actual teaching of a course of study over time might have been less [about [[producing political ideas or// passing on a discrete quota of historical knowledge// than (it might have been) about producing "kinds of persons [with particular skills and capacities"]]]]]</i> .	Mental clause; Pr: present perfect continuous (<i>ellipsed</i>) Appraisal <table border="1"> <tr> <td><i>ignoring</i></td> <td>Manner Pr; willfully not notice; flag</td> </tr> <tr> <td><i>over time</i></td> <td>gr/force/quantify/process/extent/scope/time</td> </tr> <tr> <td><i>less</i></td> <td>gr/force/quantify/process/extent/ scope/space</td> </tr> <tr> <td><i>discrete</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>quota</i></td> <td>gr/force/quantify/thing</td> </tr> <tr> <td><i>particular</i></td> <td>gr/focus/valeur/specificity</td> </tr> </table>	<i>ignoring</i>	Manner Pr; willfully not notice; flag	<i>over time</i>	gr/force/quantify/process/extent/scope/time	<i>less</i>	gr/force/quantify/process/extent/ scope/space	<i>discrete</i>	gr/force/quantify/thing	<i>quota</i>	gr/force/quantify/thing	<i>particular</i>	gr/focus/valeur/specificity	3a 1b 2b 2b	Manner Pr. C. Extent: duration Q. Matter emb. Matter C. Accom: comitative emb. Matter
<i>ignoring</i>	Manner Pr; willfully not notice; flag															
<i>over time</i>	gr/force/quantify/process/extent/scope/time															
<i>less</i>	gr/force/quantify/process/extent/ scope/space															
<i>discrete</i>	gr/force/quantify/thing															
<i>quota</i>	gr/force/quantify/thing															
<i>particular</i>	gr/focus/valeur/specificity															
Purpose Sub-phase 3	25.1	In this spirit I aim to return history textbooks to their proper place [in early twentieth-century classrooms]	Material clause; Pr: simple present Marked Theme (Manner); Topical Theme: Actor Appraisal <table border="1"> <tr> <td><i>spirit</i></td> <td>appreciation: high + Invoke judgement: sanc./prop.</td> </tr> <tr> <td><i>to their proper¹ place</i></td> <td>gr/force/quantify/process/extent/scope/space appreciation +; Invoke judgement: sanc/prop</td> </tr> <tr> <td><i>in early twentieth-century classrooms</i></td> <td>gr/force/quantify/process/ extent/scope/space</td> </tr> </table>	<i>spirit</i>	appreciation: high + Invoke judgement: sanc./prop.	<i>to their proper¹ place</i>	gr/force/quantify/process/extent/scope/space appreciation +; Invoke judgement: sanc/prop	<i>in early twentieth-century classrooms</i>	gr/force/quantify/process/ extent/scope/space	1a 1a 2a	C. Manner: quality C. Loc: place - abstract Loc: place – historical Q. Loc: place- abstract					
	<i>spirit</i>	appreciation: high + Invoke judgement: sanc./prop.														
<i>to their proper¹ place</i>	gr/force/quantify/process/extent/scope/space appreciation +; Invoke judgement: sanc/prop															
<i>in early twentieth-century classrooms</i>	gr/force/quantify/process/ extent/scope/space															
25.2	by considering their rise and fall [relative to other methodologies <i>[[for transferring historical knowledge and capacities to schoolchildren]]</i>].	Mental clause: Pr: non-finite Appraisal <table border="1"> <tr> <td><i>considering</i></td> <td>Manner Pr.; examining <u>carefully</u>; afford</td> </tr> <tr> <td><i>other</i></td> <td>gr/force/quantify/thing</td> </tr> </table>	<i>considering</i>	Manner Pr.; examining <u>carefully</u> ; afford	<i>other</i>	gr/force/quantify/thing	3a 2a	Manner Pr. Q. Matter Q. Phenomenon								
<i>considering</i>	Manner Pr.; examining <u>carefully</u> ; afford															
<i>other</i>	gr/force/quantify/thing															

APPENDIX E: Processes infused with Manner

APPENDIX E1: Manner processes in introductions to topic

Dataset	CI	Process / infusion	Function	Type	Attitude	Impact
Brooks et al (2013)	2	thrive <i>expand significantly & sustainably</i>	Work for strong positive evaluation of research	Material	flag	very high
Kennedy et al (2013)	1	emerged <i>arose importantly</i>	Present context and research as valuable and important.	Material	afford	high
Gray (2010)	1.1	suggest <i>state tentatively</i>	Cautiously seek to establish importance for research.	Verbal	afford	low-medium
	2.2	specify <i>require particularly</i>	Present need for communication skills as special, thus research as important.	Material	flag en/expand/ entertain	high
	2.3	is stressed <i>referred to emphatically</i>	Present oral skills as professionally important.	Behav.	flag	high
Macpherson & Owen (2010)	1	launched <i>began forcefully</i>	Construe degree as important new venture	Material	flag	high
	3.1	monitor <i>observe critically</i>	Evaluate purpose of previous research	Material	flag	high
Patrick (2011)	3	reflected upon <i>thought carefully about</i>	Facilitate recount in preamble to present own research as worthwhile	Mental	afford	low-medium
	8	highlights <i>indicates prominently</i>	Evaluate past events to build status of own research	Material	flag	high
	10.1	need <i>required necessarily</i>	Represent necessity of new view of school history projects	Mental	flag	high
	10.2	contends <i>asserts strongly</i>	Represent attitude of own research as robust	Verbal	flag	high

APPENDIX E2: Manner processes in development phases

Dataset	CI	Process / infusion	Function	Type	Attitude	Impact
Brooks et al (2013)	20	exemplify <i>show or illustrate excellently</i>	Positively evaluate item in research field to gain support.	Ident.	flag	high
Kennedy et al (2013)	9	rely <i>depend confidently</i>	Support value of research	Attr.	flag	medium
	14.1	demonstrated <i>shown evidentially</i>	Address credentials—success of own previous work	Verbal	flag	high
Patrick (2011)	11	¹ devoted <i>wholly concerned with</i> ² to examining <i>scrutinize thoroughly</i>	Position past research as narrow and limited	¹ Behav. ² Material	flag	high
	12.1	argue <i>reason strongly</i>	Evaluates others' viewpoint to establish favourable basis for own research.	Verbal	flag en/contract /proclaim/ pronounce	high
	12.2	need <i>require necessarily</i>	Summarises supportive argument of others.	Mental	flag	high
Gray (2010)	3	publicizing <i>reporting widely and prominently</i>	Evaluate topic context to construe research importance and need	Verbal	flag	medium
		voicing <i>expressing emphatically & urgently</i>	Evaluate topic context to construe research importance and need	Verbal		
	4	sought <i>keenly looked for</i>	Construe research need	Behav.	flag	high
Macpherson & Owen (2010)	10.2	suggests <i>states tentatively</i>	Cautiously seek to build research importance	Verb.	afford En/expand/ entertain	low/ medium
	11.2 15.2	underpins, underpinned <i>support securely</i>	Evaluate to build research importance	Material	flag	high
Bowen (2010)	11.2	target <i>aim at precisely</i>	Construe fishing as specialised industry	Material	flag	high
	14.2	considering <i>thinking deliberatively and carefully</i>	Support importance of research by enabling comparison of statistics.	Mental	afford	high

APPENDIX E3: Manner processes in review phases

Dataset	CI	Process / infusion	Function	Type	Attitude	Impact	
Brooks (2013)	37.2	required <i>demand</i> <u>compulsorily</u>	Disparage others' research	Material	flag	high	
Gray (2010)	11.2	consider	Cite supportive literature	Mental	afford	low	
	26.2	<i>think</i> <u>carefully/conclusively</u>					
	14.1	calling on asking <u>emphatically & prominently</u>	Raise professional concern	Behav.	flag	high	
	15.2	requires, required	Report attitude to communication skills to justify research	Material	flag	high	
	32.4	<i>demand</i> <u>compulsorily</u>					
	19						
	16.2	needing <i>requiring</i> <u>necessarily</u>	Summarise attitude to skills, evoke anxiety	Mental	flag	high	
	16.3	sought (to make) <i>tried</i> <u>purposefully</u>	Cite supportive literature	Material	afford	medium	
	18	criticizes <i>describes</i> <u>unfavourably</u>	Cite supportive literature	Behav.	flag	high	
	19	argues for <i>reasons</i> <u>strongly</u>	Evaluate attitude and report content of supportive literature	Verbal	flag en/contract/ proclaim/ pronounce	high	
	20		focusing ¹ <i>looking</i> <u>particularly</u> at limited ² <i>constrained</i> <u>arbitrarily</u>	¹ Evaluate other research quality -- limitation of relevance ² Accentuate inadequacy of other research	Material	flag	high
					Material	flag	high
	22.1	studied <i>looked at</i> <u>carefully & purposefully</u>	Evaluate quality of others' research	Material	afford	low	
	23.1		¹ compared <i>examined</i> <u>purposefully</u> , i.e., for differentiation ² perceived <i>discerned</i> <u>particularly</u>	Evaluate quality of others' research (burnish)	¹ Material	afford	low
					² Mental		low
30	support <i>present</i> <u>positively</u>	Evaluate supportive literature	Material	flag	high		
24	examine, examined <i>scrutinize(d)</i> <u>thoroughly</u>		Evaluate quality of other research to support own view	Material	flag	medium	
33.2							
35.2							
42.2							
36	investigated <i>looked into</i> <u>thoroughly</u>	Evaluate quality of other research to support own view	Material	flag	high		
42.1	engaged <i>discussed</i> <u>analytically & argumentatively</u>	Evaluate quality of other research to support own view	Behav.	flag	high		
Macpherson & Owen (2010)	12.2	reviewed <i>discussed</i> <u>critically</u>	Evaluate purpose of other research to support own view	Verbal	flag	medium	
	14	considered <i>thought</i> <u>carefully</u> about	Evaluate purpose of other research to support own view	Mental	afford	medium	
Bowen (2010)	16.2	suggest ¹ <i>offer</i> <u>tentatively</u> studying ² <i>looking at</i> <u>carefully & purposefully</u>	¹ Cite supportive sources cautiously ² Evaluate possible quality for research	¹ Verbal	¹ afford En/expand/ entertain	¹ medium	
				² Material	² afford	² low	
Patrick (2011)	16.1	engaging <i>discussing</i> <u>analytically & argumentatively</u>	Portray supportive research and critiques as vigorous	Behav.	flag	medium	
	16.2	surface <i>arise</i> <u>significantly</u>	Portray supportive research as important	Ident.	flag	medium	

Manner processes in review phases (cont.)

Dataset	CI	Process/infusion	Function	Type	Attitude	Impact
Patrick (2011) cont.	17.1	pointed to <i>indicated particularly</i>	Evaluate source's identification of others' research limitations	Verbal	flag	high
	17.2	arguing <i>reasoning strongly</i>	Represent supportive source as robust	Verbal	flag En/contract/ proclaim/ pronounce	high
	18.1	criticized <i>described unfavourably</i> to concentrate <i>exclusively focus on</i>	Evaluate attitude of supportive source to other research	Behav.	flag	high
				Behav.	flag	high
	18.2	ignoring <i>willfully failing to consider</i> centred <i>principally concerned with</i>	Evaluate supportive source to support own thesis	Mental	flag	high
				Material	flag	
	20	criticized <i>described unfavourably</i>	Evaluate source to suit own view	Behav.	flag	high
	2.1	loom <i>appear very prominently</i>	Represent textbooks as having extensive influence	Verbal	flag	high
	22.2	failed ¹ to interrogate ² <i>absolute negative</i> <i>question analytically</i>	Represent previous research as absolutely deficient	Behav.	¹ inscribe high App— ² flag	high
	24.1	contend <i>argue strongly</i>	Evaluate argument of supportive sources as robust	Verbal	Flag En/contract/ proclaim/ pronounce	high
	24.2	preoccupied [with identifying] <i>focused exclusively on</i>	Evaluate source's negative account of research to support own thesis	Material	flag	high
24.3	condemning <i>disapproving severely of</i>	As above	Attr.	flag	high	
24.4	ignoring <i>willfully failing to consider</i>	Quote from supportive source to support own viewpoint	Mental	flag	high	

APPENDIX E4: Manner processes in research space phases

Dataset	CI	Process / infusion	Function	Type	Attitude	Impact
Brooks et al (2013)	22, 24	driven, drive, driving <i>impel powerfully</i>	Construe chemical process as energetic and strong	Material	flag	high
	25	stand out <i>show up strongly</i>	Positively evaluate role of iridium complexes	Behave.	flag	high
Kennedy et al (2013)	17	failed	Disparage others' research	Material	inscribe absolute App—	high
Gray (2010)	39	examined <i>scrutinised thoroughly</i>	Positively evaluate other research, establish own research space	Verbal	flag	high
Bowen (2010)	9.2	mirrors <i>exactly resembles</i>	Compare Australian/US research, justify own research	Material	flag	high

APPENDIX E5: Manner processes in purpose-value phases

Dataset	CI	Process / infusion	Function	Type	Attitude	Impact
Brooks et al (2013)	32.2	demonstrates <i>shows <u>evidentially</u></i>	Positions work as successful and valid	Verbal	flag	high
Gray (2010)	9	seeks ¹ <i>tries <u>purposefully</u></i> to investigate ² <i>examine <u>thoroughly</u></i> perceived ³ <i>discerned <u>particularly</u></i>	Positively evaluate purpose of own research.	Material	¹ afford	medium
		Mental		² flag ³ afford	high low	
Bowen (2010)	10	required <i>demand <u>compulsorily</u></i>	Reference to oral communication skills in framing research objective	Material	flag	high
	17	offers <i>provides <u>tentatively</u></i>	Cautiously evaluates purpose of own research	Material	afford	low-medium
	19	examined <i>scrutinized <u>thoroughly</u></i>	Positively evaluates method of own research	Material	flag	high
Patrick (2011)	20.1	demonstrated <i>showed <u>evidentially</u></i>	Positively evaluate results of own research	Verbal	flag	high
	19	¹ examines <i>scrutinizes <u>thoroughly</u></i> ² prioritized <i>arranged <u>purposefully</u>, i.e., in order of perceived importance</i>	¹ Positively evaluate method of own research ² Negatively evaluate research context	Material	flag	high
	25.2	considering <i>thinking <u>carefully</u> about</i>	Positively evaluate quality of own research	Mental	flag	medium

APPENDIX F: Resources for framing by quantification

Key: MT = marked Theme; C = Circumstance; DC = downranked Circumstance; Q = Qualifier or Qualifier-in-Qualifier; A(c) = Attribute (circ.); DA(c) = downranked Attribute (circ.); TA = Temporal Adjunct

APPENDIX F1: Framing by quantification in introductions to topic

Dataset	CI	Instance	Quantification
Brooks et al (2013)	1	for decades C	scope/time
	3	currently TA	distance/time
	5.1	in solid fuels DC	scope/space
	6	in solar energy conversion systems DC	
Kennedy et al (2013)	1	Within the discipline of coordination chemistry ^{MT} C	scope/space
	2	to static, rigid structures DC between rigid and flexible states DC	
	3	into the ligands C	
	5	in coordination chemistry C	
Gray (2010)	1	often C	frequency
	2.2	In New Zealand ^{MT} C	scope/space
	2.3	on the web site of the New Zealand ... Accountants (NZICA) C	
	3.1	recently TA	scope/time
	4.2	presently TA	
Macpherson & Owen (2011)	1	In 2004 ^{MT} C	scope/time
	2	In 2005 ^{MT} C in that course DC in the area of critical thinking Q	scope/time scope/space
	3	in the first year [of their graduate medical studies] C	scope/time
Bowen (2010)	1	to Victoria Q during the 1850s C	scope/space scope/time
	2	from the provinces of Guangdong and Fujian and the Island of Amoy DC	scope/space
	3	In each of these regions ^{MT} C	
	6	At a time [[when most Melbourne and Sydney-based European fishermen were earning approximately £50 [per year]]] ^{MT} C in Australia DC every day C	distance/time [frequency] scope/space frequency
	7.1	During the 1860s ^{MT} C from fish sales C annually C	scope/time scope/space frequency
Patrick (2011)	1.1	In 1938 ^{MT} C in 1940 DC	scope/time
	1.2	from primary, native, secondary and technical schools DC around the country Q	scope/space
	2	By the time [[the competition closed]] ^{MT} C	scope/time
	3	in rural education DC	scope/space
	4.1	in some areas of the country ^{MT} C	
	4.3	for the first time TA	scope/time
	5.1	in the Chatham Islands C	scope/space
	5.2	among the local community C	
	8	within the pedagogy of the early twentieth century New Education movement C	
	10.1	in the context [of a set of imported pedagogical theories and educational practices [[that had less to do with a colonial context than with the aim of developing particular qualities and capacities in children through the medium of locally based lessons]]] C	

APPENDIX F2: Framing by quantification in development phases

Dataset	CI	Instance	Quantification
Brooks et al (2013)	8	often c	frequency
	9	partially c	scope/space
	12	often (Epithet in nominal group)	frequency
	16	in scheme 1 DC	scope/space
	19	to 1.084 kWh/kg c	distance/space
Kennedy et al (2013)	7.1	Upon chelation ^{MT} c	scope/time
	8.1	often DC	frequency
	8.2	between electron-rich and electron-poor hemilabile ligands DA(c)	scope/space
	8.4	into WLA architectures (2,3,6,7,8 and 9, Scheme 1) c	
	9	into the hemilabile ligand DC	
	10.2	to an aryl group DC	
Gray (2010)	3.1	recently TA among employers Q	distance/time scope/space
	4.2	presently TA in specific fields Q	distance/time scope/space
	5.1	to this point Q	distance/time
	8	in new graduates Q	scope/space
Macpherson & Owen (2011)	16	in a broad range of medical adverse events DA(c)	scope/space
	17.1	In Australia ^{MT} c	
	18	to New South Wales hospitals c in 2003/4 c		scope/time
	19.1	in nearly 82% of these adverse events c	scope/space
	19.2	after 'failure' in technical performance of an indicated procedure c	scope/time
	20	in other Western countries such as the UK, Denmark, Canada and France c	scope/space
Bowen (2010)	10.1	For approximately twenty years ^{MT} c from the early-1850s ^Q of MT in the US ^Q	scope/time scope/space
	10.2	into their nets DC	
	11.1	By the 1870s ^{MT} c	scope/time
	12.1	in the US c	scope/space
	12.2	in China Q	
	13	In 1880 ^{MT} c from San Francisco to Hong Kong c	scope/time scope/space
	14.3	in the San Francisco fish markets DC during 1877 DC	scope/time
	Patrick (2011)	11	Recently ^{MT} TA between knowledge and colonialism Q in New Zealand Q from one [[almost exclusively devoted to examining the 'textual outputs' of colonial knowledge]] c	distance/time scope/space

APPENDIX F3: Framing by quantification in reviews of other research

Dataset	CI	Instance	Quantification
Brooks et al (2013)	36.1	At high temperatures ^{MT} C	scope/space
	37.1	at 1100K C	
	37.3	during cooling process C	scope/time
Gray (2010)	11.3	among the most important skills A(c)	scope/space
		upon their entry DC	scope/time
		into an accountancy career Q	scope/space
	14.1	In Australia ^{MT} C	scope/time
		in 1996 C	
	14.2	in 2005 C	
	15.1	In New Zealand ^{MT} C	scope/space
	15.2	in the Professional Competence Examination part 2 ^{MT} C	
	16.1	Internationally ^{MT} C	
	16.2	in the university curriculum Q	
	16.3	at university level accounting education Q	
	17	in the disciplines Q from the classroom DC to the workplace DC	
	18	in higher education DC	
	19	in corporate work settings DC	
	20	on the acquisition of communication skills ... Graduates DC	
	21.1	often C		frequency
	22.1	early in their employment careers DC	scope/time
	23.1	in communication skills DC	scope/space
	24	within the smaller number of studies... communication skills ^{MT} C	
		on written communication skills A(c)	
	26.2	in accountancy Q	
	28.2	in the specific areas of "inter-personal skills" and "oral expression" Q	
	28.3	into these two broad categories DA(c)	
	29	on the topic of specific oral communication skills DC	
		in accountancy Q	
	30	in the Graduates (<i>whom</i>) they hire Q	
	31	in accountancy graduates Q	
		at the required level DA(c)	
	32.4	in the workplace DC	
	34.2	across a broad array of industries C	
	35.1	in their lists of desirable communications skills C	
	35.2	more recently TA	scope/time
	36	across a range of business industries C	scope/space
37.1	within oral communication activities Q		
	in accountancy Q		
	in a study of accounting professionals Q		
	in England and Wales Q		
40	in Australia Q		
41	within the seven Q		
42.1	In other New Zealand studies ^{MT} C		
	in accountancy students Q		
42.3	in a workplace context C		
43.2	in the Society of Accountants' Admissions Policy DC		

Framing by quantification in reviews of others' research (cont.)

Dataset	CI	Instance	Quantification
Macpherson & Owen (2010)	12.1	at the level of tertiary education Q in recent years C	scope/space
Bowen (2010)		in Australia ^{MT} C in the US C	distance/time
	16.1	from America's Chinese fishing history Q from Australia Q	
	16.2	during the 19 th century Q	scope/time
	Patrick (2011)	16.1	over the past few decades C	scope/time
	17.1	in 2002 C	
	17.3	in New Zealand Q	
	18.1	In two recent articles ^{MT} C in New Zealand Q on the products of the textual exchanges ... national intellectual elite DC	scope/space
	18.2	'under' the nation DC on 'specific practices, institutions and sites' DC	
	20	in New Zealand education Q	
	22.1	in the historiography of history education C	
	22.2	in the past DC	scope/time
	22.4	in classrooms C	
	23	in Australia Q to New Zealand C	scope/space
	24.2	in history lessons DC	
	24.3	often C	frequency
	24.4	over time DC	scope/time

APPENDIX F4: Framing by quantification in Research Space phases

Dataset	CI	Instance	Quantification
Brooks et al (2013)	21.2	in the battery DC	scope/space
	27.1	in organic light-emitting diodes (OLEDs) c	
	27.2	in (during) many redox reactions ... [for solar fuels]. c	scope/time
	28.1	In H ² evolving water reduction reactions ^{MT} c	
Kennedy et al (2013)	16.1	to rigid, heteroligated aryl-aryl' ... platinum(II) complexes q	scope/space
	17.1	to aryl-aryl' palladium(II) and platinum(II) complexes q so far TA	
Gray (2010)	38	in the literature [on oral communication skills] c	scope/space
		in the accountancy workplace q	
	39	since McLaren's 1990 study ^{MT} c	scope/time
Bowen (2010)	8	in Australia's early commercial fishing industry q	scope/space
		in the United states of America (US) DC	
	9.2	in the US q to the mid-nineteenth century gold rushes DC in labour-intensive work areas such as market gardening and fishing DC	
Patrick (2011)	14.1	(for) long c	scope/time
		in the work of cultural transmission... instilling imperial ideologies q	
	15.1	in the role of knowledge [[in furthering colonization...]] q in this country c	scope/space
15.2	in this area q		

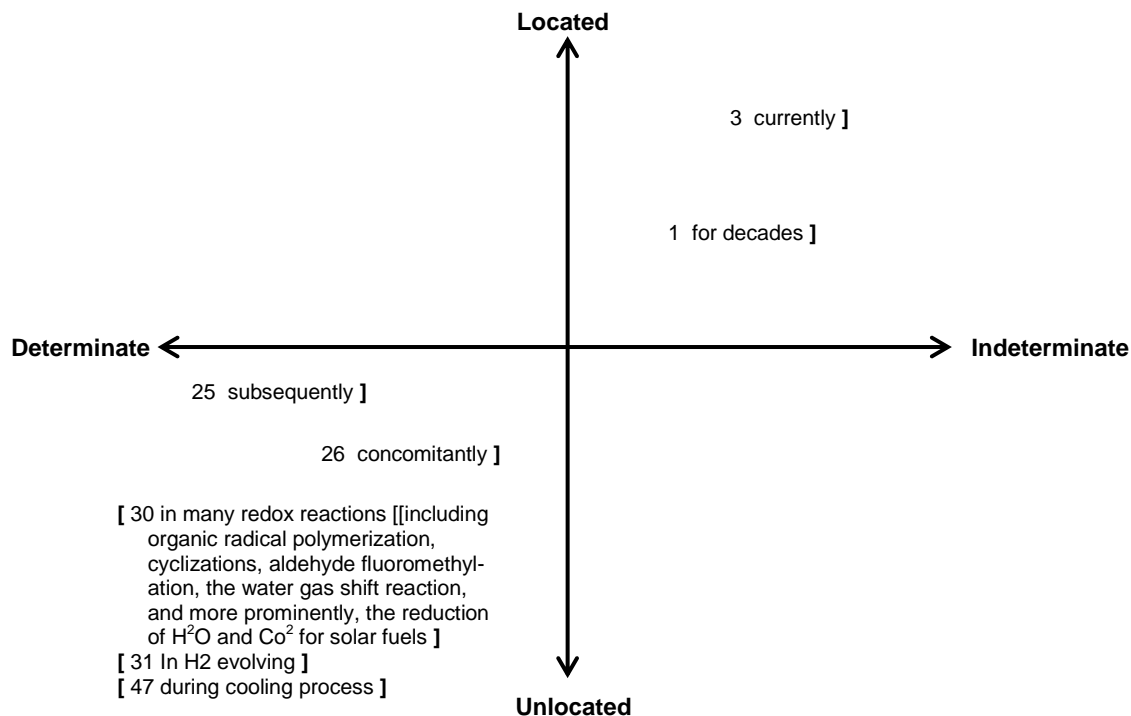
APPENDIX F5: Framing by quantification in Purpose-value phases

Dataset	CI	Instance	Quantification
Kennedy et al (2013)	18	Herein ^{MT} c	scope/space
		in either protic or non-polar solvents q	
Gray (2010)	19.2	from a variety of aryl-based hemilabile P, S, P, O and P,N ligands c	scope/space
	9	in New Zealand DC	
		10		on oral communication skills DC
in their Graduate hires q in new graduated accountancy students DC			
Macpherson & Owen (2010)	21	in a new graduate medical degree A(c)	scope/space
Bowen (2010)	17	in colonial Australia q	scope/space
	18.1	in Australia's written histories and scholarly works q	
	19	in colonial Australia q	
	20.1	Ultimately ^{MT} TA	scope/time
	20.2	from Australia's colonial fishing industry q previously TA	scope/space scope/time
Patrick (2011)	13.1	In this piece ^{MT} c	scope/space
		to the domain of education c	
	13.2	(to) history education c	
	19	from British patterns DC in primary schools q	
25.1	to their proper place c in early twentieth-century classrooms q		

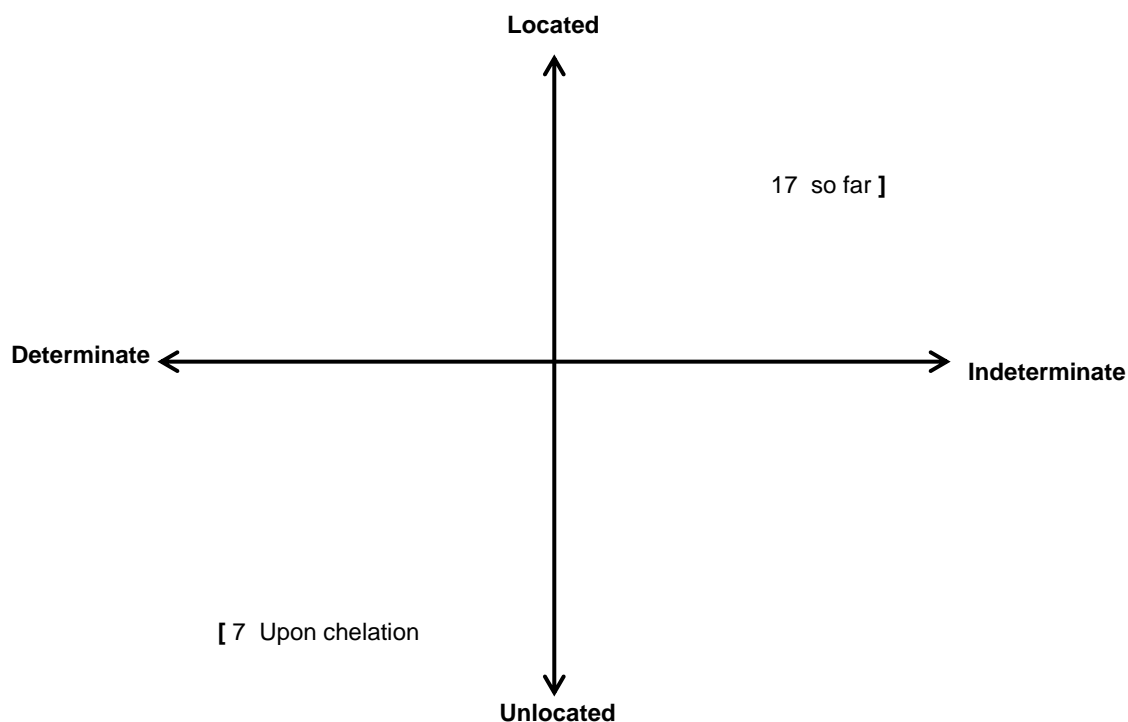
APPENDIX G Models of temporal qualities: determinacy and locatedness

Key to boundedness: [= bounded by past;] = bounded by present; [] = total boundedness

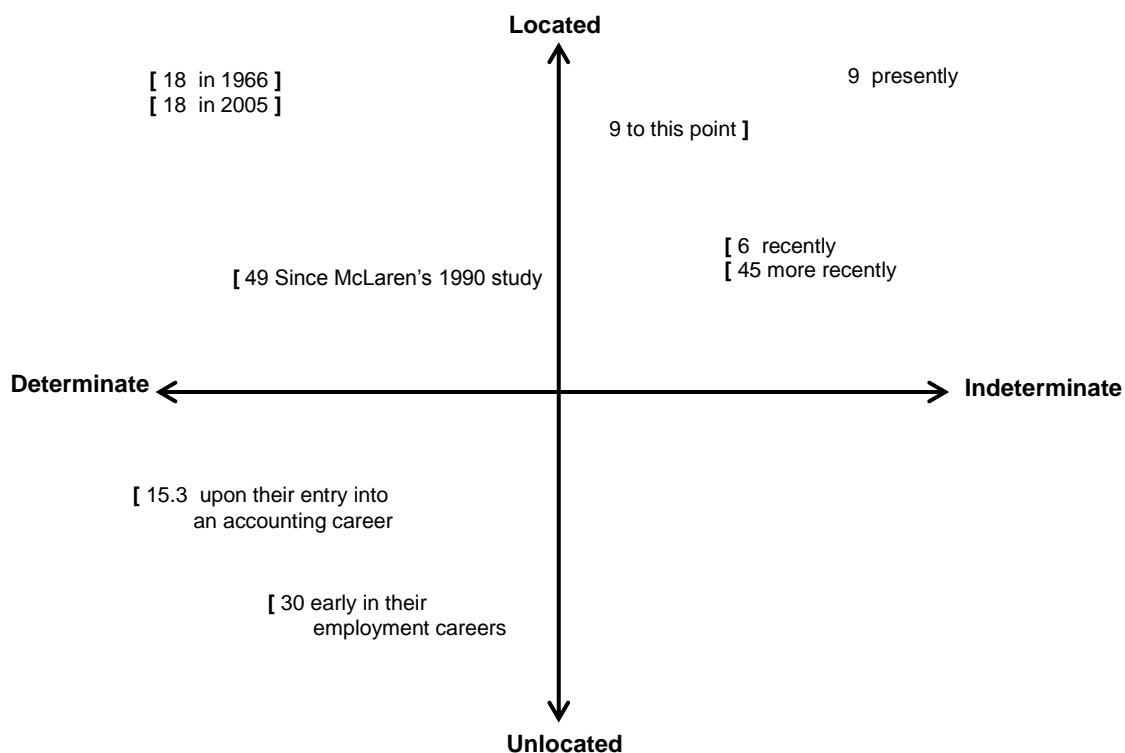
APPENDIX G1 Temporal qualities, Brooks, Basore & Bernhard (2013)



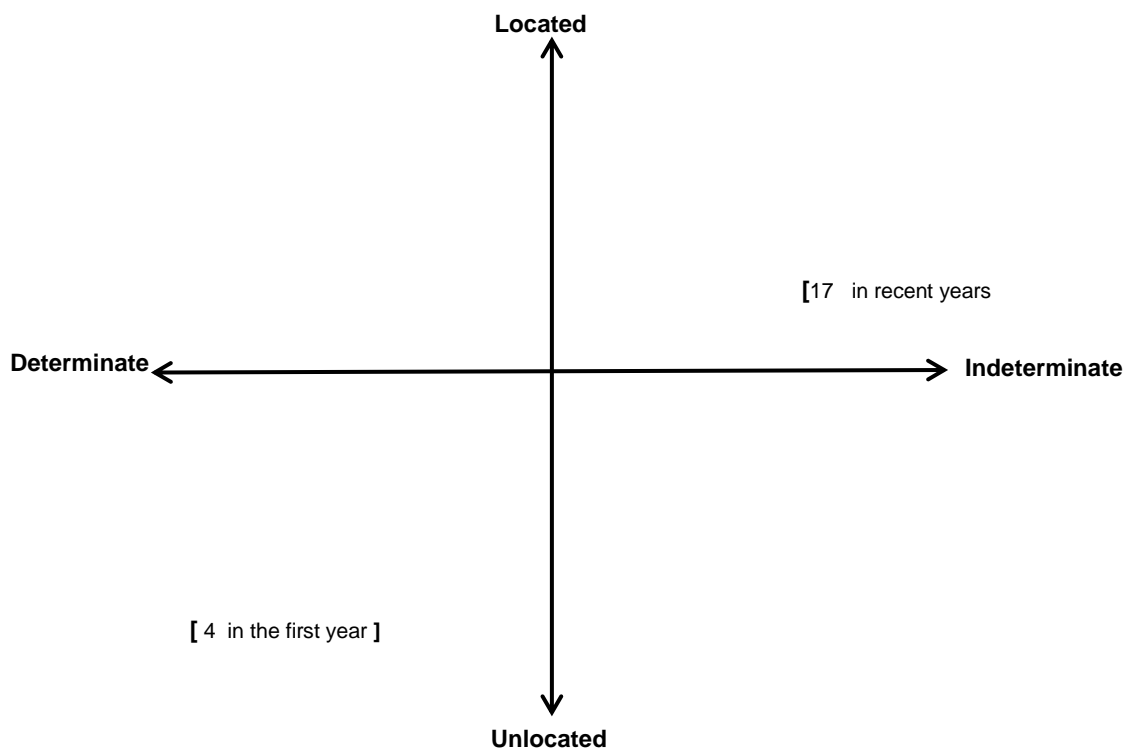
APPENDIX G2, temporal qualities, Kennedy et al (2013)



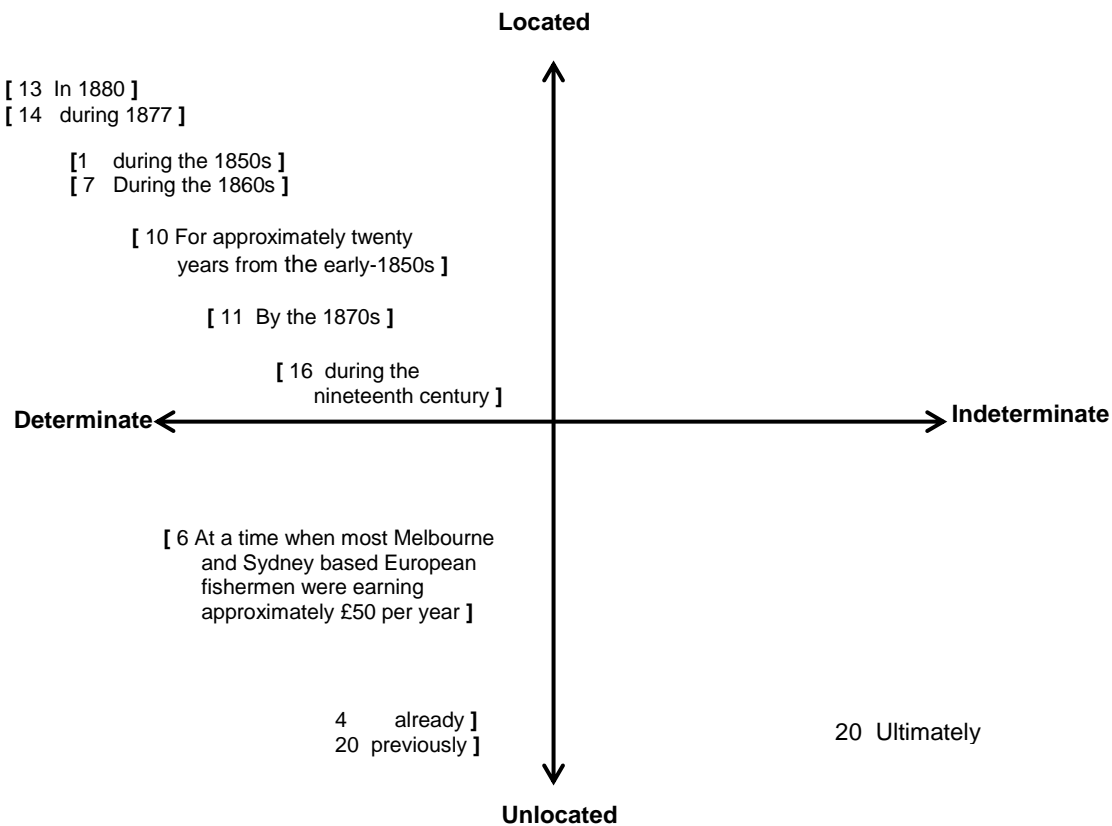
APPENDIX G3, temporal qualities, Gray (2010)



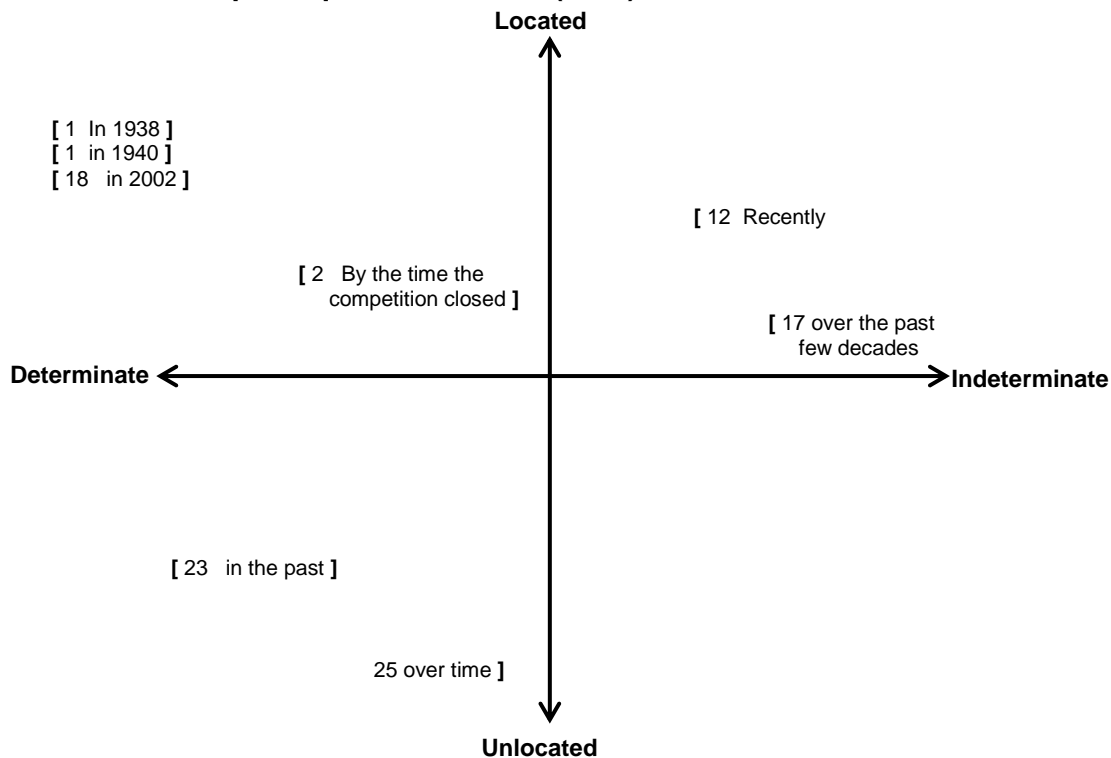
APPENDIX G4, temporal qualities, Macpherson & Owen (2010)



APPENDIX G5, temporal qualities, Bowen (2010)

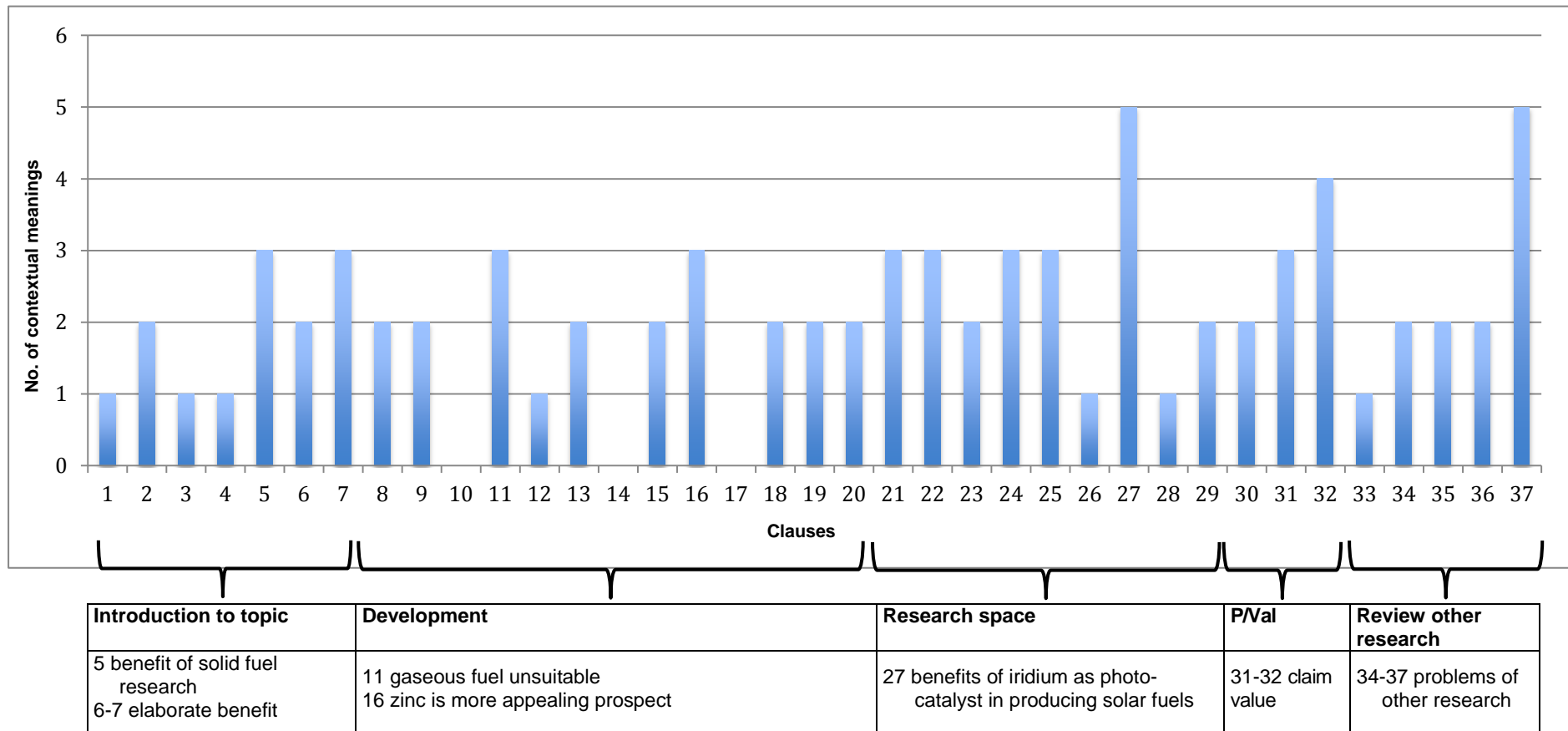


APPENDIX G6, temporal qualities, Patrick (2012)

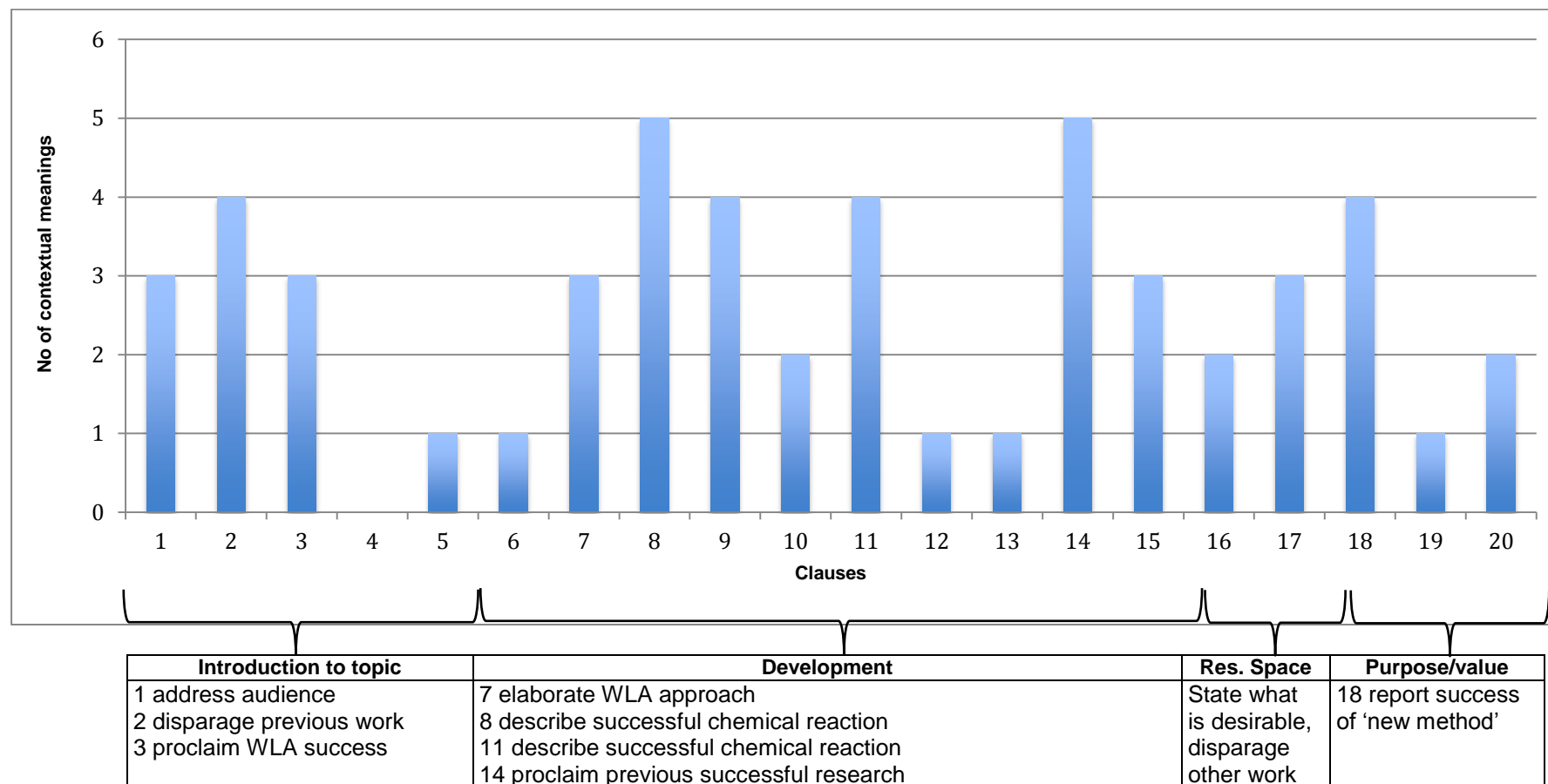


APPENDIX H: Contextual density indicating risk or argumentative priority

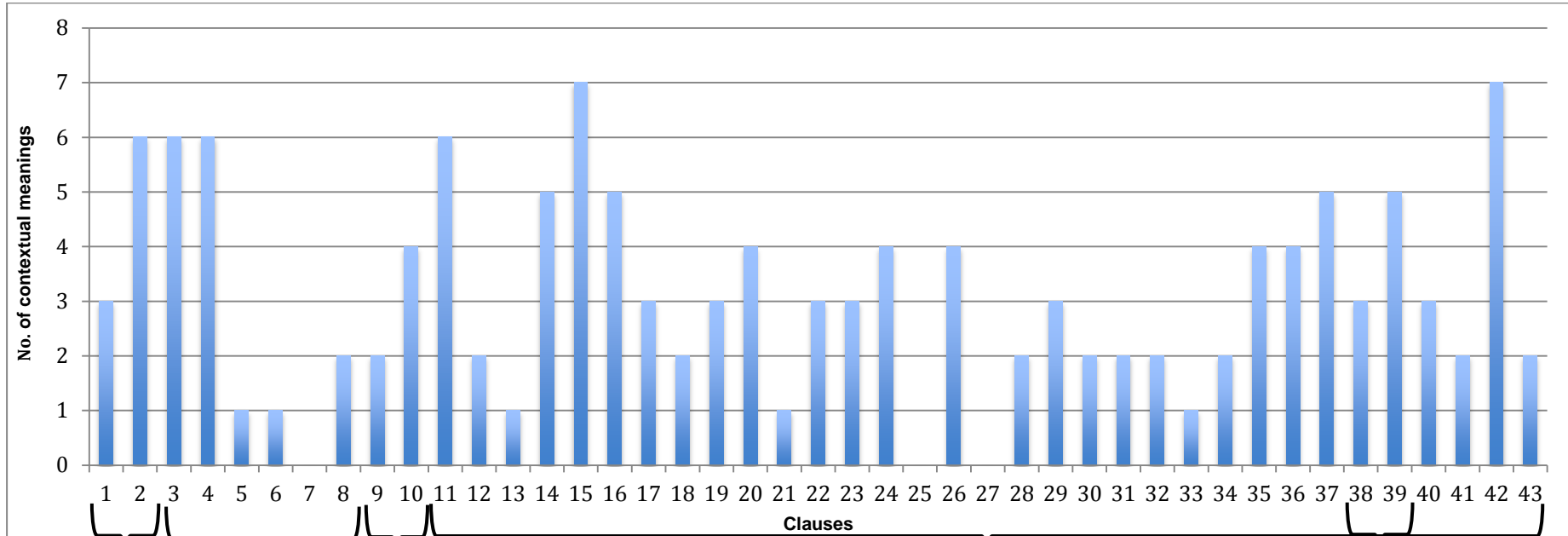
APPENDIX H1: Contextual density indicating risk points, Brooks et al (2013)



APPENDIX H2: Contextual density, indicating risk points, Kennedy et al (2013)

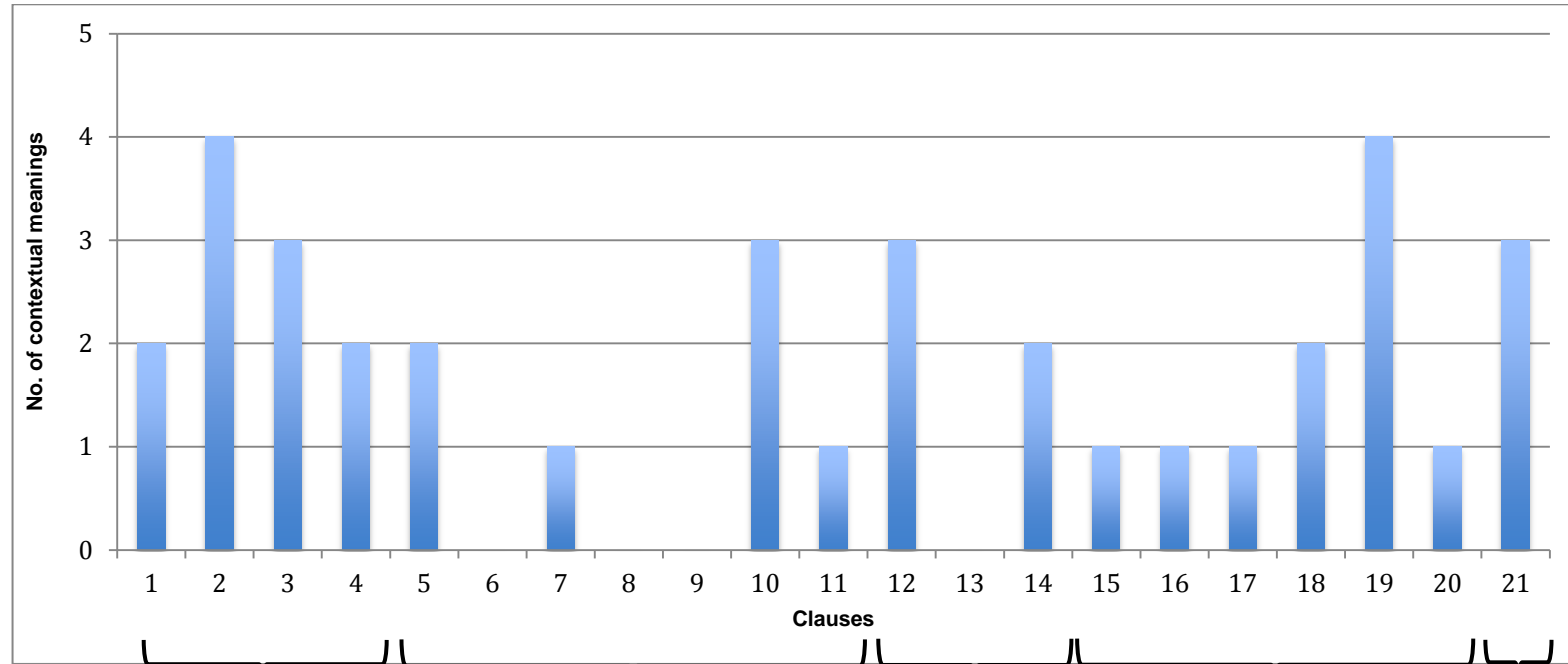


APPENDIX H3: Contextual density, indicating risk points, Gray (2010)



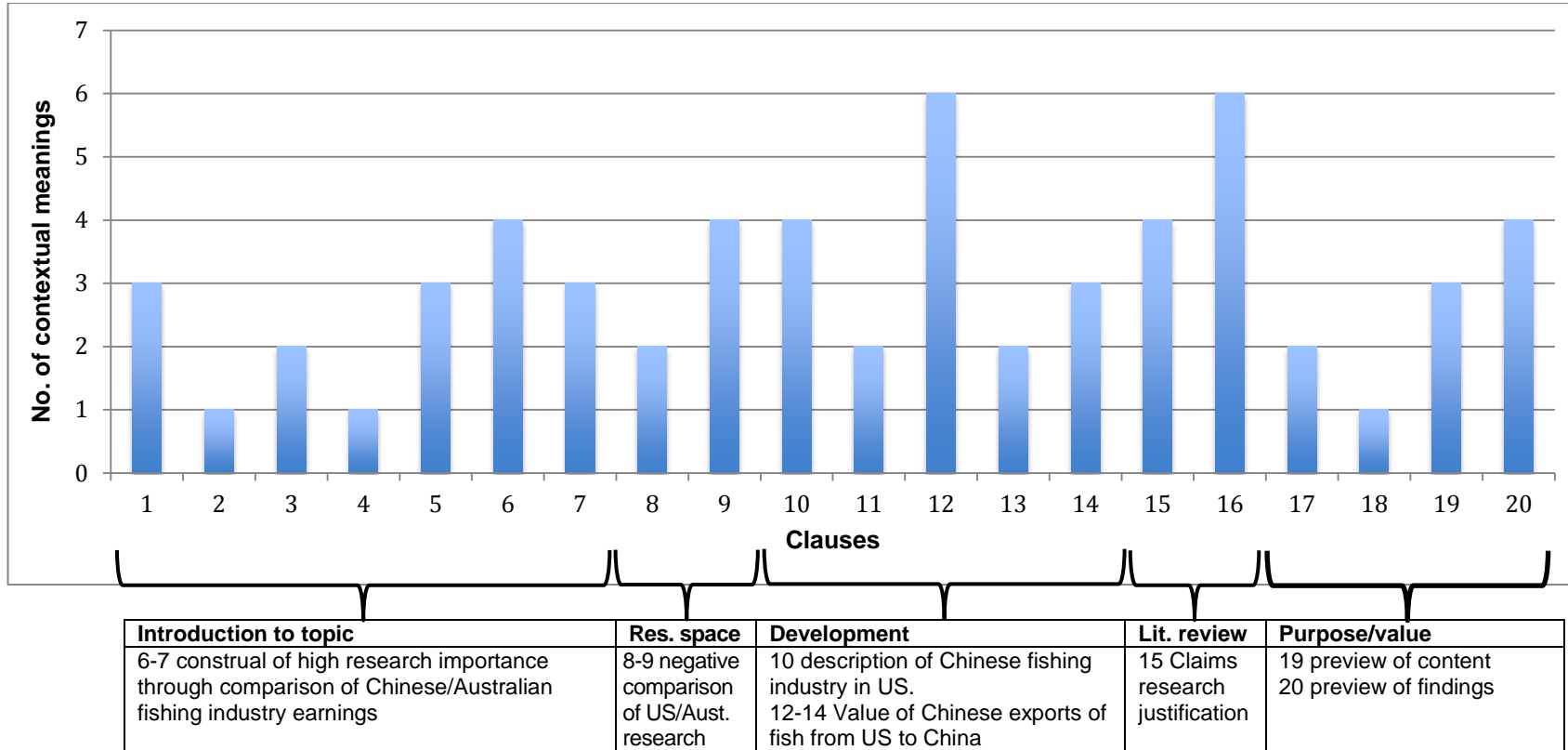
Intro to topic	Development	Pur.	Literature -----	R. Sp.	---- Review
1 problem 2 topic status	3 importance of problem 4 lack of data	Aim	11 importance of communication skills 14-16 professional concern and requirements 24 exclusion of more specific, relevant studies 35-36 exclusion of further apparently relevant studies 37 exclusion of Morgan's 'exceptional' research	38 gap 39 NZ gap	42 limited focus of NZ studies

APPENDIX H4: Contextual density indicating risk points, Macpherson & Owen (2010)

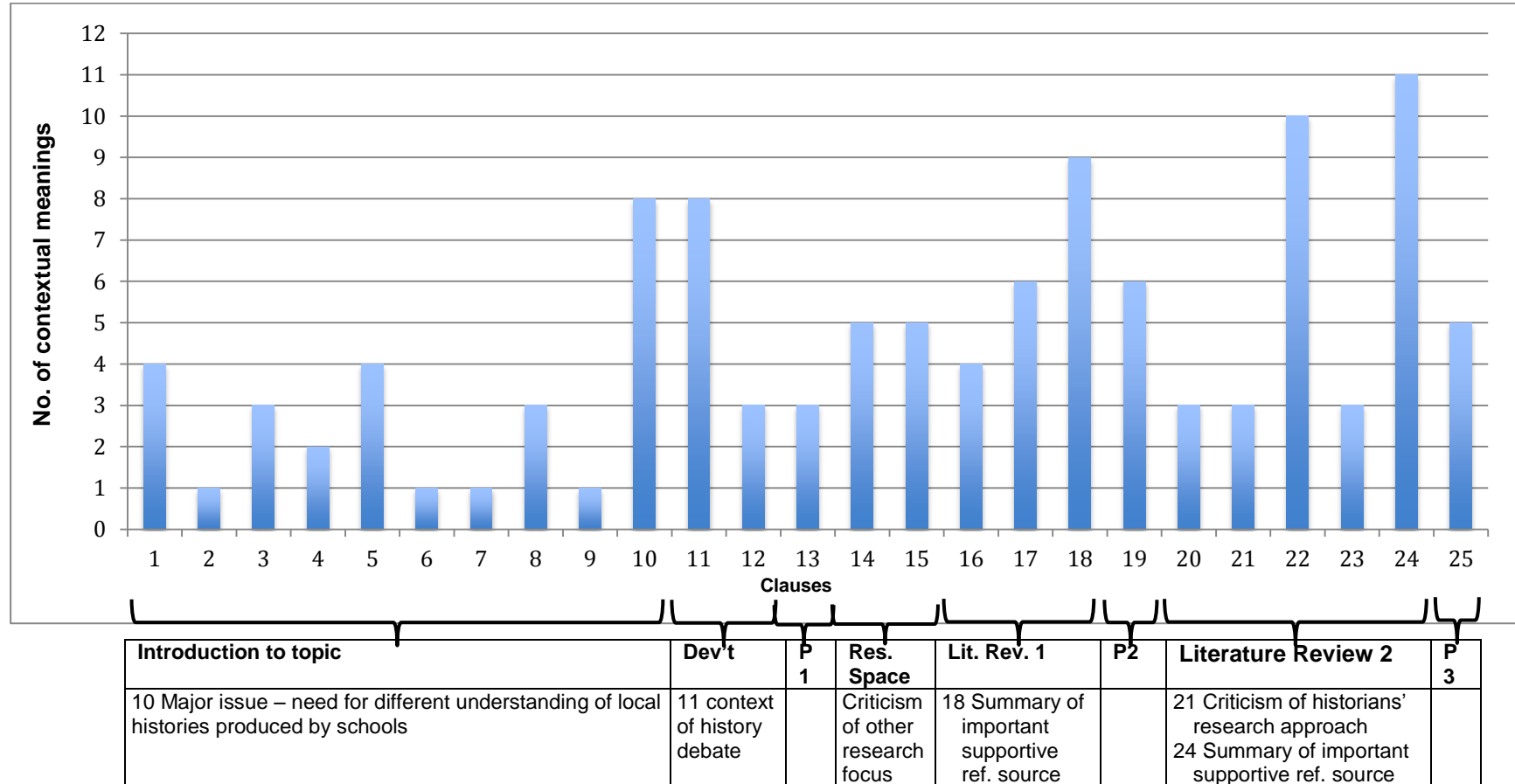


Introduction to topic	Development 1	Lit. review	Development 2	Pr-value
2-3 reference to authoritative research	10 what is important for clear thinking, reference to authoritative source	12 claim topic in major research area	19 significance of human error in medical adverse events	21 justify research

APPENDIX H5: Contextual density, indicating risk points, Bowen (2010)



APPENDIX H6: Contextual density indicating risk points, Patrick (2011)



P1: extend recent history critique to education
 P2: scope research
 P3: state aim, preview outcome

APPENDIX I: Contextual meanings in the dataset, by rank

Dataset	No. of clauses	Constituents										Total
		1a Circ.	3a Process	4a Attr. (circ.)	1b Circ.	2a Qual.	2b Qual. in Qual.	2c In Attr.	3b Process	4b Attr. (circ.)	5 Adjunct	
Brooks	59	36	6	0	13	9	6	1*	2	0	4	77
Kennedy	32	26	4	0	10	6	3	1	0	1	1	52
Gray	77	41	23	1	16	19	17	1	10	3	3	134
M&O	30	13	7	0	2	5	5	1	1	2	0	36
Bowen	31	22	7	0	10	11	4	0	1	0	4	59
Patrick	54	33	18	1	24	14	11	2	8	0	2	113
Total	148	171	65	2	75	64	45	6	22	6	14	471
		Total: 238										

* Epithet in nominal group