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RESEARCH GENRES AND MULTILITERACIES: CHANNELLING THE AUDIENCE'S GAZE IN POWERPOINT PRESENTATIONS

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Esta Tese foi julgada adequada para obtenção do Título de "Doutor em Letras" e aprovada em sua forma final pelo Programa de Pós-Graduação em Letras/Inglês e Literatura Correspondente da Universidade Federal de Santa Catarina.

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**"My presentation lacks power and it has no point.
I assumed the software would take care of that!"**

ABSTRACT

PowerPoint-supported presentations have become an important event for creating and sharing scientific knowledge within and across disciplines (LaPorte et al., 2002; Kunkel, 2004; Tardy, 2005; Adams, 2006). Yet little is known about the ways semiotic resources enabled by PowerPoint technology of slide editing and management (e.g. slide dimensions, layout, colour) are combined with conventional resources of "research talks" (Swales, 2005[2004]) and contribute to building presentations that are valued in specific contexts. In order to inform our understanding of how research meanings are multimodally made under the influence of the software, in this thesis I investigate a set of fourteen PowerPoint Research Presentations (PPRPs) from Applied Linguistics. Two planes of cohesion are explored: (1) along the slideshows; and (2) between the slideshows and the performance. Regarding the first plane, the analysis of "periodicity" (Martin and Rose, 2007[2003]) revealed that applied linguists foreground the software's 'modularised logic', construing 'serial expansion' (Martin and Rose (2007[2003]). Others however customise slideshows so as to build 'Design Hierarchies', in which particular slides are assigned higher discursive statuses. These presenters construed a path for their audiences gaze by a configuration of semiotic resources of the display mode – e.g. slide position, background, layout, typography. As for the second plane of cohesion, I propose that slides and performance relate by 'synchronicity'. The tool re-contextualizes the system of taxis (Halliday, 2009c; Halliday and Matthiessen, 2004) to account for the semantic interdependency between the displayed discourse and the performative discourse at a given point in PPRPs. In each of the cohesive planes, I set out to identify the software resources that play a role in construing cohesive ties, and evaluate both their "functional specialization" (cf. Halliday, 2009e[1975]; Kress, 2008[2003]; Jewitt and Kress, 2008[2003]) and the demands they impose on presenters and on audiences in terms of genre, discipline, software and multimodal literacies. By indicating some of the ways in which the software influences the "process of semiotic production" (Kress and van Leeuwen, 2001) of such practice, I intend to move beyond

prescriptive (e. g. Costa, 2001; Cyphert, 2004; DuFrene and Lehman, 2004; Grant, 2010) as well as technically-focused (e.g. Downing and Garmon, 2002; Jones, 2003) accounts of PowerPoint. As a conclusion, I suggest that descriptions of the meaning potential in PPRPs and its conditions of access should be incorporated in pedagogies of academic multiliteracies (New London Group, 1996; Kope and Kalantizs, 2000).

Keywords: research genres; PowerPoint presentations; multimodal discourse semantics; multiliteracies.

RESUMO

Apresentações de pesquisa com uso de PowerPoint desempenham um papel importante na criação e negociação de conhecimento científico em diferentes disciplinas (LaPorte et al., 2002; Kunkel, 2004; Tardy, 2005; Adams, 2006). Entretanto, pouco sabemos sobre os modos como os recursos semióticos potencializados pela tecnologia PowerPoint para edição e gerenciamento de slides (e.g. dimensões do slide, arranjo, cor) são combinados com recursos convencionais dos "relatos de pesquisa" (Swales, 2005[2004]) e contribuem para construir apresentações valorizadas em contextos específicos. No intuito de informar nosso entendimento sobre como significados de pesquisa são multimodalmente construídos sob a influência do software, nesta tese, investigo um conjunto de quatorze apresentações de pesquisa em PowerPoint (APPP) em Linguística Aplicada. Dois planos coesivos são explorados: (1) ao longo do texto em slides; e (2) entre os slides e a performance. No tocante ao primeiro plano, a análise da "periodicidade" (Martin e Rose, 2007[2003]) da informação revelou que os linguistas aplicados tendem a aderir à 'lógica modularizada' do software, realizando "expansão em série" (Martin e Rose (2007[2003]) do discurso. Outros, porém, 'personalizam' o texto em slides de modo a construir 'Hieraquias de Desenho', as quais atribuem valor de informação superordinada à determinados slides. Esses apresentadores direcionam o olhar de sua audiência por meio de uma configuração de recursos semióticos particulares do modo de exibição (e.g. sequência, fundo, arranjo, tipografia). Quanto ao segundo plano coesivo, proponho que slides e performance se relacionam por 'sincronicidade'. Essa ferramenta recontextualiza o sistema de taxe (Halliday, 2009c; Halliday e Matthiessen, 2004) para explicar a interdependência semântica entre o discurso exibido e o discurso performado em um determinado ponto da APPP. Em cada um dos planos coesivos, busco identificar os recursos do software que desempenham função coesiva e avaliar tanto a sua "especialização funcional" (cf. Halliday, 2009e[1975]; Kress, 2008[2003]; Jewitt e Kress, 2008[2003]) quanto as demandas de letramento que impõem nos apresentadores e na audiência no que tange a gênero, disciplina, software e

multimodalidade. Ao apontar alguns dos modos pelos quais o software influencia o “processo de produção semiótica” (Kress e van Leeuwen, 2001) dessa prática, pretendo ir além de orientações prescritivas (e. g. Costa, 2001; Cyphert, 2004; DuFrene e Lehman, 2004; Grant, 2010) e focadas em aspectos técnicos (e.g. Downing and Garmon, 2002; Jones, 2003). Sugiro, por fim, que a descrição dos significados potenciais em APPP e suas condições de acesso sejam incorporadas em pedagogias de multiletramentos acadêmicos (New London Group, 1996; Kope e Kalantizs, 2000).

Palavras-chave: gêneros de pesquisa; apresentações em PowerPoint; semântica do discurso multimodal; multiletramentos.

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Chapter 1: Introduction

1.1 Relevance of the study

PowerPoint-supported presentations have become an important event for creating and sharing scientific knowledge within and across disciplines. For example, in the early 2000s, over 95% of scientific presentations were PowerPoint-assisted and 30 million were produced daily (Laporte et al., 2002).

Despite the emergence of other similar presentation programmes more recently – e.g. Mediator® and Prezi® – PowerPoint has gained undisputable popularity after its [1] commercial debut in 1987. It is ever-present in academic settings (Babb and Ross, 2009; Griffin et al., 2009; Lidon and Aparicio-Terrasa, 2008; Susskind, 2008; Gregory, 2007; Apperson et al., 2006; Bartsch and Cobern, 2003; Jones, 2003; Downing and Garmon, 2002; Mantei, 2000; Szabo and Hastings, 2000; Ahmed, 1998; Anderson and Sommer, 1997; Pence, 1997), including research-driven presentations (Savoy et al., 2009; Knoblauch, 2008; Rojo and Schneuwly, 2006; Tardy, 2005).

The epitome of PowerPoint's influence is perhaps the lexical appropriation of the software's commercial name – 'Microsoft PowerPoint®' – in the discourse of disciplines. In Applied Linguistics, for example, 'a powerpoint' is commonly used as shorthand for the genres produced with its assistance (Rojo and Schneuwly, 2006). It may be common phenomenon to name computer-facilitated activities for the software that enables them (Witte, 2007). From the standpoint of genre analysis, however, social conventions of labelling may provide an insightful point of departure for the mapping and description of generic changes, as

[1] The computer program which nowadays can hardly be dissociated from Microsoft derives from a product called Presenter® – presentation graphics for overhead projections – invented in 1984 by Robert Gaskins and Dennis Austin as the first personal computer program directed at creating presentation slides (Gaskins, 1984; Stevenson, 2003). The change to "PowerPoint" occurred in 1987, on the occasion of its purchase by Microsoft. Although it was addressed generally to "people who make presentations to others" (idem, ibid.), it was mainly used in sales presentation to costumers and project presentations to peers or supervisors (Gaskins, 1984; Stevenson, 2003).

argued by Miller (2011). Thus, beyond technical issues, there is little doubt that the ways people plan, build, enact and interpret academic presentations has been influenced by PowerPoint's technology of slide edition and management (Warschauwer and Grimes, 2007; Swales, 2005[2004]; Myers, 2000).

Yet little is known about the ways semiotic resources (e.g. speech, gestures), particularly those enabled by PowerPoint technology (e.g. verbiage, images, animation) are combined and contribute to building presentations that are valued in specific contexts.

Existing literature focuses on the advantages (Byrne, 2003; Atkinson, 2009) and limitations (Creed, 1997; Tufte, 2003a; 2003b; Jones, 2003) of the software for presentations followed by an expressive number of prescriptive publications that are technologically-oriented and not evidence-based. As a general rule, such publications range from popular how-to-tips and techniques (e.g. Costa, 2001) to personal commentaries on the pros and cons of PowerPoint for presentations (e. g. Anderson and Sommer, 1997; Atkins-Sayre et al., 1998; Amare, 2006; Butler and Yaffe, 2006; Burke, 2007; Slay et al., 2008).

Empirical research on the use of PowerPoint in academic settings comprises two main groups. The first is a substantial number of cognitively-oriented studies on the pedagogical effects of PowerPoint use over students' preferences, information retention and grades (for instance, Savoy et al., 2009; Griffin et al., 2009; Gregory, 2007; Apperson et al., 2006; Susskind, 2008), most of which assess slideware-assisted lectures in comparison to those aided by conventional resources such as transparencies or blackboard notes.

The second group involves a few discourse-oriented studies on the nature and role of slide[2] in academic presentations (Dubois, 1980; Rowley-Jolivet, 2002; 2004), the projection of disciplinarity and individuality in PowerPoint slides (Tardy, 2005)

[2] Not necessarily PowerPoint slides. Dubois's paper (1980) was published prior to PowerPoint's launching. Rowley-Jolivet (2002; 2004) only refers to "slides". Since her data was collected in the early 1990's, when the software was not widely spread outside business corporative practice, slides may well have been produced in transparencies for overhead projectors or 35mm slides for carrousel projectors.

and case studies of PowerPoint-assisted academic genres (Rojo and Schneuwly, 2006; Lidon and Aparicio-Terrasa, 2008).

1.2 Objective, contributions and research questions

In order to inform of our understanding of how research meanings are multimodally made under the influence of PowerPoint technology, in this thesis I investigate a set of fourteen PowerPoint Research Presentations (hereafter PPRPs) in the field of Applied Linguistics[3].

By selecting this particular disciplinary context, I intend to bring my own practice and my disciplinary community's into a greater level of awareness and contribute to the teaching of genres for academic purposes (see Chouliaraki and Fairclough, 1999, 22-24, for the reflexive aspect of social practices).

Specifically, I set out to identify to what extent and how resources enabled by the software are employed and combined with conventional resources of "research talks" (Swales, 2005[2004]) to achieve cohesion in PPRPs. This way, the study will hopefully extend existing knowledge in the field of academic literacy and develop new tools for the analysis of multimodal genres.

> "traditional accounts of genre would have little to say about whether their objects of interest are being published in books or in looseleaf binders or as posters (…) the move to multimodal genres places the artefactual nature of genres very much in the limelight. (…) Different artefacts offer different affordances for interacting with them and these affordances can impact on the verbal and visual forms sensibly employed in any associated genre" (Bateman, 2008a, p. 11).

[3] Applied Linguistics is defined, according to Moita-Lopes (2006) and collaborators, as a transdisciplinary area of research interested in understanding issues related to language in applied contexts.

Although Bateman focuses on print documents, his remarks are insightful for the present study. First, they point to the need of considering the meanings built in PowerPoint slides as an artefact. Second, considering that different artefacts have different meaning potentials, it is important to understand the double constitution of PPRPs in artefactually separate components, that is, the slides and the performance.

Drawing on the previous insights, the research reported in this thesis is guided by the following framing questions:

1. How do applied linguists distribute information in the slideshow and to what extent do they orient their audiences' gaze regarding the adopted method of development? (cohesion in the slideshow)

2. How do applied linguists establish cohesion between the slides and the performance? To what extent do the meanings built in the performance presuppose meanings from the slides? To what extent and how is the audience's gaze oriented to such relations? (cohesion between slideshows and performance)

3. What is the significance of PowerPoint technology over the above mentioned issues? How is the semiotic labour distributed across resources and modes – in other words, what is their "functional specialization" (Halliday, 2009d[1975];Lemke, 1998; Kress, 2003) – in PPRPs?

4. What are the demands imposed on presenters and audiences in terms of generic, disciplinary, software and multimodal literacies? What implications can we draw to inform academic pedagogies of "multiliteracies" (New London Group, 1996; Cope and Kalantzis, 2000)?

Regarding the notion of gaze, a clarification has to be made. Gaze here goes beyond the mere direction at which the audience is looking at, but refers to how meanings are packaged

into relatively palatable blocks and to what extent presenters use signals to create and fulfil expectations in their audience's regarding the content and organization of the presentation (see text-based meanings, Halliday and Matthiessen, 1999). Therefore, gaze refers to the presenters' construal of their audiences' attention, not to audiences' behaviour or perception of the PPRPs (more in Chapter 4).

A second clarification has to be made regarding the nature of the framing questions. Questions 1 and 2 are the main analytical questions and each will be addressed in a specific chapter: cohesion in the slideshows in Chapter 4, and cohesion between the slideshow and the performance in Chapter 5. Questions 3 and 4 focus on the research implications and thus will be addressed along Chapters 4 and 5 whenever applicable.

The study is oriented by a systemic functional (SF) perspective (Halliday, 2009b[1979]; 2009c; Halliday and Matthiessen, 1999; 2004; Martin, 1992) to multimodal discourse analysis (MDA). 'Functional' because the analysis is concerned with how people use semiotic resources and how semiotic resources vary according to their use in context (cf. function in language in Halliday, 2009b[1979]) and 'systemic' because it attempts to describe "the choices that are available, the interconnection between these choices, and the conditions affecting their access" (Halliday, 2009d[1978], p. 262).

The focus is on cohesion (Halliday and Hasan, 1976; Martin 1992), that is, on meaning relations above the lexicogrammatical stratum that endow a text with its texture. A discourse semantics (Martin, 1992) approach to texts goes "beyond the structural resources of grammar and consider[s] discourse relations which transcend grammatical structure" (Martin 2009b, p. 154-5). Such an approach was considered adequate for describing cohesion across multimodal units with less conventionally recognized boundaries such as those in PPRPs.

1.3 Overview of the thesis and further contributions

Two main SF tools are adopted and adapted to MDA in this thesis: the system of periodicity (Martin and Rose, 2007[2003]), which extends Theme analysis to levels beyond the clause. Analysis of discourse flow in the slideshows is developed Chapter 4. In it, I describe a set of PowerPoint's resources that, as I claim, influence information distribution and phase signalling in research slideshows. From the potential meanings elicited in the software analysis, I then move to instantiated meanings, by describing whether and how presenters employ the software's preferred method of development or 'customize' (Microsoft) [4] their slideshows to suit disciplinary and generic needs. Therefore in Chapter 4 I focus on cohesion within slideshows.

The other main SF tool adapted in this thesis is the system of taxis (Halliday and Matthiessen, 2004; Halliday, 2009c) which describes the status of relative interdependency between two clauses in a clause complex. The potential for units to form complexes which relate by interdependency is recontextualized from the grammar of the clause to the discourse of a multimodal genrein order to account for the semantic interdependency between a slide and a stretch of performance. The new system is introduced and discussed in Chapter 5, which focuses on cohesion between slideshows and performance.

As indicated above, in each of the cohesive planes, I attempt to identify the software resources that play a role in construing cohesive ties, and evaluate both their "functional specialization" (cf. Halliday, 2009e[1975]; Kress, 2008[2003]; Jewitt and Kress, 2008[2003]) and the literacy demands they impose on research presenters and on audiences. To address such issues, I draw on two main tools in MDA.

One tool is the social stratification in the production of multimodal texts (Kress and van Leeuwen, 2001), according to which "meaning is not made once" (Id., p. 4), but articulated in strata. Each stratum has the potential to add meanings, particularly in multilayered processes of textual production and

[4] http://office.microsoft.com/en-us/powerpoint-help/create-and-customize-a-slide-master-HA010078011.aspx

distribution such as in PPRPs (e.g. the design of slides and the distribution of slides are separate strata) (more in Chapter 2).

The other tool from MDA adopted here was developed by Djonov and van Leeuwen (2012) specifically to describe how PowerPoint's potential for meaning making and the norms embedded in the software attempt to regulate the implementation of such potential by users in different contexts. Based on the notion of markedness in language, they propose that PowerPoint functions can be (un)marked depending on: 1) how accessible such functions are for users through the software's interface (syntagmatic markedness); and 2) whether one option distinguishes from another by the possession of an additional property (e.g. a slide with a coloured background is unmarked in relat is marked in relation to one with a Blank layout) (paradigmatic markedness) (more in Chapter 2).

By indicating some of the ways in which the software influences the semiotization of a discursive practice, I intend to move beyond prescriptive (e. g. Costa, 2001; Cyphert, 2004; DuFrene and Lehman, 2004; Grant, 2010) as well as technically-focused (e.g. Downing and Garmon, 2002; Jones, 2003) descriptions of PowerPoint presentations. Hopefully, this SF-MDA analysis of PPRPs will be one step into the "development of a program of research to move forward our understanding of PowerPoint as an inscriptional system" (Stoner, 2007, p. 354) that affects evaluations of academic competency (Djonov and van Leeuwen, 2012).

In Chapter 2, I review the general theoretical background that orients this investigation and briefly describe the existing analytical tools. The review of tools is kept brief since they will be elaborated and adapted in the analysis (Chapters 4 and 5).

In Chapter 3, the Methods, I present a detailed account of my object of study. More specifically I explain how I arrived at the label PPRPs and what it implies in terms of genre. I do so by drawing primarily on taxonomies developed in ESP Genre Analysis (e. g. Shalom, 1993; Swales, 2005[2004]) since this theoretical approach has an acknowledged tradition in mapping the repertoire of communicative practices in the academic context. After describing the corpus and data delimitation, I

recount the process of data collection, and explain how data analysis was conducted.

Chapter 2: Theoretical Background

2.1 Studies in Multimodality

Multimodality comprises a broad field of inquiry unified by the claim that people construct meaning and communicate through a range of resources that may include, but go beyond verbal language. Despite insights borrowed from a variety of subject areas, the field of multimodality being mapped in this thesis circumscribes predominantly the field of Semiotics, Linguistics and Discourse Analysis[5]. As such, multimodality is currently a developing area of research concerned with the theorization and description of non-linguistic texts [6] (e.g. children's drawings, music, buildings) and multimodal[7] texts (e. g. films, advertisements, websites) with the striving goal of extending the social interpretation of language and its meanings to the whole range of representational and communicational resources employed in a culture (Jewitt, 2009a).

Researchers in the field acknowledge that verbal language often plays a major role in numerous situations (Norris, 2004; Jewitt, 2009a), but its use can "no longer be theorized as an isolated phenomenon" (O'Halloran, 2004, p.1) since it offers a partial account of the meanings negotiated in real communication. They depart from the premise that there is no such thing as a monomodal text (e.g. Baldry and Thibault, 2006; Lemke, 2010) since even in a telephone conversation, in absence of visual contact, speakers attend to resources such as intonation, pauses, and hesitations to make

[5] By way of comparison, the analysis of images and gestures, for example, are also an important area of inquiry in Cognitive Sciences, Visual and Performative Arts

[6] Not including verbal language.

[7] O'Halloran (2005, p. 20-21) proposes multisemiotic "for texts that are constructed from more than one semiotic resource" (e.g. a radio play featuring speech and music) and multimodal for "discourses which involve more than one mode of semiosis", (e. g. auditory, visual, tactile modes). From that perspective, PPRPs are both multisemiotic and multimodal.

full sense of each other (Baldry and Thibault, 2006) and in magazine articles, verbal language gains particular nuances as it is displayed in columns and visually (dis)connected blocks, highlighted by shades, and enhanced by typographical features (Nascimento et al., 2011).

In a larger context of investigation, the studies under the umbrella term of multimodality considered here differ from a previous body of literature on visual images (for instance, Horn, 1998; Messaris, 1994; Mitchell, 1986) and gestures (McNeill, 1992; 1998; 2000) that focus either on aesthetic or cognitive values of modes. In multimodality, non-verbal semiosis have been productively conceived as kinds of language (Martin, 2010) and multimodal phenomena and artefacts as kinds of texts.

Within Semiotics and Linguistics, multimodality contrasts formalistic approaches to the notion of sign (such as those attributed to Ferdinand de Saussure and to Charles Sanders Pierce) as an arbitrary bind between signified and signifier or as the simple relation of a signifier and its referent. Heavily grounded on Michael Halliday's social-semiotic account of language (e. g. Halliday, 1994; 2004; 2009b[1979]), researchers in multimodality view the meanings of signs from all semiotic resources – speech, writing, gestures, visual images, etc. – as "shaped by the norms and rules operating at the moment of sign-making, influenced by the motivation and interests of a sign-maker in a specific social context" (Jewitt, 2009a, p. 15-16). Dialectically, meanings and signs are adapted and re-fashioned through the process of their social enactment.

Multimodality is also an alternative to investigations that concentrate solely on language, while overlooking or downplaying the contributions of other meaning-making resources. Researchers in this field set out to:

- analyse multimodal texts, those that instantiate a number of modes/semiotic resources[8];
- identify the modes/semiotic resources at play in texts and the kinds of communicative work each does;
- model the principles and regularities of modes/semiotic resources (intrasemiotic relations);
- explain how modes/semiotic resources co-pattern and co-contextualise in texts (intersemiotic relations);
- contribute to the discovery of new modes/semiotic resources and new uses of existing ones.

One challenge for multimodal analysts is that theoretical and analytical tools are generally borrowed from linguistic traditions (see discussions in van Leeuwen, 2004; Machin, 2009; Zhao, 2010), which may not be directly applicable to resources that operate under different logics or for those that have not yet reached an evolutionary stage such as language's[9] (phylogenesis) (see Zhao, 2010; Martin, 2011).

There is also the problem of mixed terminology (Iedema, 2003; O'Halloran, 2005) and an alleged lack of scientific rigor in a number of multimodal studies. Such criticisms may stem from the fact that addressing texts from a multimodal perspective is quite a complex endeavour for a relatively new area of research compared to linguistics. There are various semiotic resources to attend to in a single communicative event, each with its meaning potential, constraints, and organizing principles. In such context, arriving at common terminologies may be considered impractical (see Flewitt et al., 2009; see also the discussion of mode and channel in section 4.0).

[8] At this point, I am not considering the different conceptions involved in the labels 'mode' and 'semiotic resource'. In Chapter 4, I will explain why I adopt 'semiotic resource' to refer to 'kinds of language' and mode to refer to 'the semiotic construction of technologies of communication" (Martin, 1992).

[9] While language has intermediate resources for organising meaning (e.g. wordings and grammar), resources such as colour consist of a meaning directly associated to an expression (e.g. 'red' means 'stop') (cf. protolanguage in Halliday, 1987).

Thus, at the present stage the area of multimodality is faced with the call for elaborating meta-theorization and systematization of analytical categories to growing levels of detail (O'Halloran, 2005; Martin, 2010).

It is also important to highlight that multimodal research is embedded in distinct approaches and interests, and thus shaped by them (Kress, 2009), each approach assuming a particular model of semiosis (Martin, 2011). Critical understanding of the challenges and potentials of multimodal research requires closer examination of available approaches in the field.

Two main perspectives to multimodality are acknowledged in the literature (Jewitt, 2009c; Martin, 2011): Multimodal Interaction Analysis and Hallydayan approaches to Multimodal Discourse Analysis[10]. Below I provide a brief review of MIA by indicating some of the contrasts with Hallydayan approaches to multimodality.

2.1.1 Multimodal Interaction Analysis

Multimodal Interaction Analysis (hereafter MIA) as proposed by Sigrid Norris (2004; 2009) builds primarily on the work of Ron Scollon (Scollon and Scollon, 2003; Scollon 2005) in Mediated Discourse Analysis. Yet, it has been influenced by interactional sociolinguistics, mainly the ideas of Erving Goffman, John Gumperz and Deborah Tannen, and from cultural-historical psychology (James Wertsch, Aleksei N. Leontiev and Lev S. Vygostky). It can be characterized as the most disciplinary diverse of the approaches to multimodality, one that crosses the boundaries between semiosis, action, and the material world.

[10] Some researchers (Jewitt, 2009c; Kress, 2009) distinguish between two approaches in multimodality, which are oriented by Halliday's theory of language: Social Semiotics Multimodal Analysis (SS-MA) and Systemic Functional Multimodal Discourse Analysis (SF-MDA).

From interactional sociolinguistics and conversation analysis, MIA has inherited, among other things, ethnographic observation methods such as interviews and video data collection. The outcome of these methods is perhaps best represented in the typical snapshots capturing all human participants in the interaction and details about material objects with an effect on interaction. The stills often include annotation of the researcher's presence and her position/distance towards participants (proxemics).

Besides proxemics, gaze and speech, multimodal interaction analysts incorporate the physical setting in which the interaction occurs, its spatial boundaries and objects (clearly an influence of Scollon's notion of 'discourses in place' or 'geosemiotics'), which are then theorized as the mode[11] of 'layout'. As long as participants engage with objects and are relatively aware of them, such objects become relevant for analytical purposes and are assumed as modes. For Norris (2004, p. 2), "all movements, all noises, and all material objects carry interactional meaning as long as they are perceived by a person."

Though not directly acknowledged, MIA's focus on interaction can be associated to Activity Theory, whose foundations go back to Aleksei Leontiev, for its focus on the uniqueness of human interactions as they are instantiated. As a consequence, low emphasis is given to defining patterns across interaction types (systems) and/or changes in representation across social contexts, as in Hallydayan approaches to multimodality.

Another important point of distinction is the following. While MIA focuses on actions, Hallydayan approaches to multimodality are essentially concerned with "representation and communication" (Jewitt, 2009b, p. 34). In MIA, the basic unit of analysis is the mediated action or simply actions, as they are all assumed as mediated (Norris, 2004). Actions are systematized as complexes of higher-level actions (e. g.

ironing) made up of chains of lower-level actions (e. g. taking a piece of clothing, placing it on the ironing board, pressing it with the iron, and so on).[12]

In order to document all attendant modes and participants, multimodal interaction analysts need to have an encompassing view of interactions as they unfold. This is implied in MIA's definition of mode:

A communicative mode is never a bounded or static unit, but always and only a *heuristic* unit. The term "heuristic" highlights the plainly explanatory function, and also accentuates the constant tension and contradiction between the system of representation and the real-time interaction among social actors (Norris, 2004, p. 12).

For Norris (2004), the analysts' role involves "observing an interaction and trying to discern all of the communicative modes that the individuals are utilizing" (p. 12) as well as "analyz[ing] not only the messages that an individual in interaction sends, but also how other individuals in the interaction react to these messages" (p.4). Such proposition is in line with a well-known principle of Activity Theory, according to which the study of discourse needs to attempt to grasp the life that has given rise to that discourse (Leontiev, 1977; Kaptelinin and Nardi, 2006; Collins, 2008).

As explained in Chapter 1, in this thesis I attempt to identify the sets of choices available for applied linguists to achieve cohesion in PPRPs. Thus, MIA's focus on the contingent cannot provide the answers to the research questions framing this thesis. The perspective adopted here is one of instantiation (Halliday, 2009; Martin, 2010, 2011), that is, what choices are available for cohesion (potential) and which ones are implemented at different stages of the presentation by each presenter (instantiation). This allows us to recognize each event as belonging to and instantiating a general category of communicative events and the latter, in

[12] In this regard, MIA's model can be associated with Leontiev's tri-stratal hierarchy of activities-actions-operations, as described in Kaptelinin and Nardi (2006).

turn, as setting expectations regarding the meanings more likely to occur at a given point in a given research presentation.

However, one insight learned from MIA regards the role of the material conditions in communicative events, more specifically layout and proxemics. In the delivery of PPRPs, configurations in the layout of the room may constrain the presenter's position relative to the audience, to the lectern, and to the projection screen. These operate as conditions that affect the presenter's access to cohesive resources (body language) between the slide and the performance, as will be discussed in Chapter 5. It has to be emphasized, however, that important work on space grammar has been developed in SF-oriented approaches to multimodality, mainly by Steglin (2009a; 2009b). Despite the importance of Stenglin's work, it is not directly applicable to the present work since I am focusing on the influences that objects and their distribution in space may exert on meanings in PPRPs by regulating access to cohesive resources for presenters (e.g. Are there room layouts which prevent presenters from using pointing gestures? What kinds of pointing gestures are available depending on the room layout?). Therefore, it could perhaps be argued that I am considering layout from the perspective of context, not as text per se.

2.1.2 Hallydayan approaches to multimodality

In this section, I review the main tenets and categories from SFL theory that have been extended to the analysis of other semiotic resources and to multimodal texts. I also review the tools that will be extrapolated from the theory to the analysis proposed in this thesis.

As already suggested, Hallydayan approaches to multimodal texts derive primarily from Halliday's social semiotic theory of language. For Halliday (2009b[1979]), human language has evolved into a functionally diverse system according to its uses in social contexts:

> If we are able to vary our level of formality in talking or writing, or to switch freely between one type of context and another, using language now to plan some organized activity, now to deliver a public lecture, now to keep the children in order, this is because the nature of language is such that it has all these functions built in to its total capacity [...] all uses of language, throughout all stages of cultural evolution, had left their imprint on linguistic structure (p. 86)

In this citation, two important principles of a social semiotic approach are laid. First, language is a resource that responds to our needs in the several situations we perform as social actors. Second, as situations recur and are shared within a culture, such needs are assimilated into the system of language as meaning potential. In relation to semiotic resources beyond language, Kress and Van Leeuwen (1996) add that crucial to understand representation and communication is the semiotic potential of each mode, that is, "the resources available to real people in real social contexts" (p. 8).

2.2 Metafunctional variation: extrapolation from language to other semiotic resources

A key dimension multimodal analysts draw from Halliday's theory is the tri-functional conceptualization of meaning. Language's semogenic power, that is, its potential to create meaning, can be summarized in three metafunctions: the ideational, whereby language construes human experience – not only annotates it; the interpersonal, whereby language enacts human relationships and negotiates attitudes; and the textual, whereby language creates the discursive order of reality that enables the other two (Halliday, 2009b[1979]; Halliday and Matthiessen, 2004).

These components of meaning are "present in every use of language in every social context" (Halliday, 2009d[1978], p. 256).

For example, in stating ‘Brazilians are hard-working’, we are construing a world of being, by relating a participant to an attribute. Instead, we could have construed a world of doing by saying ‘Brazilians work hard’. Each statement offers a distinct version of a similar aspect of reality, enabled by language’s potential to create ideational meanings.

While construing, both statements also assign social roles and evaluate participants. The examples above ‘give information’, thus construing the speaker/writer as someone entitled to supply such information and the hearer/reader as someone in need/want of it. Moreover, ‘hardworking’ and ‘work hard’ express positive judgement towards the represented participants and, together with the speech function, build interpersonal meaning.

Ideational and interpersonal meanings have to be organized as discourse. Considering our previous examples, both are messages about Brazilians, with ‘Brazilians’ in thematic position. By way of comparison, in the following statement ‘In my opinion, Brazilians are hard-working’, the point of departure of the message (its Theme) is ‘a personal opinion’. Whereas the latter statement projects ideational content as disputable, the former statements construe it as commonsensical (more on Theme and periodicity later).

In multimodal analysis, the explanatory power of metafunctional variation is extended to other semiotic resources (such as, visual images, space, paintings, music) and to texts that combine multiple resources (for instance, advertisements, posters, newspaper pages). The landmark publications in this respect are Kress and van Leeuwen’s ‘Reading Images: the grammar of visual design’ (1990; 1996; 2006) and O’Toole’s (1994) ‘The language of Displayed Art’. In these seminal works, ideational, interpersonal and textual metafunctions are recontextualised as representational, interactional/modal and compositional. In other studies, metafunctions have been further recodified in line with the semiotic resources being analysed and research foci, as summarized in Figure 1.

Halliday's metafunctions for verbal language	Ideational	Interpersonal	Textual
O'Toole (1994) (paintings)	Representational	Modal	Compositional
Kress & van Leeuwen ([2006]1996) (images; 3-D objects)	Representational	Interactional	Compositional
Lemke (1998) (figures in print scientific genres	Presentational	Orientational	Organizational
Martin (2001) (image + verbiage)	Representational	Orientational	Presentational

Figure 1 Adaptations of Halliday's metafunctional variation to resources other than verbal language

Despite tensions between shared and fine-tuned metalanguage, multimodal analysts argue that any semiotic resource has to be able to a) represent aspects of the experience (representational metafunction); b) project relations between the producer and receiver of that sign and the object represented (interactional metafunction); and c) to form complexes of signs which cohere internally and in regard with their relevant context (compositional metafunction) (Kress and van Leeuwen, 1996, p. 40-41).

Images, for instance, are a semiotic resource and can realize all three functions. Even in photographic images, the visual texts produced have to be understood as more than direct glossing of reality since "it is never the 'whole object' but only ever its critical aspects which are represented" (Kress and van Leeuwen, 1996, p. 6). Figure 2 displays a set of four images[13]

[13] The images were retrieved on March 12, 2011, respectively, from:
a) http://coisas-da-vida-bb.blogspot.com/2011/10/trabalho-escravo-infantil.html
b) http://amaivos.uol.com.br/amaivos09/noticia/noticia.asp?cod_canal=41&cod_noticia=20188
c) http://www.motifake.com/124961

selected to exemplify how particular views can be construed on a given topic. The topic selected for illustration here was 'child labour'.[14]

Figure 2 Metafunctional variation in images

From the representational standpoint, images can either construe events – narrative representations – or states of affairs – conceptual representations. Narrative processes are realized by vectors – oblique lines formed by, for example, direction of the gaze, limbs and body, tools or arrows per se. Figure 2a displays a narrative process with a human participant (the little girl) in the

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d) http://valberlucio.wordpress.com/2011/11/25/oit-lanca-rede-virtual-contra-o-trabalho-infantil/

[14] Image search for "Child labour" or "trabalho infantil" (in Portuguese) in Google. From a range of images, the above four were selected.

role of Actor (the other human participants are backgrounded as part of the Setting). The whole stance of the girl (body position, gaze, facial expressions, arms, and hands) and a tool (knife) are aimed at the piece of cassava: the non-human participant being acted upon.

The scenario (rudimentary installations and backsided adult workers) against which she is depicted also has important effects. It construes the child as performing an inadequate task for her age. We could even hypothesise that from the depiction she attains the size of an adult, being perhaps equivalent labour force. Had the producer chosen to photograph her against a green yard or under the assistance of a thoughtful adult by her side, she would have been construed as just a kid playing dangerously or one being apprenticed into domestic chores.

By contrast, Figures 2b, 2c and 2d focus on participants' attributes rather than on their actions and thus classify as conceptual representations.

In Figure 2b, the boy possesses a set of attributes that build his miserable condition: barely dressed, dirty, holder of a hammer and partly covered face, arguably in fear or shame. Conceptual images can also relate a group of participants by construing taxonomies. In Figure 2c, this is achieved by the relatively symmetrical arrangement of the infants in the frame and by emphasis on shared features (their apparent age, outfit and body position) which construe them as members of a particular category or group (working kids from the early twentieth century[15]).

Moreover, images can construe symbolic meanings by the selection of non-naturalistic resources of representation. In Figure 2d, a child (by metonymy) exposes both callous hands flat open while the hammer (a symbolic attribute associated to heavy work) lies on top. The hands are not naturally holding the hammer, but overtly exhibiting it for its value of strenuous labour.

In terms of interactional meanings, image producers can design the position of the viewer by calibrating a set of

[15] The outfit of the kids conflates with the sepia tone of the photograph, either as a side-effect of the photographing technology from the late XIX century or as 'provenance' (Kress and van Leeuwen, 2001), the chemical or digital emulation of sepia colouring to import the values associated with that time.

complementary resources: a) the gaze of the represented participant as more or less engaging; b) the size of the frame expressing levels of social distance; c) the use of perspective into more or less subjective representations; d) horizontal angle and levels of involvement; and e) vertical angle and power. Except for Figure 2a[16], the other images (b, c and d) project fairly high levels of involvement towards the observer, (frontal angle). However, Figure 2c is a medium long shot portraying the full figure of participants. Therefore, in regard to social distance, it projects an impersonal relationship with the viewer as compared to Figures 2a and 2b (personal distance) and Figure 2d (close personal distance). Additionally, two other resources make Figure 2b particularly appealing: the boy's impoverished conditions (see representational meaning) are reinforced by his gaze as if imploring the viewer's attention (demand) and his depiction from a high angle, that place him in a position of social vulnerability (low power) (see also evaluative meanings in images Chapter 4).

Compositional meanings result from the relative position, salience and cohesion of elements in regard to the other elements in an image or multimodal text. For example, in Figures 2b and d, the main participants are centralized in the frame, which construes them as nuclear (Central) and everything else as ancillary (Marginal). Differently, in Figure 2a, the adult workers (one in particular) are placed on the left and the little girl on the right, corresponding to the values of Given and New, respectively. This could be further explained as 'what is conventionally accepted', since adults are expected to work, and 'what is contestable', and, in this case, particularly problematic: a young girl is not supposed to work. The value of focal point attributed to the child is reinforced by the visual salience of her figure (placed in the foreground and captured as 'bigger' relative to the other participants).

The analysis of images just presented is far from complete[17]. The purpose was to point out to how multimodal

[16] The depiction of the girl projects low involvement (oblique angle), which conflates with her lack of gaze towards the viewer (offer).

17 See , for example, how images may function as interpersonal Themes in texts (Martin, 2001; Chapter 4 of this thesis).

analysts have built on the achievements of a particular linguistic theory and proposed a pertinent model to the investigation of other semiotic resources. Images, for instance, are emphasised for their value of semiotic constructs, rather than mere records of reality (see Van Leeuwen and Jewitt, 2010[2001]; Arsenault et al., 2009 for discussions on the value of images). Similar potential has been attributed to other resources, for example, music and sound (van Leeuwen, 1999, 2009), body language (e.g. Martinec, 2001; 2004; Hood, 2010), gestures and phonology (Zappavigna et al. 2010); to mention a few.

2.3 Meaning stratification: two models

Another key dimension in SFL is the stratification of meaning. Drawing on the work of Louis Hjemslev, Halliday (e. g. 2009e[1975]) conceives language as articulated into levels or strata.

As suggested previously, all semiotic resources involve least two strata: the stratum of content (meaning) and the stratum of expression (form). To illustrate, in traffic lights the form 'red' realizes (manifests) the meaning 'stop'. In simple semiotic resources such as traffic lights, each sign "consists of a meaning paired with an expression [...] with no further organization – no ***wording*** — in between" [emphasis in the original] (Halliday, 2003[1987], p. 12).

However, "dynamic open systems" (Lemke, 1984) such as language, evolve naturally[18] to fulfil social functions causing the meaning potential of the system to expand and constantly renew itself (Id.; Halliday and Matthiessen, 2004; Martin, 2011). This is possible because content has expanded into levels: semantics and lexicogrammar. Semantics refers to all the interrelated options of meanings available for a given language and lexicogrammar refers to all the inter-related options of grammatical structures and lexical items available (Halliday and Matthiessen, 1999). Thus, language is a semiotic system with three meaning-making levels (Figure 3).

[18] In contrast to 'designed' systems such as traffic lights.

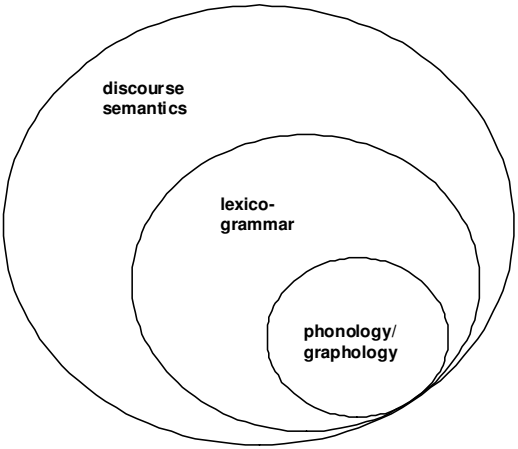


Figure 3 Stratification in SFL: three levels of meaning in texts (from Martin, 2010)

The intermediate layers are what allow the system of language to evolve "by creating special varieties of itself to meet the new demands" (Halliday, 2003[1987], p. 123). The meaning-making potential of language is extended as it incorporates complex communicational and social needs.

An elaboration to the stratification model is suggested by Martin (1992). He proposes the 'discourse' semantics as a more generalized and abstract level in regard to the lexicogrammatical level. The advantage of the proposal is that it allows us to make sense of at least two semiotic phenomena: 1) the double level of meaning involved in grammatical metaphors[19] (the congruent meaning at the lexicogrammatical level, and the metaphorical meaning at the discourse semantics level); and 2) cohesion as involving meanings that transcend the lexicogrammatical level (more on cohesion in section 2.5).

[19] A process whereby one function is realised by an incongruent grammatical structure, such as in the transformation from "the brakes failed" (clause: nominal group + verbal group) into the "brake failure" (nominal group), that is, from an event into an entity (cf. Halliday, 1998).

The relationship between strata is one of realization, with less abstract structures realising more abstract, higher-order ones. Put differently, meanings at the discourse semantics level manifest in combinations of meanings at the level of wording, which manifest in combinations of meanings at the level of typography/sound.

In multimodal analysis, a different conception of stratification is proposed (Kress and van Leeuwen, 2001, p. 4-23) to explain how new meanings are added along the social production of multimodal texts. While the levels of meaning in SFL relate by realisation (see above), in the social stratification model, each level seems to correspond to a different stage in the process of text production[20].

Figure 4 is an attempt to represent visually the social stratification model developed by Kress and van Leeuwen (2001). The process involves four stages: Discourse [21], Design, Production and Distribution. Discourses are the versions of reality construed in (multimodal) texts. They are best perceived, perhaps by comparison with other potential versions for the same aspect of reality, such as the distinct perspectives to child labour represented in the above section. A socially constructed knowledge involves both a certain version of the events (who is involved, what takes place, where and when it takes place) as well as interpretations and justifications that attempt to legitimize it (Kress and van Leeuwen, 2001).

The invention of technologies such as 'writing' allowed content to be further layered into Discourse and Design (Kress and van Leeuwen's, 2001, p. 20). In language, the element of Design corresponds to grammar[22]. In multimodal analysis, it refers to the meaning potentials of semiotic resources in general, in all their modes and combinations (Idem, p. 5), since not every semiotic resource has a fully developed 'grammar'. Gestures, for example, can be considered a fully developed system - sign language - in contexts of hearing impairment, while, in others,

[20] Perhaps closer to discursive practices of production, distribution and consumption in Fairclough's (e.g. 1992) social theory of discourse.

[21] While the remaining levels can be considered stages related by time, the level of discourse seems to not to fit this criterion.

[22] Grammar as conceived in a systemic-functional theory of language, not grammar as a set of rules (structuralism) or as individual competence (cognitivism).

gestures may have the status of protolanguage, with meaning directly attached to expression (see also the example of traffic lights above), or linguistics body language, having a supplementary role in the instantiation of language's content plane[23]). Design is still separate from the actual articulation of the semiotic product or event. It is a means to realize Discourses and may involve intermediate products (e. g. in PPRPs, schematic plans of the slides and manuscripts of the 'speech'), since "the form these take are not the form in which the design is eventually to reach the public" (Idem, p. 21) (e. g. the research presentation delivered at a conference).

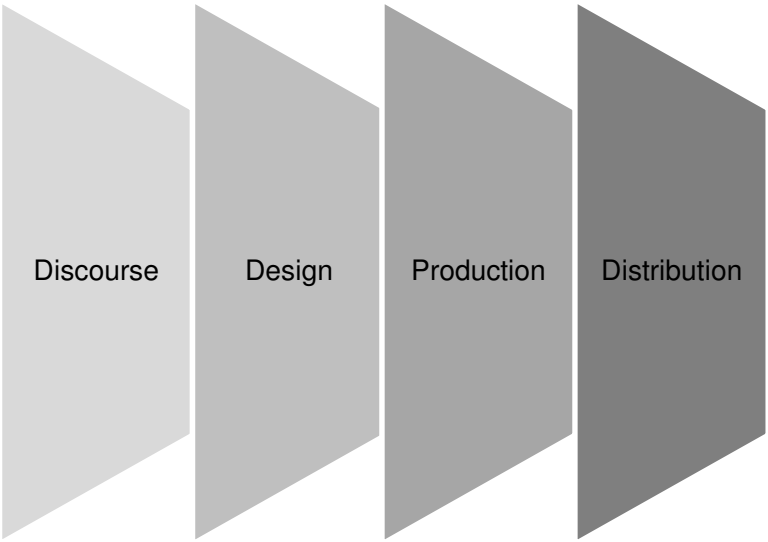


Figure 4 Stratification in MDA: four stages of meaning in the production of multimodal texts

[23] For a discussion on the stratification of gestures, see Martin (2010); Hood (2010); for further reference on protolanguage and ontogenesis, see Halliday (2004; 2009a[1979])

In PPRPs, Design is a useful tool to account for the discursive organization underlying a research presentation, including, for instance, decisions of how to distribute and display information; whether to follow generic staging (e. g. the IMRD[24] pattern), disciplinary conventions or field-sensitive discourse organisation (hierarchy of periodicity[25]); whether to follow the design encouraged by the software (Microsoft PowerPoint® built-in resources, such as layouts, designs with pre-determined spatial arrangement, bullet-lists, colour palettes) or to subvert it and adapt it to generic, disciplinary and particular rhetorical needs (more on the significance of the software in the next section).

On the path of advanced communication technologies, the expression plane further split into Production and Distribution (Kress and van Leeuwen, 2001). Production is the articulation of semiotic artefacts or events into form. It not only realizes Discourse and Designs but adds meaning from the physical process of articulation (e. g., visual inscription versus oral articulation) and the physical qualities of the materials used (e. g., ink marks in paper, digital types in screens, sound).

Distribution refers to the technical 're-coding' of semiotic products and events for purposes of recording and/or distribution. As Kress and van Leeuwen (2001) remind us, it is not always possible to distinguish Production from Distribution, such as in a spontaneous conversation, for which the two layers conflate, that is, articulation of speech coincides with its dissemination through the air. There is not any mediating technology and no delay from Production to Distribution. However, the development of communication technologies has generated a separation of the semiotic processes of Production and the Distribution, as previously indicated.

At the two later strata in particular, texts producers are faced with decisions on how to encode meanings into expression. So three notions gain relevance: logics of modes and facilities of media (Kress, 2008[2003]; Jewitt and Kress, 2008[2003]), and

[24] Introduction, Methods, Results and Discussion (Hill et al., 1982; Swales, 1990)
[25] More on periodicity (Martin and Rose, 2007[2003]) in language and its applications for multimodal analysis will be discussed later in this thesis.

functional specialisation (Halliday, 2009e[1975]) of modes (Kress, 2008[2003]; Jewitt and Kress, 2008[2003]).

"The Logics of modes refers to what (deep) orientation to the world is inevitably embedded in the resources of representation" (Jewitt and Kress, 2008[2003], p. 15). Writing and speech have different logics: whereas the first is linear/spatial, the latter is temporal/sequential. And images, for instance, are spatial/simultaneous. More than just forms, different logics offer different possibilities for the arrangement of information and knowledge construction.

Implicated with logics of modes are the facilities of media. This notion refers to what is readily and easily possible to do with a given medium (e.g. the still page of a book, the slide of a PowerPoint slideshow). In this thesis, both logics of modes and facilities of media are essential to counter-argue criticisms to PowerPoint which are based on inadequate criteria (e.g. expecting slideshows to have the same logical complexity as linear written texts), as suggested in Stark and Paravel (2008). The notions will also be useful to describe the logics of slideshows and the logics underlying the relationship between the slideshow and the performance.

Functional specialisation of modes was earlier used by Halliday (2009e[1975]) to explain why people switch codes (e. g. from Portuguese to English) depending on the tasks they had to perform in bilingual contexts. In this sense, each code would be preferably used for realising distinct tasks (e.g. Portuguese to family communication and English to professional communication). Jewitt and Kress (2008[2003]) extend it to meaning potentials across semiotic modes (e.g. images in comparison to verbiage) and their cultural valuation (e.g. the high value attached to abstract in research articles; the high value attached to naturalistic images in pop science articles and the media in general). In this thesis, this notion will be useful to identify the potential ways of encoding meanings in research presentations (e.g. images x verbiage in slides; displayed x performed meanings) and which of these are legitimated by applied linguists in their presentations.

The three notions reviewed above as well as the stratification of multimodal texts (Kress and van Leeuwen, 2001)

will be adopted as conceptual tools in this thesis to help throw light into the multimodal complexity of PPRPs.

However, slideshows and performance may be produced at different paces. For instance, the slideshow may be clearly separated in terms of Production stratum – the PowerPoint file before it is seen by the audience – and Distribution stratum – the delivery of the slideshow to an audience. In the performance, however, it is not always clear which meanings are added at each stratum.[26] Such analysis is possible in cases where a manuscript of the speech or rehearsal of the whole performance is available.

Therefore, here, I will assume two broad strata in PPRPs. The first will be referred to as the strata of Design/Production and it will be adopted for the analysis of slideshows above all. At these strata, I will discuss the potential of the software (its built-in, favoured resources) for discourse flow in research slideshows and then analyse to what extent such potential is foregrounded in the slideshows of the corpus. At such stage, the slideshow will be analysed rather independently of its exploration during the live presentation. The potential for discourse flow in slideshows to influence discourse during the presentation delivery will be addressed though. The second strata assumed in this thesis will be the Production/Distribution of PPRPS, which necessarily includes slideshows and performance.

2.4 A tool for evaluating multiliteracy demands in PPRPs

Over the past decades, the nature and scope of literacy has expanded from the ability of reading, writing and counting to encompass not only awareness and understanding of meanings and contexts (UNESCO, 2011), but also manipulation of technologies of production and use of texts beyond the pen and the paper (Lemke, 2010). The shaping role of softwares in literate practices has been advocated by many researchers from different

[26] The reader has to keep in mind that this thesis is concerned with PPRPs that are delivered live and under the control of a presenter.

traditions (e.g. Jewitt, 2004; Sorapure, 2006; Selber, 2010; Lemke, 2010; Djonov and van Leeuwen, 2012).

Although most of us would accept that softwares encourage and constrain meanings and their arrangement "simply by making certain tasks easier than others" (Sorapure, 2006, p. 418), we still need methods for uncovering the semiotic potential/constraint of softwares in literate practices. This gap is addressed by Djonov and van Leeuwen's (2012) markedness model, which extends the concept of linguistic markedness to explore "normativity in the interaction between PowerPoint's design and use" (Id., p.127).

As the authors explain, the semiotic resources available in PowerPoint are not accessible but through the software's interface. The interface creates asymmetries of access to choices by making some commands/functions immediately available for users as they open the software, while others are reachable only by means of a series of steps into the interface. This is modelled as syntagmatic markedness.

For example, 'Title Slide' and 'Title and Content' are syntagmatically unmarked choices in PowerPoint's interface since they are automatically applied to the slides[27] as we open the software. Applying any other layout (e.g. Blank, Title only) to slides involves the selection of at least two commands: "layout" command (in the "Home tab") and one of the other options from the menu (e.g. "Title only", "Picture with Caption", etc.). According to the markedness model, layouts other than the default ones always involve syntagmatically marked choices, that is, choices that entail more steps into the structure of the software's interface.

While syntagmatic markedness explains asymmetry of access to choices, paradigmatic markedness explains asymmetry of choices. More specifically, it refers to choices between one option that possesses at least one discrete property and one that does not. [28] For instance, a colour-filled background is paradigmatically marked in relation to a Blank slide. The insertion

[27] The "Title slide is applied to the first slide in the slideshow and the "Title and Content" to any slides added after it.

[28] The authors also mention options that feature different degrees of a gradient property, which were not considered applicable to my data.

of a colour to the background endows the slide with a distinctive feature, which makes it paradigmatically marked in regard to a Blank slide.

In this thesis, Djonov and van Leeuwen's (2012) markedness model will be used to evaluate software literacy and multimodal literacy demands imposed on presenters and on audiences in PPRPs.

2.5 From linguistic cohesion to multimodal discourse semantics

For Halliday and Hasan (1976), a text is a unit of meaning that differs from that of the clause. While the elements of the clause relate by grammatical structure, those of the text relate non-structurally, that is, irrespectively of rank and clause boundaries. A text has texture, which results from coherence – its relationship with its socio-cultural context – and from cohesion – the meaning relationships within the text itself. "Cohesion is a semantic relationship between an element in the text and some other element that is crucial to the interpretation of it" (Halliday and Hasan, 1976, p. 8).

What "the element" is exactly varies. It may be realised by a word-level unit or a whole clause or paragraph. Therefore, following Martin (1992), in this thesis, I will refer to units of meaning that enter into a cohesive relationship as "message parts" (Id., p. 293). This concept has the advantage that it can be applied to linguistic units across ranks (e.g. a clause or a word group) as well as to non-verbal units (e.g. an entire diagram, a region of the diagram, or the title of the diagram) – across semiotic resources and modes (one element on the slide as well as an item in the speech), as proposed in this study.

Halliday and Hasan (1976) provide a detailed account of the nature of cohesive relationships and the lexicogrammatical patterns that realise them. These include reference, substitution, ellipsis, conjunction and lexical cohesion. Owing to their text-forming potential, such resources are allocated in the textual metafunction.

Martin (1992; 2009b) proposes a different way of looking at cohesion which considers SFL's stratification model (see section 2.3). For him, it involves text-oriented resources for meaning in opposition to clause-oriented resources. In this view, cohesion is assigned to the discourse semantics stratum, which realizes all three meanings – experiential, interpersonal and textual. As mentioned in Chapter 1, the focus here is on meaning at discourse rather than a lexicogrammatical analogous level in PPRPs. In this sense, Martin's modelling of discourse meaning provides a suitable starting point and will be adopted in this thesis.

Previous multimodal studies (e.g. Royce, 2002; Martinec and Salway, 2005; Unsworth, 2008; Unsworth and Cléirigh, 2009; Zhao, 2010) seemed to have addressed image-text relations at levels analogous to the clause. Additionally, they have concentrated on the ideational/representational meanings. As suggested above, in this thesis I attempt to add to multimodal studies by adopting another perspective, that is, to investigate meaning-making resources at the level of discourse semantics and changing the focus from experientially-based meanings into textually-based ones.

First, I apply the system of periodicity (Martin, 1992; 2001; Martin and Rose, 2007[2003]) reworked from Halliday's information structure at clause level to explore discourse flow in the slideshows.

Second, I will propose an extrapolation of Halliday's system of taxis from the lexicogrammatical level (Halliday, 1994; 2009a; Halliday and Matthiessen, 2004) into the discourse semantics level (Martin, 1992). More specifically, the distinction between parataxis and hypotaxis will be used as an analogy to explain the interdependency between slide and performance in terms of multimodal discourse semantics.

Each tool will be reviewed briefly below.

2.5.1 Periodicity: a system of discourse flow

Martin (1992; 2001; Martin and Rose, 2007[2003]) pushes Halliday's Theme^Rheme and Given^New structures for the

analysis of information flow at clause level up to text level. This general model is called periodicity to capture the regularity of information flow in texts, which evolve in wave-like patterns. As Martin and Rose (2007[2003]) explain, discourse creates expectations in their audiences by "flagging forward and then consolidates them by summarizing back" (p. 189).

Depending on the scope of prediction, we may have hyperThemes and/or macroThemes. A hyperTheme "is an introductory sentence or group of sentences which is established to predict a particular pattern among strings, chains and Theme selection in the following sentences" (Martin, 1992, p. 437). And macroTheme is a "sentence or group of sentences (possibly a paragraph) which predicts a set of hyperThemes" (Id.)

A similar pattern may be found (admittedly in writing more than in speaking) for consolidation in hyperNew and/or macroNew. HyperNew is usually realised in a sentence at the end of a paragraph. This sentence summarises the information built up in that particular paragraph. As with hyperNew, sentences or paragraphs that accumulate meanings of the text as a whole are modelled as macroNew.

Building hierarchies of Themes is "an important aspect of texture" (Martin, 1992, p. 437) by which smaller units of discourse are predicted within larger units. In long texts, hyperThemes and macroThemes may be realised not only in sentences or paragraphs, but even more explicitly in titles, subtitles, headings and subheadings (see Martin and Rose 2007[2003]).

As previously explained, meanings at the discourse semantics stratum are manifest in structures, but "of a non-grammatical kind" (Martin, 1992, p. 23). The system of periodicity, for example, is based on the principle that discourse evolves in waves of information flow, with initial and end segments of texts being assigned greater level of prominence periodically[29].

However, text-based systems such as hierarchies of periodicity do not account for the whole picture. While at the clause level metafunctions can be selected quite independently (e.g. choices in process type – experiential – are not determined by choices in mood – interpersonal), at the discourse level,

[29] Martin (1992; 1995; 1996) has extended Halliday's (1979a) association of each metafunction to a given structuring principle from the clause to the text level.

metafunctionally diversified systems interact in various ways[30]. Thus, in order to keep track of how discourse evolves in texts we may have to consider other organizing principles. Two such principles are particularly relevant in this thesis: serial expansion and orbital structure.

Halliday (1979a) suggests that ideational, interpersonal and textual meanings are realised by specific types of structures: ideational in particles; interpersonal meanings prosodically[31] ; and textual meanings, periodically (as suggested for periodicity above). Serial expansion and orbital structure (cf. Martin, 1996) derive from the relation between ideational meanings and their tendency to manifest in particles. Put differently, when experience is turned into text, we represent it as parts of a whole. The whole is the clause with each of its constituents playing a distinctive role, such as in "Brazilians (actor) + work (process) + hard (circumstance)". An alternative, is to think of the clause as a nucleus/satellite structure. The process is the nucleus[1] "with the other elements [the participants involved and the attendant circumstances] clustering around it" (Halliday, 1979a, p. 203).

Logical meanings[32] also manifest as parts, but "open-ended series of steps, with 'parts' dependent on each other and in general playing a similar role" (Martin, 1995, p. 13). In the following extract from the speech data //*so.. before beginning* // *uh .. I just came across this interesting remark [...]* // *and I thought that* // *it would be a pertinent starting point (/)* //*, uh, so [...]*", we can observe how each new segment is added to the previous and expands meaning[33] in an ongoing fashion.

At the level of discourse, the part/whole structure has been interpreted as mono-nuclear (orbital) and the part/part as multi-

[30] See Martin, 1992, Chapter 6, for a detailed discussion on the issue.

[31] When we attach our perspective/attitude to texts (interpersonal meanings), we do it prosodically, that is, by assigning attitude to any item in the constituency of the clause. And the attitudinally-loaded item has a continuous effect over the message as a whole. For example, we may compare "Brazilians usually work hard" with "Brazilians work hard, usually". In one case the mood adjunct is placed initially in the clause (neutral) while in the other it is placed at the end (as an afterthought). This illustrates what Martin (1996) refers to "opportunistic realisation" of interpersonal meanings.

[32] Ideational meanings involve the construal of experience in terms of types of processes (experiential meanings) and the relations established between such processes (logical meanings).

[33] Expansion here is observed at the level of clause complexes.

nuclear (serial), respectively (cf. Martin, 1996). In this view, serial expansion and orbital structure are principle of discourse flow in texts that derive from the 'ideation base' (Halliday and Matthiessen, 1999).

"Serial expansion is more of a chaining strategy than is periodicity" (Martin and Rose, 2007[2003], p. 199) with Themes being introduced at phase-level only (Hood, 2008). In such cases, text producers do not tell the audience about ensuing changes in the flow of information. Audiences are expected to follow and find out what the next phase is as they get to it.

Orbital organisation of discourse is a kind of mono-nuclear (Martin, 1996) structure where two or more pieces of information – the satellites – hang around a core - the nucleus. To illustrate, we can observe an extract from a slide in the corpus, where the head of the slide '*Genre-based pedagogy: Two focal aspects*' is elaborated by the two sub-heads in bullet points '*Contextualisation of the genre*' and '*Creative exploitation of genre*'.

Therefore, periodical flow, serial expansion, and orbital structures may either account for the predominant method of development in a text or they may interplay dynamically in texts. At certain moments, text producers tell their audiences what is coming next, what is continuing and what is changing (hierarchies of periodicity). They may also elaborate a main point by adding a pre-determined number of details (orbital structures). Alternatively, text producers can develop meanings progressively from one layer to the next (serial expansion).

As predicted by Martin (1996), hierarchies of periodicity and orbital structures tend to predominate in writing, which allows text producers to be highly conscious about their text as an object so as to signal the coming layers of information. By contrast, serial expansion allows the addition of new layers indefinitely as a text flows. It therefore suits well the dynamics of speech. Since PPRPs entail both writing and speech in combination with other semiotic resources, we can expect discourse flow in the corpus to reflect the complexity of the modes and semiotic resources involved.

The discourse system of periodicity has already been applied to multimodal discourse analysis (e.g. in Martin, 2001;

Djonov, 2005; 2007; 2008). In this thesis, it will be used in combination with ideational organising principles to explain how meanings flow in the slideshows and, in a second moment, in the speech of PPRPs (see Chapter 4).

2.5.2 Generic staging and discourse flow

Research genres[34], the socially-recognised activities of reporting research in academic contexts, have been productively described in terms of their textual realisation in stages (under labels such as rhetorical organization, generic staging, schematic structure, macrostructure; generic structure potential) (for a discussion on theoretical and terminological variations across approaches to genre, see Hyon, 1996; Hendges, 2008; Bawarshi and Reiff, 2010).

In particular, the English for Specific Purposes (ESP) approach is widely known for its mapping and description of genres in research contexts, such as research articles (e.g. Swales, 1990; 2004), book reviews (e.g. Motta-Roth, 1995; 1998), thesis and dissertations (e.g. Paltridge, 2002; Araújo, 2006), html articles (Hendges, 2007), to name a few. Research articles, by far the most investigated genre[35] in reserach contexts, can be broadly described in terms of Introduction^Methods^Results^Discussion (the IMRD pattern derived from Hill et al., 1982; Swales, 1990).

Swales (1981; 1990) has devised a model of rhetorical organisation for research articles based on 'moves' and 'steps', where the move is "a discoursal or rhetorical unit that performs a coherent communicative function in a written or spoken discourse" (Swales, 2004, p. 228), expressed in a sentence, group of sentences or whole paragraph. Each move comprises a set of sub-components or steps, which realise the move.

Such model has been extended to a variety of other genres (see above) and to particular sections within genres (e g. the Conclusion section, as in Moritz, 2006). The CARS model

[34] Please refer to Chapter 3 for the definition and taxonomy of research genres adopted in this thesis.
[35] See Hendges (2007) for a more detailed account.

(Swales, 1990; 2004) for RA introductions remains one of the most recognised descriptions using the move/step approach and one that can help throw light into discourse flow in PPRPs.

CARS is an acronym for 'Creating a Research Space' (Swales, 1990, p. 140), a label that attempts to capture the rhetorical purpose of a research Introduction as one of positioning the study within the disciplinary field and its current state of the art. The revised CARS model (Swales, 2004) predicts three moves, each detailed in steps. Move 1, 'Establishing a territory' by making topic generalisations of increasing specificity. Move 2, 'Establishing a niche' involves either one of the following: Step 1A, Indicating a gap or Step 1B Adding to what is known; and optionally, Step 2, Presenting positive justification. Move 3, 'Occupying the niche' comprises Step 1A, Outlining purposes or Step 1B Announcing present research; Step 2, Announcing principal findings; and Step 3 Indicating RA structure.

Models such as the one above can also be interpreted as following a principle of constituency, where each section comprises a lower-level set of discourse units called moves and each move, in turn, comprises a series of lower-level unit called steps. Since PPRPs are expected to share some of the rhetorical functions of research articles, constituency organising principles that are sensitive to generic staging will be addressed in the analysis of discourse flow in the corpus (see Chapter 4).

Thus far I have reviewed the tools that will be used to describe discourse flow in PPRPs. In the next section, I review the SFL tool that will be extrapolated for the analysis of cohesion between slides and performance.

2.5.3 Interdependency relations: from lexicogrammar to discourse

As for cohesion between slideshows and performance, existing tools in SFL and MDA, as they are, seem less directly applicable to the research problem addressed in this thesis. Discourse tools (e.g. the system of identification/reference, and the system of conjunction) are adequate in regard to level of analysis (the discourse semantics level) but do not address the

interdependency meaning relations pursued here. The lexicogrammatical tool of taxis, although concerned with interdependency relations, belongs to the lexicogrammatical level.

The alternative adopted in this thesis is to use Martin's (1995) reasoning of the fractal resonance of the clause to the text level. Therefore, following Martin (1992; 1995; 1996), I propose an extrapolation of the structuring principles and meaning relations from the lexicogrammatical level to the level of discourse semantics. Two notions are extended from lexicogrammar to discourse semantics: the potential for two units to form complexes, and the potential for the units in a complex to distinguish in terms of levels of dependency.

Regarding the notion of complex, its strength lies in its flexibility, allowing application to units at different levels and to relationships across modal resources. Traditionally in SFL, complexes explain constituency at clause and at group/phrase level as well as at tone group and foot level in phonology. In SF-MDA, the principle underlies proposals such as Martinec and Salway's (2005) description of logical relations between verbiage and image and Unsworth's (2006) resources for the inter-modal construction of ideational meaning. Both studies extend the concept of clause complex to semantic units formed by verbiage and image. These proposals, however, seem to focus on the lexicogrammatical level.

In this thesis, the notion of complex is further extended to design a unit of analysis for PPRPs. Examining PPRPs in terms of successions of slide/performance complexes will hopefully account for the two-fold constituency of the genre. At the same time, by recognizing a unit that is made up of two message parts realized in separate modes (see the definition of discursive mode in the Introduction to Chapters 4 & 5), it allows us to examine how and meanings inter-depend at the discourse level (see Chapter 5).

Implicated in clause complexes is the system of taxis. It describes the degree of interdependency between two clauses in a clause complex. Clauses of equal status are labelled paratactic, such as in /// *Go straight ahead* // *and turn left* ///, while clauses of unequal status are labelled hypotactic, such as in /// When you

see a coffee shop // turn left ///, where The plasticity of the system of taxis renders it applicable to nexuses at different ranks of grammar and, possibly, as a text forming resource. As Halliday (2009c) explains:

> A few systems appear at more than one location. The system of TAXIS (parataxis / hypotaxis) is found in many languages at the rank of the clause complex; but it may extend to other “complex” ranks as well. It represents a choice between two degrees of interdependency (equal or unequal status) which in principle is available to any grammatical nexus. (p. 67) [emphasis in the original]

In this thesis, the distinction between parataxis and hypotaxis is extrapolated to a multimodal discourse semantics of PPRPs. Based on Halliday and Matthiessen (2004, p. 375), it is argued that such a distinction is a powerful strategy for guiding the rhetorical development of PPRPs, making it possible to assign different statuses to ‘message parts' (Martin, 1992). From this analogy, I will propose the system of ‘synchronicity’ in PPRPs, which is introduced, described and exemplified in Chapter 5.

2.6 Theoretical Background: synthesis

In this section I have provided a brief theoretical background of the field of research known as multimodality with a focus on approaches that build on Michael Halliday’s social semiotic theory of language. Following, I have reviewed the main concepts and tools from which I will build the analysis of PPRPs in Chapters 4 and 5.

In the next Chapter (Methods) I take a pause to provide a detailed account of my object of study and to explain corpus collection and data analysis.

Chapter 3: Methods

3.1 Introduction

The current study examines the multimodal cohesion of Microsoft PowerPoint® assisted research presentations in the field of Applied Linguistics. In this section, I draw the boundaries of my object of study, describe the corpus, and explain the data collection procedures and the criteria for data analysis. It is a qualitative study oriented by the complex nature of the data in question and by my own SFL readings of it. The few occasions I quantify categories are meant to illustrate patterns and these are not treated statistically.

3.2 Object of study

This investigation focuses on the 'research world' (Swales, 2005[2004]) in Applied Linguistics, more specifically, PowerPoint-assisted research presentations (PPRPs). Within the network of genres academic members engage in as part of their research activity (Swales, 2005[2004]), my object of study fits in conventional labels such as 'spoken research process genres' (Shalom, 1993) or 'research talks' (Swales, 2005[2004])[36].

From a Multimodal Discourse Analysis perspective, however, I adopt a label that brings the role of Microsoft PowerPoint® 2007 technology and of multimodally construed meanings into evidence[37]. Regarding technology for slide edition and management, this definition rules out presentations produced with other currently available softwares (e.g. Mediator®,

[36] Swales (2005[2004]) concedes to the limitations of language-oriented labels, arguing that they understandably reflect linguists' primary responsibility with verbal language. See Hendges (2007) for an informed discussion on genre classification and issues of modes and media.

[37] Recent studies (Askehave and Nielsen, 2005, Bateman, 2008a) have drawn our attention to the need for capturing the essence of modes, media and materiality in genre models. For Miller (2011, personal communication), though, the role of technology in genre theory is an interesting issue, yet to be pursued.

Keynote®, Prezi®). In terms of context of culture, it excludes presentations conducted outside academic practices (e. g. sales presentations) and, within the repertoire of typical discursive practices in Applied Linguistics, it stands out from presentations produced for pedagogical purposes, such as undergraduate or graduate lectures, in which social participants are best described as lecturer and students.

Three genres fit the previously stated delimitation criteria: 1) plenary, also known as keynote lecture; 2) conference presentation, also known as conference paper presentation (e.g. in Räisänen, 2002*)* or as scientific conference paper (e.g. in Rowley-Jolivet, 2002); and 3) research seminar, sometimes labelled colloquium (e.g. in Swales, 2005[2004])[38]. Therefore, the object of study comprises three genres, which for convenience of reference in the thesis will be grouped under the umbrella term of PPRPs and may occasionally be rephrased as 'the genre' to refer to research reports delivered in a combination of performance (speech/intonation/body language) and software-mediated projection (PowerPoint® 2007 slideshow) during academic events in Applied Linguistics.

In spite of their idiosyncrasies, the three genres of research presentation seem to share the general social function of pushing forward knowledge in the field (as indicated in Rowley-Jolivet, 2002; Hood and Forey, 2005), either when they comprise an "overview or state-of-the-art presentation by a leading scientist" (Shalom, 1993, p. 38), such as in a plenary, or when they are best described as a report of empirical research by scholars at different levels of authority and prestige seeking their peers' feedback, as in conference presentations or seminars.

When presented to large audiences in conferences, PPRPs may promote the visibility of research groups and the career of individual scientists (Rowley-Jolivet, 2002). Differently, in seminars or colloquia within a department or research group, audiences are more narrowly defined and allow for scholars to "have a forum to present academic research to colleagues" (Rendle-Short, 2006) and fellow experts.

[38] As remarked by Swales (2005[2004]), labels vary according to national standpoints and across disciplines.

Differences across the three genres of research presentations (see more details in the description of the corpus below) will be accounted for in the findings in terms of literacy demands imposed on presenters and/or audiences (see Chapters 4 and 5). It is outside the scope of this investigation to conduct a contrastive Genre Analysis. For methodological purposes, it should suffice to say that plenary, conference presentation and seminar are taken as research presentations grouped according to a general communicative objective and shared features of mode (for the definition of mode in this thesis refer to Chapter 4), here labelled PPRPs.

A further delimitation criterion refers to the internal organization of research presentations in two broad sections, a monological one[39], regarded as the presentation proper, and another known as the discussion section, when the floor is opened for feedback in the form of questions and observations by the audience. This thesis concentrates on the presentation section, when the slideshow and the performance are enacted in a systematic fashion. Introductions by chairpersons are also disregarded.

3.3 Corpus and data

The data for this study come from the video-recordings and corresponding PowerPoint files of fourteen research presentations in Applied Linguistics collected from three conferences and from one research group seminar held during the academic year of 2010 in Australia, except for one presentation (Pl#7) from a conference in Brazil during the same time span[40].

[39] Monological/dialogical refer to features of the mode of communication. In monologues, the full-range of communicative resources are available for one participant (the presenter), while for the other participant (the audience), speaking is highly restricted owing to the temporary suspension of turn-taking (Rendle-Short, 2006). As used here, the term shall not be confused with the Bakhtinian monological/dialogical distinction, often called monoglossic/heteroglossic.

[40] I am indebted to Dr Emilia Djonov for her generosity in recording a PPRP at the 6th Conference of the Latin American Systemic Functional Linguistics Association (ALSFAL) held in Ceará, Brazil, in October 2010.

The fourteen presentations comprise the complete corpus of this study, as shown in Figure 5. During the process of data collection, I realized that an in-depth analysis of the full extent of the data would not be viable, particularly after the inclusion of plenaries, which were significantly longer than conference presentations. Therefore the corpus was further reduced into a set of nine PPRPs used experimentally (experimental corpus) and another set of five PPRPs used as reference (reference corpus), as explained below.

The experimental corpus was observed several times in search for patterns[41], fully transcribed (see transcription methods below)[42] and examined in detail. From this examination, the tools for multimodal cohesion analysis proposed in this thesis were drawn and refined.

The reference corpus was used in a second moment exclusively to test the applicability of the tool that had emerged from the experimental data. For the reference corpus, transcriptions were carried out only of those fragments used in this thesis to illustrate a a category. Exceptionally, data on the slideshows (Chapter 4) derives from the fourteen PowerPoint files collected, thus applicable to the complete corpus.

To sample the experimental corpus, procedures were as follows. Collected presentations were first grouped according to generic category (plenary, conference presentation, and research seminar) and then organized according to chronology of occurrence, resulting in a list of items numbered from 1 to 14 (Figure 5).

Items identified by even numbers (2, 4, 6, 8, 10, 12, and 14) were selected until three of each category had been sampled. Highlighted rows in Figure 5 represent the PPRPs included in the experimental corpus. Remaining items automatically enter the set of reference corpus in this study.

Within the category of conference presentations, the third item had to be selected from two remaining odd numbers (items

[41] For discussions on intuitive approaches to text analysis, refer to Barton (2004) and Marcuzzo (2006).

[42] Not exactly in this order, since data transcription and analysis involved a complex process of trial and error until the analytical categories presented in this thesis were defined.

n. 9 and n. 11). Since the PowerPoint file of CP#2 was obtained later (some PowerPoint files had not been collected during conferences to avoid disturbing presenters within the tight schedule of their participation), CP#4 entered the sample for its availability at the time of coding and sampling. As for research seminars, since only three had been collected, all items automatically entered the sample in this genre category.

	Data coding	Size in minutes	Genre category	Average size in minutes per genre
1	PL#1	66:22	PLENARY	53:57
2*	PL#2	52: 27		
3	PL#3	58:28		
4	PL#4	38:10		
5	PL#5	48:37		
6	PL#6	41:50		
7	PL#7	70:45		
8	CP#1	32:35	CONFERENCE PRESENTATION	38
9	CP#2	39:10		
10	CP#3	48:30		
11	CP#4	32:50		
12	RS#1	59:05	RESEARCH SEMINAR	58
13	RS#2	55:00		
14	RS#3	60:25		
Total size		701:59	PPRPs	49:85

* Shaded rows identify PPRPs in the experimental corpus, and blank rows those in the reference corpus.

Figure 5 Data: coding, size and generic category

In summary, the corpus of this study comprises fourteen PPRPs, nine of which were used as the experimental corpus and five of which were used as reference corpus.

3.4 Collection procedures

Prior to collection, ethics approval was obtained from the University of Sydney (USYD) Human Research Ethics Committee. In Brazil, the equivalent authorization by the Sistema Nacional de Informações sobre Ética em Pesquisa Envolvendo Seres Humanos and by the Comitê de Ética em Pesquisa com Seres Humanos at the Universidade Federal de Santa Catarina (UFSC) was sought retrospectively.

Three conferences[43] to be held in the second half of 2010 and a weekly forum of research presentations by the Systemic Functional Linguistics Group at USYD) entitled 'Friday Seminars' had been previously identified as potential contexts for collection.

For the research seminar, agreement was obtained informally. Such exceptional procedure was possible as the Human Research Ethics Committee at USYD did not require any formal consent for events conducted within campus. Additionally, the contact with the then hostess of the research seminars and selection of scheduled presenters were facilitated by my regular participation in these seminars.

For the conferences, e-mails (see Appendixes A, B, and C) were sent to the convenors (found on the conference site) and formal consents were required. From the lists of presenters provided by convenors, I had access to the names and electronic addresses of potential participants for the present study. Selection criteria were presenters' institutional affiliation, academic experience and language of presentation, as well as session compatibility. Each criterion is clarified below.

The first criterion, presenters' institutional affiliation, was designed to rule out presentations that would not fit as typical research reports in Applied Linguistics. To do so, I looked for the institution each presenter subscribed to. Those claiming affiliation to organizations other than universities (e.g. schools, hospitals) were excluded.

[43] The 2010 Conference of the Australian Systemic Functional Linguistics Association (ASFLA), at The University of Adelaide, in Adelaide, SA, AU (27 September to 1 October); the 4th Free Linguistics Conference at the University of Sydney, in Sydney, NSW, AU, (8 and 9 October 2010); and the 6th Conference of the Latin American Association of Systemic Functional Linguistics (ALSFAL) at the Universidade Federal do Ceará, in Fortaleza, CE, BR (7 to 9 October 2010).

Regarding participants' academic experience, the initial plan was to select only scholars who could be considered average in terms of career development and community visibility. This would rule out graduate students with little experience as well as widely renowned researchers at the top of their career. [1] To identify participants who met the criterion I counted on non-systematic indications by members of the research community (my own supervisors, teachers and fellow graduate students).

Later, however, inclusion of senior scholars and PhD students was reassessed, due to a lack of response from formerly selected participants and to constraints in coordinating session schedules, session rooms, and installation of equipment in time to record presentations from conferences. Not only did plenary presentations require simpler logistics[44], but also senior scholars were very collaborative during the whole process of collection. Only two declined the invitation to participate due to ethical restrictions on the material of their presentation.

The third criterion, language of presentation, applied solely to the conference held in Brazil, which welcomed presentations in Portuguese, Spanish and English. From this conference, only presenters who had submitted presentation in English were selected.

The fourth criterion, session compatibility, is a logistical one. As previously suggested, it affects presentations that had met all the previous criteria but were scheduled for simultaneous sessions in the conference program. Even if presentations were not exactly coincident, it would be impossible to transfer all the recording equipment from one room to another without distressing participants (both presenters and audience). In such cases, I would single out the first presentation in order of appearance in the conference documents[45].

Presenters sampled with the above criteria were first contacted via e-mail and invited to participate voluntarily. The text used in the e-mail, the ethics consent form, and the participant

[44] Only one plenary at a time, long intervals between them, and all in the same room allowed enough time to deal with video-taping equipment. Thus, no potential participant would have to be turned down due to session incompatibility.

[45] One was a list of presenters and the two others corresponded to the programs available on the conferences' homepages. Such materials had been indicated or supplied by the convenors or organizing committees.

information statement are included as Appendixes C, D, and E. If formal consent was obtained, the presentation was video-taped during the academic event and the PowerPoint file was collected[46]. Therefore, the authors of the fourteen presentations in this study gave informed consent prior to data collection.

Recordings were made using two semi-professional camcorders. One camera was zoomed for a long shot view to allow capturing the projection screen as well as presenters' general position relative to it. Another camera was set for a close-up view to provide details of presenters' body language. In the case of plenary presentations, which usually took place in large and relatively darkened rooms, using the close-up camera was crucial. Owing to technical obstacles, however, three presentations were recorded with a single camera.

Regarding issues of confidentiality, most authors gave their full consent for having their name and affiliation identified (first option under 'Confidentiality' in the consent form) and to having their images used in scientific publications/communications (second option under 'Confidentiality' in the consent form).

Three authors signalled restrictions. One of them requested name and affiliations to be kept confidential (name and affiliation details were blurred whenever they occurred in the video cuts, video stills or in the slides included in this thesis). Two other indicated ethical limitations on their own data (image of people and of students' assignments on the collected slides). In such case, the restricted content was completely de-identified[47].

3.5 Data analysis

The video-recordings of the PPRPs and the corresponding PowerPoint files were analysed as components of a multimodal discursive event. The focus of this study is on internal relations – those that "are more "rhetorical" than experiential" (Martin, 1992, p. 178) – encoding the organization within slideshows and between slideshows and the performance in PPRPs.

[46] Some files were only collected later, as explained previously.
[47] By the superposition of a shape and further conversion of the file into an image type (e.g. JPEG), that prevents access to the original material.

The discourse semantics stratum, as proposed by Martin (1992), constitutes the point of departure for the present investigation since it focuses on meanings and structures on 'text-size rather than clause-size' level (Martin, 1992, p. 1). Most constructs drawn on in this thesis have been devised in SFL for the analysis of verbal language and of semiotic resources in multimodality (see Chapter 2). Here they were applied to the extent that they could for the examination of a multimodal event or adapted to devise tools that accounted for the multimodal constitution of PPRPs. Detailed explanations on the analytical tools can be found in Chapters 4 and 5.

3.5.1 PowerPoint files

The two materials in the corpus – PowerPoint files and recordings of presentations – were analysed with different foci and emphasis. PowerPoint files were examined separately for discourse flow across slides – both in terms of software potential and as instances in the choices implemented by slideshow designers. The files were also used for the construction of multimodal matrices where slides and chunks of performance were paralleled.

By drawing on periodicity (Martin and Rose, 2007[2003]), a system at the discourse semantics level (Martin, 1992) concerned with how authors orient audiences by creating patterns of Themes at text level, the analysis involved two procedures. First, I analysed the software's built-in resources (e.g. slide preset dimensions, Default Designs) that may have a structuring role in slideshows' Design/Production. For this purpose, I used Djonov and van Leeuwen´s (2012) notion of markedness in software design, as discussed in Chapter 2. To illustrate, if the selection of a given function/command is automatic or involves a single step in the software's interface (e.g. the Title and Content is the default layout in PowerPoint), such feature is considered sintagmatically unmarked or more easily accessible. We then assume that it has greater chances to occur in the slideshows of the corpus.

Kress and van Leeuwen's (2001) model of the stratification of the semiotic production was used to offer an understanding of

the influence of PowerPoint technology in research presentations and to allow the analysis of which semiotic resources come into play at which stage of the PPRP (e.g. while animations have to be planned early, in the design of slideshows, gestures only become a potential in the delivery of the presentation). As explained in Chapter 2, in this study I will consider two combined strata or phases: the Design/Production of slideshows and the Production/Delivery of the presentation.

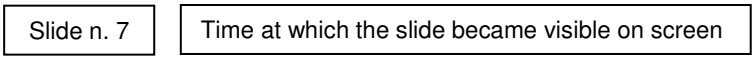
Second, I set out to analyse the slideshows of the 14 presentations both quantitatively and qualitatively. Quantitative analysis was conducted to determine the extent to which those built-in resources had been implemented in the slideshows from the corpus. Qualitative analysis aimed at examining how the resources had been used and what they revealed about the methods of discourse development adopted by researchers within slideshows.

3.5.2 Video-recordings of the PPRPs

Videos were first transcribed for the audio (presenters' speech). After that, repeated observations of the videos and their verbal transcripts were made in search of strategies used by presenters to manage their audiences' gaze across the two textual components. Over the transcribed audio, annotations were then made for resources produced technologically (slide transitions, animations on the slides, laser/computer pointer traces on slides), and embodied resources other than the verbal discourse per se (alterations in voice pitch, intonation, body orientation, hand-arm gestures, and manipulation of pointing equipment).

Any resource considered relevant to the internal cohesion was mapped onto the verbal transcription. Phonological features were overlaid on the respective verbiage using font formatting to avoid multiple lines in transcription. For instance, prominent syllables and words realizing peaks of prominence were capitalized. Slide transitions were annotated for slide number and time of transition, which corresponds to the moment at which a new slide was made visible on the projection screen. Slide animations and presenters' gestures were described in the form

of comments by the present researcher inserted between square brackets, as exemplified below.



t! and so … [7/08:08 ←[48]RA[49] extended at shoulder level; RH[50] points to projection with laser pointer and shunts slightly up and down] in face to face … (Pl#6)

The transcription conventions in this thesis are either adaptations from previous studies (Edwards, 1993; Cameron 2001; Halliday and Greaves, 2008) (e.g. elongated vowels are represented by insertion of a colon after the vowel, such as in 'hu:m') or developed specifically to account for the nature of the data (e.g. transcriptions involving body language and technology, such as ↻ to represent presenter's laser pointer towards the projection and ★ to represent an animation that occurs on the slideshow). Transcribing audio and body language is a complex undertake (Cameron, 2001; Kuipers, 2004) that should be well suited to the theoretical orientation and research questions (Edwards, 1993) In Chapters 4 and 5, conventions will be glossed only when relevant in the analysis. A complete list of the conventions adopted here is also included in Appendix F.

Some of the resources being looked for were quite straightforwardly defined from the beginning of the analysis. For instance, body language was considered relevant if construing textual meanings (e.g. body orientation towards the projection (BO); gaze towards the projection (←) or towards the computer screen (↓); deictic gestures used to highlight an item on the slide (↖). These excluded gestures conventionally (McNeill, 1992; 1998; 2000; Kendon, 2004) classified as iconic or metaphoric (e.g. a gesture in oval shape to represent a "sphere"), owing to their predominant experiential function. Others, such as intonation

[48] ←: presenter's gaze towards the projection.
[49] RA: right arm.
[50] RH: right hand

indicating peaks of prominence (marked by CAPITAL LETTERS in the transcription), and fast talk (enclosed in angle brackets <fast talk>) and/or lower pitch (marked by subscript font type), indicating the conclusion of a topic, however, emerged later from data observation and analysis. Detailed explanation of the meaning of such resources is provided in Chapters 4 and 5.

The notion of complexing – the potential for two (or more) clauses to relate by structural interdependency – and the system of taxis – the degree of interdependency between clauses (Halliday and Matthiessen, 2004) were extrapolated to the discourse semantics level. An analogy of the parataxis/hypotaxis distinction was used to design a model for the internal cohesion between slide and performance in PPRPs. For a brief review of how these notion are used in SFL, refer to Chapter 2. Given that such new tools for multimodal discourse semantics are hopefully one of the outcomes of this thesis, they shall be introduced in Chapters 4 and 5.

3.6 Methods: synthesis

This thesis is an SF-MDA study of research presentations in Applied Linguistics assisted by Microsoft PowerPoint slideware. Both video-tapings of presentations and PowerPoint files were collected from plenaries, conference presentations, and research seminars conducted in English. An experimental corpus of nine presentations was used for detailed analysis and proposal of the analytical tools. The remaining five presentations were used to test the tools and hopefully to strengthen research claims by enlarging the data.

The following chapters use the theory set out in Chapter 2, and the methodological approach presented in this chapter to develop analytical tools and to examine the data.

Chapter 4: Cohesion in the slideshows

4.1 Introduction

As stated in Chapter 1, the purpose of this thesis is to inform our understanding of how cohesion is multimodally achieved in a set of fourteen PPRPs in Applied Linguistics. The investigation centres on cohesive resources that are text-time oriented (Martin 1992, p. 180-1) in that they attend to the organization of the text and scaffold the audience's gaze to its schematic structure. Such resources belong in the realm of internal cohesion (Halliday and Hasan 1976; Martin, 1992), as explained in Chapter 2.

In SFL, experience is modelled as semiosis, that is, by means of the categories and relations provided by language (Halliday and Matthiessen, 1999, p. 3). By extension, in SF-MDA, such principle applies to meaning-making resources conventionally adopted in multimodal communication. Following such principle, in this thesis, it is hypothesised that presenters of PPRPs employ systematic resources to project different statuses for the textual components of the presentation and thus orient their audience's attention across the unfolding event.

This investigation originated from the empirical observation that in certain fragments of PPRPs – and, in particular cases, during the entire presentation – the slides and their content seemed to have an ancillary status within the discourse of the presentation, while, in others, slides seemed constitutive of the meanings being negotiated.

At first, it was hypothesised that such strategies could be explained as a presenter's choice between being more or less gentle to the audience. However, that being valid, how could we explain the same presenter's use of contrasting strategies in a single presentation to the same audience?

A more plausible line of reasoning would be to associate such choices to the rhetorical status assigned to the slide and its content and to draw implications in terms of literacy demands in the discipline, the genres and software. As argued by Rendle-Short (2006), in a conversation analysis of research seminars, "it

is the participants themselves who generate the context of being in a seminar, by accepting and enacting the organizational constraints of what it means to participate in a seminar within an academic setting" (p. 5). SFL goes a step further and theorizes that although "the situation is prior to the discourse that relates to it" (Halliday, 1989[1985], p. 5), text and context relate dialogically. Both text and context are treated as semiotic phenomena, as modes of meaning, so that "we can get one from the other in a revealing way" (idem, p. 11-12).

Under this theoretical perspective, I investigate how presenters themselves, by virtue of whether and how they incorporate slides into the performance, construe levels of interdependency between the two semiotic components of PPRPs and ultimately channel their audience's attention throughout the event. For this reason, it is outside the scope of this investigation to examine the audience's concrete behaviour during the presentation, whether they address their gaze towards the slide or the presenter, or the audience's perception of the presentation.

The multimodal intricacy of presentation genres has already been stressed in previous studies (e. g. Shalom, 1993; Ventola et al., 2002: Rowley-Jolivet, 2002; 2004; Rowley-Jolivet and Carter-Thomas, 2005; Tardy, 2005; Webber, 2005; Hood and Forey, 2005; Rojo and Schneuwly, 2006; Wulff et al. 2009), often referred to as the integration of two channels of communication (e. g. Rowley-Jolivet and Carter Thomas, 2005; Rowley-Jolivet, 2004; Webber, 2005). Most of them, however, have focused on either one of the 'channels'. An exception is Rendle-Short's investigation (2006), which associates thematic shifts in speech to slide changes in seminar presentations.

Building on the aforementioned studies, it is my suggestion that PPRPs are a multimodal event comprising two modes of communication: the display mode - the technologically-produced text or the PowerPoint slideshow - and the performative mode - the presenter's speech (verbiage and phonology) and body language (body orientation, gaze and gestures). The double constitution of PPRPs will be provisionally represented in Figure 6 as two separate phenomena.

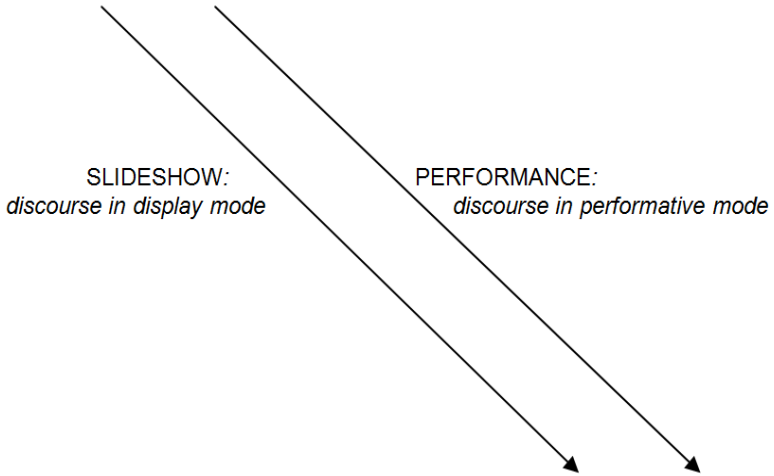


Figure 6 Recognizing the double-constitution of PPRPs as discourse in separate modes: a provisional representation

First, I would like to explain why mode was preferred to channel. Previous studies (Rowley-Jolivet and Carter Thomas, 2005; Rowley-Jolivet, 2004; Webber, 2005) seem to have used a less theoretically committed notion of channel, which was sufficient for their purposes of investigating images and verbiage (on the slides), and speech, separately. The present investigation is not only using SFL categories to the extent they can be used, but developing tools to explain the relationship between modal constituents in PPRPs. For such purposes, terms such as mode and channel have to be fine-tuned.

Based on Martin (1992), I define mode as "the semiotic construction of communication technology" (p. 509), a construct that subsumes both features of channel – "the modality through which the addressee comes in contact with the [speakers'] messages" (Hasan, 1989[1985], p. 58) [51] and medium - the

[51] I have avoided labels such as 'visual' because it is not an exclusive feature in this mode, though a predominant one. For instance, body language in the performance is also communicated visually. Also, 'visual' limits the potential of other semiotic

patterning of semiotic resources (Idem) (e.g. in verbal language, written and/or spoken media).

By adopting mode instead of channel, I also avoid going through thorny – and perhaps unproductive – deliberations of which channel is at stake, since both modes can operate visually [52] (e.g. images and verbiage on the slideshow; the performance entails body language) and aurally (e.g. speech in the performance; music, and sound on the slideshow). Moreover, display and performative modes also imply social semiotic concepts of medium, as the technology of dissemination (Jewitt, 2004) and the material aspects involved in the production of semiotic artefacts (Kress and van Leeuwen, 2001; Van Leeuwen, 2005) – the display mode is digital and produced technologically while the performative mode is produced embodiedly.

In this sense, each of the modes in PPRPs corresponds to a semiotic interface, that is, a common platform for semiotic resources to interplay and unfold in specific ways. Perhaps this is more evident in the slideshow technology, where media turn into data and back into media displayed over time (see O'Halloran, 2008). But performed discourse also implies a synthesis of semiotic resources. Speech, intonation and body language are experienced from a single platform: the human body of the presenter.

The split modal constitution is what renders PPRPs particularly complex in comparison to self-contained multimodal genres[53] such as magazine advertisements, films and websites, which also integrate various semiotic resources (e.g. image, verbiage, sound) but on a single interface.

Taking this fundamental difference into consideration, the type of 'semiotic cohesion' (O'Halloran, 2008) being pursued here goes beyond relations across semiotic resources (e. g. speech and gestures). It is best described as semiotic cohesion between two discursive modes.

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resources such as sound and music to be accounted for in the mode of communication of slideshows.

[52] Hasan (1985) prefers graphic channel for verbal language.

[53] Only one technological platform (e.g. in magazine ads, the page; in movies, the screen).

In that sense, as mentioned in Chapter 2, this investigation attempt to add to previous studies of image-texts relations (e. g. Zhao, 2010; Unsworth and Cléirigh, 2009; Martinec and Salway, 2005; Royce, 2002) by proposing a multimodal discourse semantics of a multimodal genre, where text-forming resources may interact with and realise metafunctionally diversified meanings.

We are now ready to revise Figure 6 so that it includes the relationship between discursive modes in PPRPs, which were initially isolated for methodological purposes (more on that in Chapter 5). As suggested in Figure 7[54], in the enactment of PPRPs, meanings are construed as the result of an intricate relationship between displayed discourse and performed discourse.

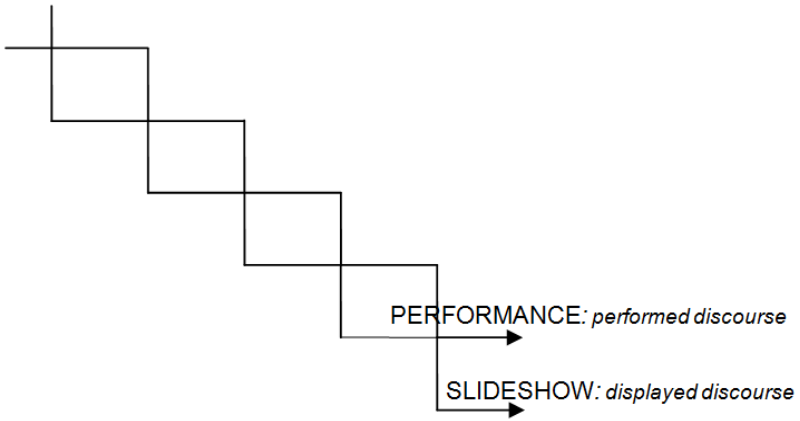


Figure 7 Cohesion between discursive modes in PPRPs: a revision of Figure 4

Drawing on the visual metaphor provided in Figure 7, I explain the organization of the following sections in this Chapter 4.

[54] I am thankful to Dr. Graciela Hendges for suggesting this visual metaphor.

Before outlining the system of cohesion across the two modes, it is essential to explore the significance of PowerPoint technology within the process of semiotic production of slideshows used in PPRPs. Therefore, in the next section, I will 1) identify software resources that may have an influence over the discourse flow across slides in research presentations; 2) conduct an analysis of the slideshows in the corpus to evaluate the extent to which the software's meaning potential influenced the methods of development adopted by applied linguists in their slideshows.

Only slideshows will be described in such detail for two reasons. First, it is assumed that if the slide editing technology does play an influence in the discourse flow of PPRPs, such influence should be primarily observable in the slideshows. Second, to the best of my knowledge, to date no linguistic research has made such a description, while a lot has been said about cohesion in the performative component (most often the speech) of presentation genres (e. g. Rowley-Jolivet and Carter-Thomas, 2005; Webber, 2005; Hood and Forey, 2005; Rojo and Schneuwly, 2006; Wulff et al., 2009).

Therefore, in this chapter, I am looking at information flow within slideshows, more specifically, the way meanings are packaged across slides to make it easier for the audience to take them (cf. Martin and Rose, 2007[2003], p. 187). The focus is on meanings at the "text base" (Halliday and Matthiessen, 1999), but oriented towards ideation and interaction bases. In other words, I am interested in the resources that enable researchers to create contextualized discourse and to guide their audience in interpreting it.

> These include resources for engendering a wide variety of diverse rhetorical structures, for differentiating among the different values and statuses of the components of the unfolding text, and for ongoingly expanding the text so as to create and maintain the semiotic flow (Halliday and Matthiessen, 1999, p. 12).

The main analytical tool adopted here is periodicity. As explained in Chapter 2, periodicity is a central conceptual tool in SFL and its potential in revealing patterns of information flow has already been extended to multimodal texts (e.g. Martin, 2001; Djonov, 2005; 2007; 2008). Because it is a system of the discourse semantics stratum (Martin, 1992), it applies to various levels of analysis, from the clause to whole-text level.

Before examining periodicity in the slideshows per se, I will explore the meaning potential of PowerPoint 2007 for discourse flow in the slideshows of PPRPs. As explained previously, I depart from the assumption that the slideshow is a crucial component of PPRPs. It displays discourse that is designed, produced and distributed by means of the PowerPoint technology for slide editing and management.

4.2 The meaning potential for discourse flow in the slideware: PowerPoint's modularised logics

In this section, I will propose that the software attempts to regulate discourse flow in presentations by 1) favouring a particular logic of meaning distribution across slides in the slideshow, and by 2) mechanisms of constraint entailed in the function/command of slide layout function.

Looking at PPRPs from the perspective of the slideshows, what 'logic' (Kress, 2008[2003]) of discourse flow is built in the software as meaning potential? To what extent does it affect the packaging of meanings in the slideshows of the corpus?

As explained in Chapter 2, the notion of logics is used by social semioticians (Kress, 2003; Jewitt and Kress, 2008[2003]) to account for "what (deep) orientation to the world is necessarily and inevitably embedded in the resources for representation" (Jewitt and Kress, 2008[2003], p. 15). For instance, while speech is governed by the logic of time, which constrains meanings to be organized "first to last, or somewhere else in a sequence" (Idem), images follow the logic of space and simultaneity, for all meanings have to be co-present in spatially organized arrangements. A related useful notion, the facilities of the media

(Kress, 2003; Jewitt and Kress, 2008[2003]), refers to "what is readily and easily possible to do with this medium"[55]. Here these notions are being explored to explain how the software's orientation for distribution and organization of information across slides shapes the meaning potentials in research presentations.

Drawing on the previous notions, it is my suggestion that PowerPoint technology for slideshow design is regulated by a modularised logic, that is to say, a predisposition for meanings to be allocated across successive framing modules provided by the slides and their Design/Layout functions. By way of comparison, while films and television genres in general employ continuity-editing techniques to smoothen cuts between shots (Iedema, 2010[2002]), in PowerPoint slideshows the cut or gap across slides is evident. A large extent of the negative reviews on the software (Atkinson, 2009; Tufte, 2003a; 2003b) can be associated to such an orientation, referred to as 'the cognitive style of PowerPoint' by Tufte (2003a), for whom the "slide serves up a small chunk of promptly vanishing information in a restless one-way sequence" (p. 23). Figure 8 is an attempt to represent the logic of PowerPoint in PPRPs visually.

PowerPoint's logic seems to have strong effects over the structure of the presentation from the Design/Production of slideshows [56] towards the Production/Distribution of the presentation per se.

At the strata of Design/Production of slideshows, a modularised logic entails decisions of how to distribute meanings across a sequence of slides, which may become the building blocks of PPRPs, perhaps analogously to webpages in websites (see Djonov 2005; Nielsen and Tahir, 2002; Nielsen, 2000).

In PowerPoint 2007[57], the inclusion of every new slide involves a deliberate action by the text producer in the software

[55] Medium here refers to the technological/material aspects of communication (e.g. the book and its page; the television and its screen).

[56] The Design/Production of the speech as a separate layer is not a focus in the present study. As explained in Chapter 2, in this thesis I am referring to the process of semiotic production of PPRPs in terms of two strata only: one that conflates the Design/Production of the slideshow and or the Design/Production of the related paper and another that conflates the Production/Distribution of the presentation per se. As Kress and van Leeuwen (2001) contend, it is not always possible or productive to distinguish one stratum from another.

[57] This feature probably applies to previous versions of PowerPoint, as well.

interface – typically initiated by going to *Home command tab* and clicking *New Slide* in the Slides group on the Home tab, as illustrates Figure 9[58].

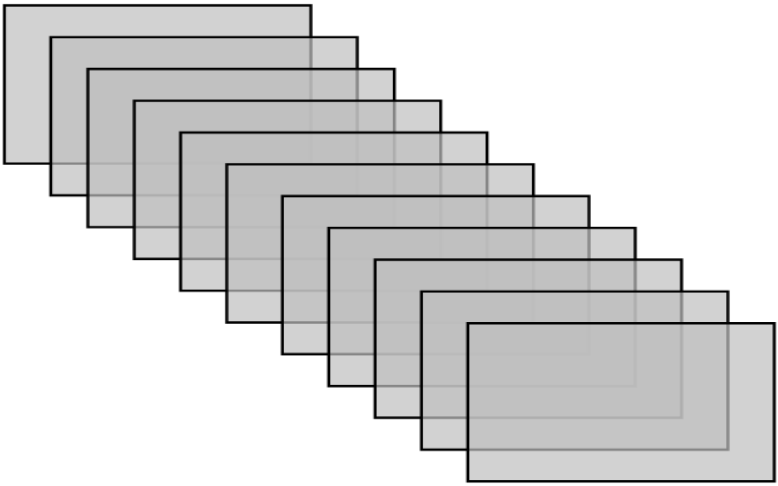


Figure 8 A visual metaphor of the logics in PowerPoint slideshows

Admittedly, a new slide is a formal unit fixed by the software's technical specifications. However, if we keep inserting content to a slide in PowerPoint slide editor, it will eventually outflow the margins to the off-screen space. Although this content is still visible when the software is in Normal view (Figure 9), anything outside the margins will not be visualized at exhibition, when the file is changed to Slideshow view. By way of comparison, page flow in a PowerPoint file is quite different from page flow in Word documents. In a Word editor, once the page's formal capacity is filled up, content gets accommodated into a

[58] Other commands also lead to new slide addition: in the *slides tab*, right click on the slide icon and select *New Slide* or place cursor over a *slide icon* and press *Enter*. All options remain a two-step action.

new page, irrespectively of the internal organization of the paper and of the producer's decisions. In slideshows, instead, page flow is always a voluntary process and one that holds a greater potential to conflate with information flow.

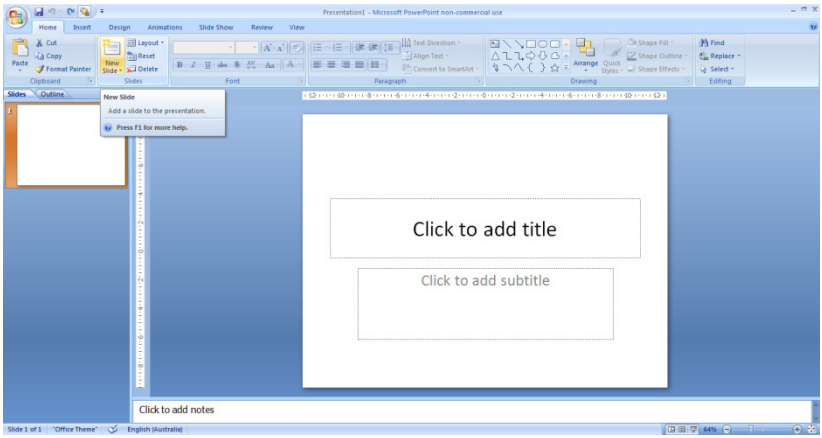


Figure 9 Creating page flow in PowerPoint 2007's interface: adding a new slide to a presentation (Normal view)

Every added slide brings issues of discourse management to a high level of awareness. For instance, decisions have to be made regarding: to what extent will each slide correspond to a new phase of information and how will it relate to the other sections in the PPRP? To what extent can one exceed pre-set dimensions (a ratio between font size[59] and slide dimensions) without impairing intelligibility during projection? How can one chunk discursive units that demand more slide space to be presented? To what extent and how can slideshow designers construe continuity between separate slides composing the same discursive unit?

[59] For example, Microsoft PowerPoint 2007 presets font sizes of 40 to 56, for titles, and 20 to 30, for body text.

Modelling PowerPoint as “semiotic media” (Kress and van Leeuwen, 2001, p. 6), that is, as involving not only knowledge of semiotic resources, but also software-related skills as well as knowledge of what works best in the display mode, allows us to identify the range of built-in meaning potentials (e.g. for features such as Slide Layout, Slide Design or Theme[60]) available in the software’s interface for designing and delivering presentations. In PowerPoint 2007, the function inserting Layout encourages users to select from a gallery of nine options (Figure 10), most of which strongly suggest that every slide should have its own title or caption. From the perspective of “software normativity” (Djonov and van Leeuwen, 2012), presentations shall be structured in terms of slides, each new slide exerting pressure for a new phase of information in the slideshow.

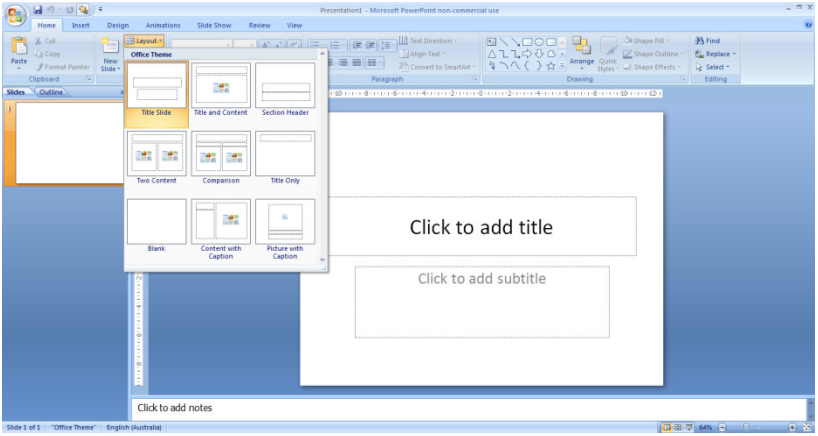


Figure 10 Default configurations for slideware design: Title Slide Layout as potential macroTheme

[60] Themes here refer to PowerPoint preset templates with pre-designed colour schemes, styled fonts, title masters and others, which take fancy names such as “Civic, “Solstice”, “Urban”.

Additionally, the default layout configurations[61] for the first slide in a file correspond to the Title Slide (Figure 10), and for succeeding slides, the Title and Content (Figure 11). These can be defined as syntagmatically unmarked features (Djonov and van Leeuwen, 2012), since they are the most readily available options for users on the software interface. Except for the Blank slide, the Title Slide, the Title and Content, as well as the remaining four layout options in the gallery (see Figures 10 and 11) contain placeholders for titles (either title only or content introduced by a title).

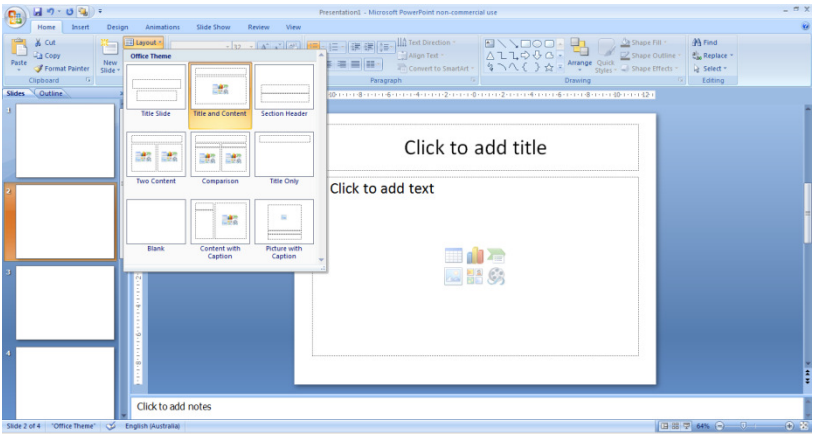


Figure 11 Title and Content Layout as the default configuration: page flow as discourse flow

Therefore, users that are compliant with software normativity tend to design most of their slides by adding titles, which, from a SF perspective, sets conditions for information

[61] Those implemented automatically in the software that can be changed if a designer changes the settings by selecting another option or by customizing the presentation. Customized settings can be saved and become automatic for that particular designer if s/he wishes.

flow [62] . Taking this into consideration, we can suggest a systematic potential[63] for slide flow (structural units) to be closely aligned with discourse flow (semantic units). Again, in comparison to Word documents, whose pages are blank canvas, it can be argued that PowerPoint slides with their placeholders' positions, pre-set font sizes and types[64], and layout features in general constrain discourse flow decisions from early stages in the process of semiotic production of research presentations.

4.3 Discourse flow in the slideshows: modularised logics or Design Hierarchies

In this section, I will focus on the discourse flow in the slideshows of the corpus. I start with a brief analysis of the types of layouts (titled x untitled slides; and types of titled slides) used in the presentations and correlate them with informational status (lower or higher level Themes). Then, I deploy the system of periodicity to point out the extent to which Applied Linguists designed their slideshows by following the modularised logic of the software or adopted hierarchical organising principles. Additionally, I identify the semiotic resources that signal discourse flow and discuss their 'functional specialisation" (Jewitt and Kress, 2008[2003]) in research presentations.

As claimed in the previous section, titled layouts suggest flow to a new information unit. Quantitative analysis of the complete data set indicates a strong preference for titled slides in the PPRPs in Applied Linguistics.

From a total of 873 slides in the complete data set, 616 (70%) are titled. Among the titled slides, 82 are slides holding

[62] Perhaps analogously to the way paragraphs work in most handwritten or word-edited documents.

[63] It is extremely important to keep in mind the sense of "potential" here. In practice, the presence of titles does not necessarily mean they have to be new titles as presenters can repeat the same title to indicate continuity of a thematic block, as evidenced later in this section.

[64] Pre-set font types, background design and colour schemes are all features of the built-in PowerPoint Theme packages, intended to give a consistent appearance to presentations, according MICROSOFT , as found in http://office.microsoft.com/en-au/training/create-your-first-presentation-RZ010186615.aspx?section=11.

titles only, as illustrated in Figure 12. These may either correspond to the Title Slide Layout (one in each of the 14 PPRP), as illustrated in Figure 12a, or to the Section Header Layout (68 occurrences distributed in 9 of the 14 PPRPs), such as exemplified in Figure 12b.

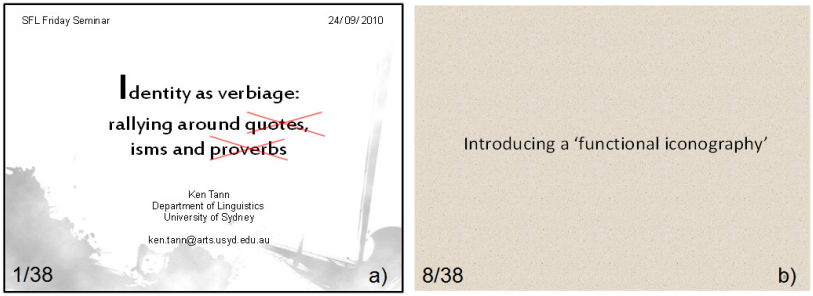


Figure 12 Example of Title only: Title Slide and Section Header in a research seminar (RS#2)

The remaining 534 slides predominantly display Title and Content Layout, and less often content only (no title). In either cases, content is realized by a range of semiotic resources, such as image (Figure 13a), verbiage (Figure 13b), video (Figure 13c) or combinations (Figure 13d)[65]).

Qualitative analysis of verbiage in the 'title-only' sample reveals that Title Slide Layouts were used in conformity with software regulations to display the title of the presentation, construing the highest hierarchical status in the genre or its macroTheme, as illustrated in Figure 12a.

While the slides in the first column (Figure 14) realize relatively self-contained information units, those in the second column are assigned different statuses: the first slide presents one core piece of information, which points forward to the second and the third. These, in turn, elaborate on the nuclear information,

[65] RS#3 brings music (audio files) as content, but always in untitled slides.

in an organising principle analogous to 'orbital structures' (Martin, 1996). This illustrates the complementarity of ideational structures to text forming resources, as predicted in Chapter 2.

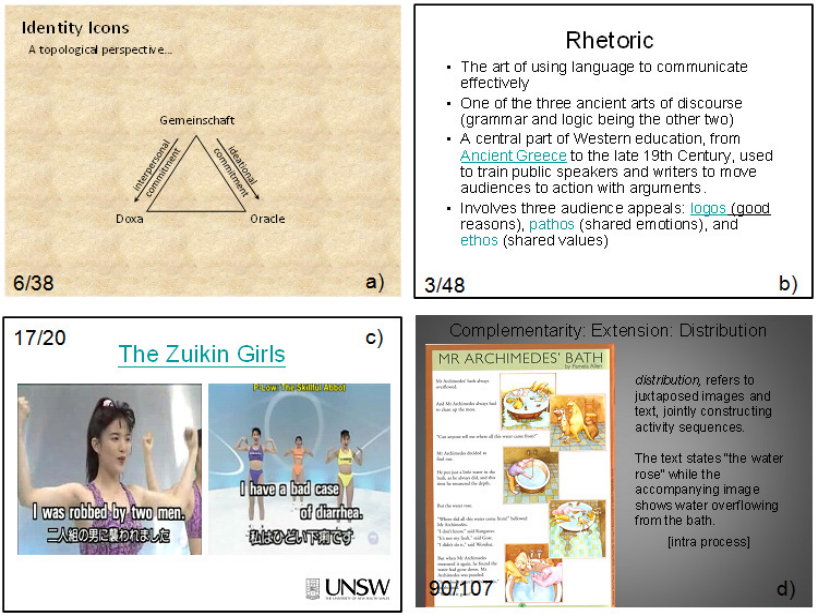


Figure 13 Examples of Title and Content Layouts used in the corpus (RS#2; Pl#3; Pl#4;Pl#1)

Section Headers could also signal phases that are "particularly sensitive to the staging of the genre in question" (Martin and Rose, 2007[2003], p. 198), thus predicting the rhetorical structure of an academic presentation (e.g. *the research question* (RS#1); *the interviews* (Pl#6); *Thank you*[66] (CP#3, RS#2); *Questions and Answers*[67] (CP#2)).

[66] The section entitled "Thank you" is a kind of coda that signals the sealing of the research presentation. Just as the set-up stage of conference presentations

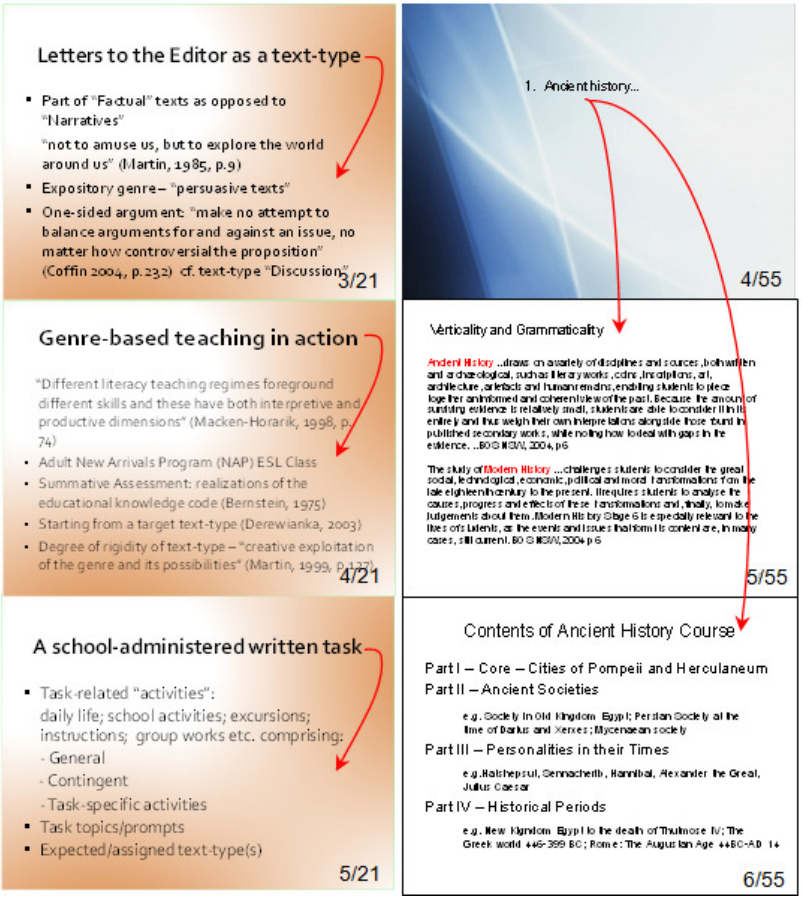


Figure 14 First column: Title Slide layouts realising a sequence of self-contained Themes (hyperThemes) (CP#2); Second column: Section Header Layout with a higher-level function (macroTheme) over the two ensuing slides (CP#4)

"foreground[s] interpersonal over ideational meanings (Hood and Forey, 2005) the coda brings the focus back to the audience and orients to the opening of turn-taking.

[67] This may also be considered a coda since it scaffolds the transition from closing the monologic part of the presentation into the Discussion Section.

However, to scaffold higher level organization such as the one illustrated in the second column of Figure 14, slideshow designers went beyond the lexical resources of verbiage previously illustrated. Analysis of the slideshows revealed that visual resources of the display mode, in particular, features of Slide Layout and Slide Design afforded by PowerPoint technology had been engendered to build periodicity as Design Hierarchies.

As the label suggests, Design Hierarchies recontexualise Martin and Rose's (2007[2003]) system of periodicity for verbal texts and Djonov's (2005) "visual hierarchies" for webpages. In webpages, visual hierarchies are the composition resulting from tools of layout, typography and illustration that represent the hierarchical structure of the website and its sections. Similarly, I suggest that Design Hierarchies can account for how (some) Applied Linguists employ display mode resources to signal discourse phasing in research presentations.

In PPRPs that employ Design Hierarchies, Title Slide and Section Headers realize macroThemes not only by predicting the field and sub-fields of discourse in verbiage, but also by assigning a hierarchical status to a given phase of information as a function of the slide's relative position in the sequence and its singular visual configuration. In Figure 15, a Title Slide and a Section Header are paralleled to allow comparison.

Title Slides almost always opened slideshows (except in PI#6, as can be seen in Figure 16), realizing the highest level Theme. They contained one obligatory element – the title of the presentation, usually followed by authorship and affiliation details, and occasionally identification of the academic event (conference or research seminar), date of presentation and contact details. Their overarching position in the displayed discourse was construed by the engenderment of one or more of the following resources[68]:

[68] Either by using the software default configurations or customized by the presenter for a given presentation.

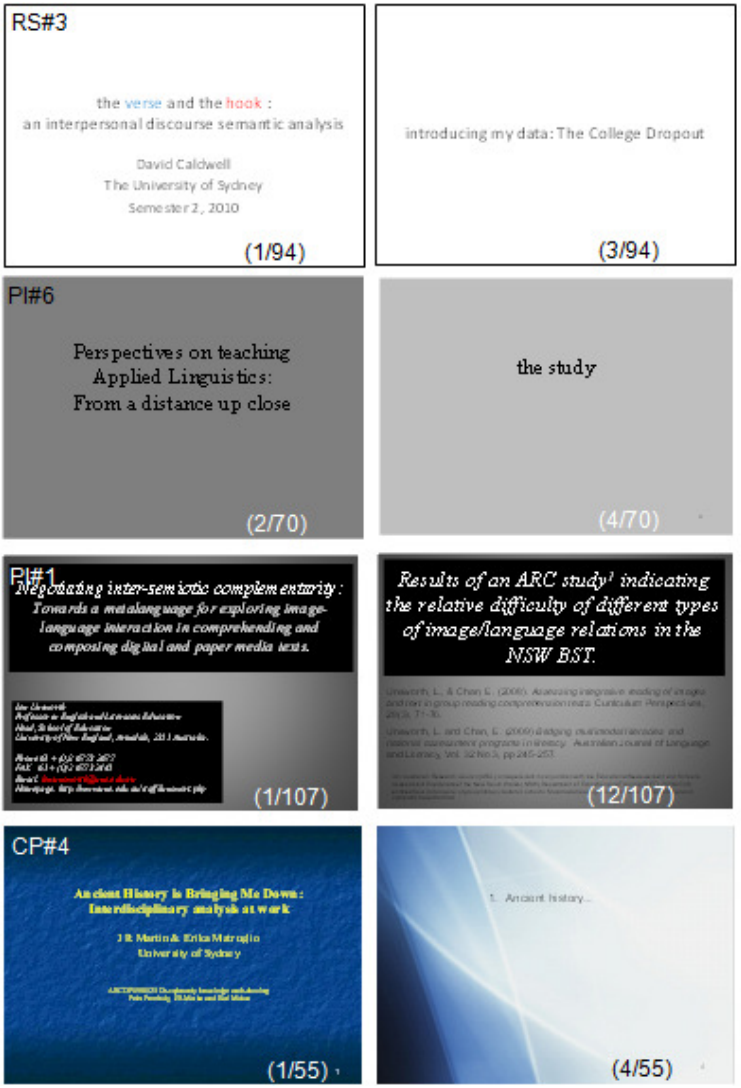


Figure 15 Examples of Title Slide and a Section Header from four PPRPs: marked design (RS#3, PI#6, PI#1, CP#4)

- Typography: the title in Title Slides stands out from those of Section Headers by selections of font type, size and/or colour. In CP#4, the title is realized in Times New Roman 28 in Title Slide, vibrant yellow, whereas the Section Header's is in Arial 24, automatic black;

- Alignment: titles in Title Slides are often centrally aligned and followed by authorship and affiliation details at the bottom (corner) in smaller font size (except for Pl#6);

- Background: the Title Slide may display a unique background (Pl#6 and CP#4) or one shared with other macroThematic slides (Section Headers), while the remaining of slides display blank or plain backgrounds. In Pl#6, the designer exploited colour value – "the scale from maximally light (white) to maximally dark (black)" (Kress and van Leeuwen, 2002, p. 355) – to scaffold the higher hierarchical position of the Title Slide in regard to Section Header slides. Likewise, in CP#4, the designer exploits 'colour modulation' (Kress and van Leeuwen, 2002) – variations in the use of texture – to indicate different hierarchical positions: the Title Slide displays one texture, Section Headers another, and remaining slides are blank.

Section Headers were always found at intervals along the slideshow, right before the group of slides under their scope (see 16).

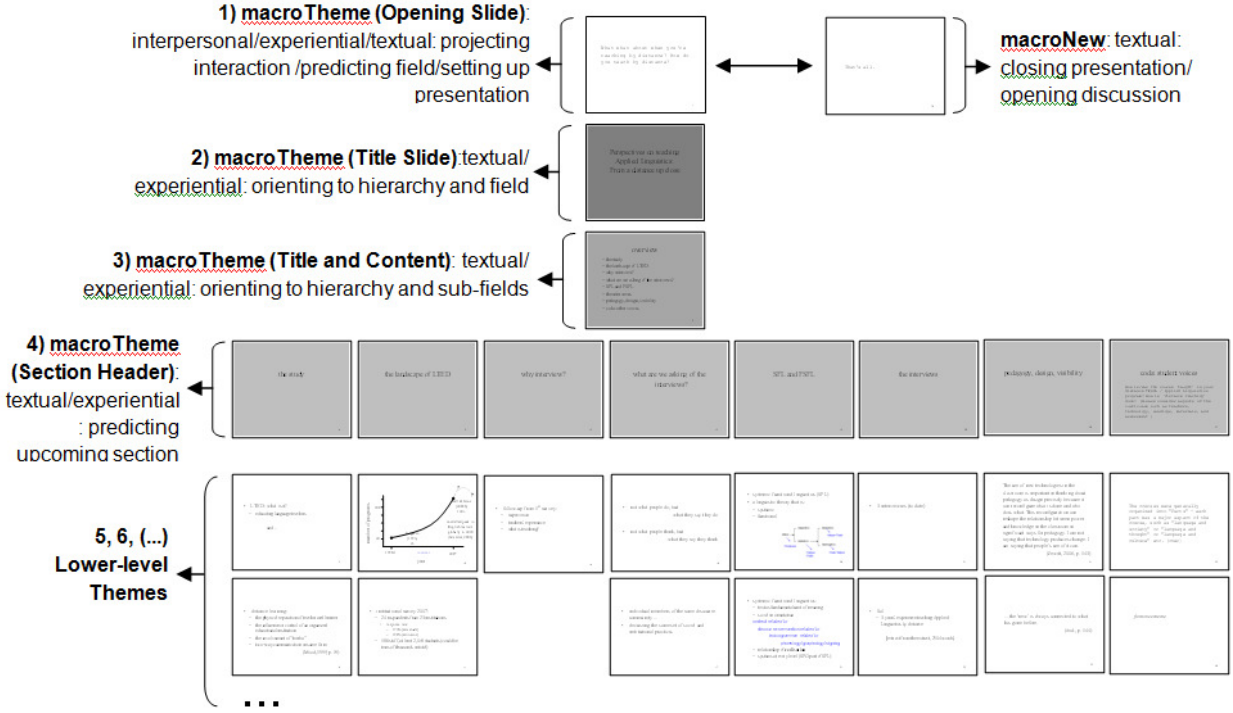


Figure 16 Periodicity in PPRP's slideshow (Pl#6): layers of macroThemes scaffolded as Design Hierarchy

Additionally, in five slideshows, Section Headers had been scaffolded in a "Preview Slide" (Farkas, 2005). The latter consists of a list of topics akin to a Table of Contents in written genres. In the corpus, it was realized by Title and Content Layout; where content was listed in bullet points, and it was located either immediately following the Title Slide (Figure 16) or up to two slides ahead it[69]. To maintain existing terminology (Farkas, 2005), this function will be labelled 'Preview Slide' here. The Preview Slide is hierarchically subordinated to the Title Slide and superordinated in regard to the Section Headers it anticipates. Notably Preview Slides add a further level of complexity to slideshows (Pl#1, Pl#6, RS#1[70], CP#2, and CP#4), functioning as textual/experiential macroThemes by anticipating not only the phasing of information and the Theme of each phase, but also by orienting audiences regarding the number of phases and their order of presentation.

Thus, despite the modularised logic imposed by PowerPoint slideware, presenters may select resources (some more readily impelled by the software) to construct hierarchically organized discourse in the display mode. Extending the system of periodicity to analysis of displayed discourse may reveal underlying Design Hierarchies, such as the one in Figure 16. The Design Hierarchy of this slideshow in particular includes four layers of macroTheme (rows 1 to 4) and subsequent layers of hyperTheme below each Section Header (rows 5, 6 and on). Shaded backgrounds encode macroThemes, which stand in contrast with the blank backgrounds of lower level ones. The higher the hierarchical status of a macroTheme, the darker was the shade of its background, except for the Opening Slide in this slideshow[71].

[69] In such cases, slideshows contained an intermediate layer dedicated to building the research problem, as will be explained later in this section.

[70] In this PPRP, macroThemes were predicted in the Table of Content Layout and implemented in a Title and Content slide, without the intermediate scaffolding by Section Headers.

[71] The label Opening Slide refers to any slide used to open slideshows that do not coincide with the Title Slide function. It occurred only in Pl#6, arguably as an interpersonal/experiential macroTheme (see more on interpersonally-loaded macroThemes in this section.

In the other slideshows displaying Design Hierarchies (see Figure 15), resources such as slide relative position in the sequence, slide background, typography and framing shapes are employed independently or in combination to cue the overarching position of Title Slide (macroTheme1), Preview Slide (macroTheme2) and Section Headers (macroTheme3). While the lexis of the titles predict "what each phase of discourse will be about" (Martin and Rose, 2007[2003]), visual design configurations predict the status of a phase within the hierarchy of Themes in slideshows. Therefore, differently from Theme realization in verbal language[72], where one type of Theme (experiential, interpersonal or textual) has to be instantiated at initial position, the display mode of PPRPs allows for the co-option of at least two functional Themes (in this case, textual and experiential). Such observation may provide further grounds to Lemke's (1998) argument of the multiplying potential of meaning in multimodal genres.

Besides the aforementioned, two additional higher-level layers of information were found which were not explicitly encoded by visual design. These corresponded to a Purposes Slide, and a Research Problem Slide(s).

The Purposes Slide[73] introduces either of the following: the purposes of the research/project (left image in Figure 17), or the process of the presentation per se (right image in Figure 17).

In the two instances observed in the corpus, the function of introducing the project/presentation's purpose(s) was realized by a Title and Content Layout, where the title predicted the content of that slide, and the entire slide provided an orientation to subsequent slides. Therefore, it was considered to operate macrothematically[74].

To identify a Purposes Slide was, in this case, a matter of lexical analysis. Apart from its initial position within the slideshow (right after the Title Slide), the higher-level status of the Purposes

[72] Mainly at clause level, for languages like English, which are organized in a left-right, linear pattern.

[73] In some PPRPs (e.g. CP#2), this rhetorical function is realized in the performative mode accompanying the Title Slide.

[74] Slideshows containing this macroTheme did not employ Section Headers or Preview Slide. The reasons behind such correlation were not pursued here.

Slide was not scaffolded visually, since background and typography were the same used in the entire slideshow.

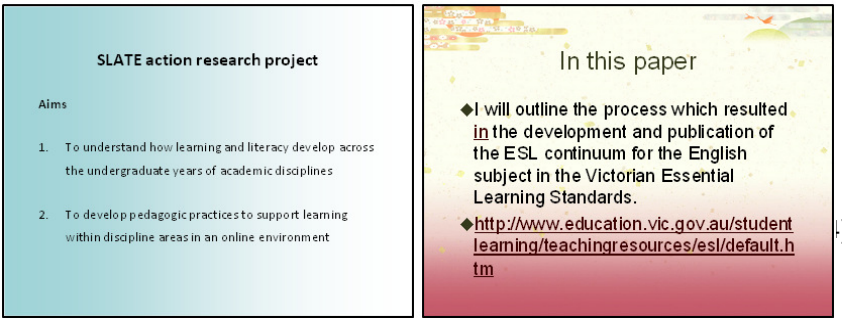


Figure 17 Displayed discourse and introduction to the project/study (CP#1 and PI#5)

The other layer oriented audiences towards the research problem tackled in the presentation (PI#1, PI#2, PI#6, CP#2, CP#4, and RS#1). It was modelled as fulfilling a function comparable to Swales' (1990) 'Establishing a niche' in the CARS model for research articles. In the corpus, such rhetorical function was realized in a single slide or in a set of slides located right after the Title Slide, and close to the Preview Slide when applicable. For the present investigation, the peculiarity in such case lies in choices of semiotic resources and their metafunctional potential, as illustrated in Figure 18.

In slides that combine verbiage and shapes (CP#2 and PI#1), we can highlight the distribution of semiotic labour within the space of a slide.

In these combinations, verbiage was restricted to a lexical function while shapes realized grammar. To illustrate, in Slide b the identification of entities and phenomena is realized by nominalizations (*politically and professionally strategic arenas for research intervention; current government obsession; high stakes school literacy testing in reading and writing (...), future directions,* etc.).

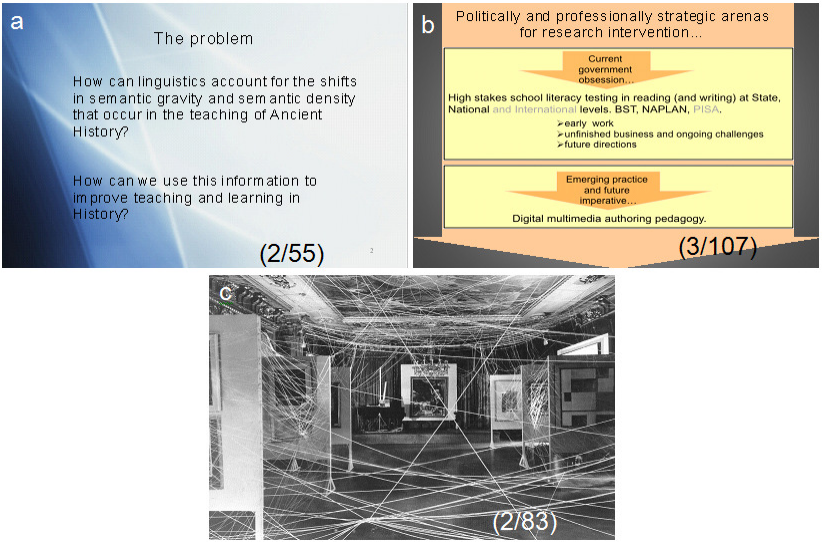


Figure 18 Displayed discourse and the research problem: different semiotic resources and their meaning potential (CP#4, RS#1 and PI#1)

On the other hand, relationships of superordination/subordination and containment, and of cause and effect are realized by shapes and arrangement (e. g. the bullet-point organization of items, the rectangles enclosing entities, the larger arrowed shape enclosing the rectangles, the arrows connecting one entity to the other). This observation is in line with van Leeuwen's (2008; 2010) assertion that in PowerPoint, we have to re-think traditional categories such as verbs and logical connectors since "the connection between them [words], the grammar, what makes it all hang together is actually visual" (2010).

Differently from Slide a and b [75], which allow the identification of their rhetorical function, the image on Slide c only offers a glimpse of the research problem and is highly dependent

[75] Slide b to a less extent than Slide a.

on the performative mode to be interpreted as such. The reasoning in this case could be phrased as: walking is expected in museums; the image represents visitors' movements hindered; the image sets a point of departure for the research problem (as encapsulated in this fragment of the presenter's speech: *But, [ct] [2/02:14] what happens when that option has been taken away?*). Since this section focuses on the discourse in slideshows, the dependency relation between modes will not be explored further (see next sections). A fragment of the accompanying performance is presented in footnote though for reference[76].

While verbal realizations of the research problem such as the one in Slide a conflate both experiential meanings and interpersonal meanings of interaction – the pseudo-dialogue projected by the interrogative mood of the research questions (see also the Opening Slide in Figure 16) –, images such as the one in Slide c foreground interpersonal meanings of evaluation, particularly affect and judgment (Martin and White, 2005). Arguably[77], the sense of obstruction invoked by the scenario in RS#1 creates the conditions to validate the question-raising in performance (*But, [ct] [2/02:14] what happens when that option has been taken away?*).

[76] S:o, when we move through uh a museum, we take that as a gran … a GIVEN, huumm, so, when we visit a museum we generally walk from gallery to gallery and from exhibit to exhibit (/ \) .. But, [ct] [2/02:14] what happens when that option has been taken away? So, one of the ways to understand the CONTRIBUTION that something MAKES to something E:LSE is to hum to substitute it for something else (/) or just take it away (/), and this is what Marcel Duchamp did, uh in his 1942 inside installation called *Miles of String* (\) So THIS hindered people's MOVEMENT from ENTERING the gallery and interacting with the art in a conventionalized manner (\)…[ct] so this highlights two fundamental things when we visit an ART museum (/ \): we MOVE and we interact with the ART (-/) therefore movement MUST BE an integral part of the museum EXPERIENCE (-/) and so the meaning of a gallery like this, but WITHOUT movement MUST be different from the meaning of a gallery in which movement can take place. […]

[77] At least two 'reading' positions can be elicited for the scenario on the slide. People who recognise the art piece, for instance, can focus on the representational meanings - the exhibition depicted in the image, which triggers contextual details such as authorship, art style/school, year, location. Audience members viewing the image for its face value may adopt the reading position suggested here, which takes into consideration the particular audience of this PPRP and assumes them as knowledgeable in Linguistics, not necessarily in Arts.

The evaluative potential of images in PPRPs is perhaps more evident in the following example (Figure 19) containing two slides from the same slideshow.

Figure 19 Evaluative Themes in the displayed discourse (PI#2)

The slide on the left depicts the problematic situation – impoverished indigenous youngsters, who are idle or randomly engaged. The negative judgment it invokes is complementarily contrasted to a later image that depicts a group of well-fed, tidy-looking indigenous, this time engaged in a socially valued[78] activity.

Following Martin (2001), I argue that the opposition between these images naturalizes the stance from which the remaining discourse (the upcoming slides in the slideshow as well as the performance per se) can be interpreted during the delivery of the PPRP.

Slides a, b, and c were used in their respective slideshows to introduce the research problem motivating the presentation, each by the deployment of different semiotic resources: Slide a by verbiage; Slide b by verbiage and graphic shapes; and Slide c by a (photographic) image.

[78] As suggested in previous examples, resistant 'reading' positions also apply. I have chosen one that is compliant with the research proposal.

Slides a and b are relatively self-explanatory (*The problem; [...] strategic arenas for research intervention*) and thus less dependent on the accompanying performance for the identification of their rhetorical function.

Similarly to what was observed in RS#1, the negative judgment invoked in slide 4 is expanded in the performative discourse by allusion of pessimistic chances for teenagers in such conditions (*And here are some of the kids we worked with at the time.. most of them uhm ... have survived but several in this group died as .. uh teenagers or young men*). And the positive judgment invoked in slide 6 is verbally construed in terms of the project's achievements (*Uhm ... and the success we achieved attracted national attention*).

The images just analysed integrate a series of eleven slides containing no verbiage. In conjunction, they realize a rhetorical function analogous to Swales' (1990) 'Create a Research Space' (CARS) for they are used to recount the conditions of implementation of an acknowledged literacy program, by the signalling of a problem (Indicating a gap) that validates the proposed course of actions (Presenting positive justification) (see a synthesis of Swales' CARS model in section 2.). Since the slides that compose the series are located immediately after the Title Slide, they build an attitudinal macroTheme with effects towards the remaining sixty-three slides in the slideshow and related performance.

In terms of 'functional specialisation' (Jewitt and Kress, 2008[2003]) of semiotic resources, these observations point out to the power of images to construe attitudinal meanings in PPRPs. Although visuals have long been reported to play a heavy functional load in scientific discourse (Lemke, 1998; Nascimento, 2002), the space for evaluative images in research articles, for instance, is less evident.

This, most likely, can be explained as a restriction of scientific coding orientations (Kress and van Leeuwen, 2006[1996]), a principle that values abstract and generalized representations at the expense of naturalistic and emotionally loaded ones (see also Myers' (1990) narrative of nature versus narrative of science). To illustrate, journal policies discourage the inclusion of figures unless they contribute directly for data

analysis on grounds of space constraints (Nascimento, 2002). On the other hand, slideshows do not undergo evaluation by reviewers and thus offer considerable room for the expression of both disciplinarity and individuality (Tardy, 2005). Moreover, in PPRPs, not only generic conventions legitimate the inclusion of evaluative images but the display mode enables and facilitates it.

Such results reinforce Martin's (2001) suggestion to include Theme analysis as a system of textual relations in multimodal genres, alongside Given/New, Ideal/Real and Centre/Margin (see Chapter 2, for a brief review on these systems).

While Title Slide, Preview Slide and Section Headers conflate textual and experiential meanings and build relations of containment across slides (as the illustrated in Figure 16), attitudinally loaded images, particularly if used at early stages such as in the Research Problem Slides, work prosodically and thus "tend to colour phases of discourse" (Martin, 2001, p. 313). Considering the initial point where the images have been used in the slideshows, we can assume an effect of the attitude invoked by these images towards the remaining of the presentation. The image(s) on the slide orient(s) the attendant discourse phase – the construal of the research problem per se – and the multimodal complex formed by slide and performance orient the remaining of the discourse in slideshows[79], thus operating as an evaluative macroTheme in the whole event.

Next indicate some of the literacy demands imposed on presenters and on audiences depending on the preferred method of development in the slideshows: modularised logics or Design Hierarchies. In PPRPs that employ Design Hierarchies, the modularised logic imposed by the software is subverted to some extent.

From the perspective of the audience, Design Hierarchies provide visual scaffolding. This may be particularly useful for the audience in face of the pressures to process information in real-time during the monologic stage of the genre, when the possibility of questions and clarifications is provisionally suspended. From the perspective of presenters, a clear method of development in

[79] And in the general presentation.

the display mode may release the burden of maintaining the flow across discourse phases during delivery of the presentation.

On the other hand, planning and implementing Design Hierarchies imposes constraints in terms of software literacy since it involves choices that are complex both syntagmatically – selecting functions that are less accessible through the software interface – and paradigmatically – selecting functions that involve a distinctive semantic or formal feature (see Djonov and van Leeuwen, 2012). For instance, using the Title Slide Layout (for the first slide in the slideshow) and Title and Content Layout (for any remaining slides) is syntagmatically unmarked because both are default layouts in PowerPoint 2007. In other words, they will always be followed unless explicitly altered by the slideshow designer. Additionally, a blank background is considered paradigmatically unmarked in regards to coloured (see PL#6) or textured (see CP#4) backgrounds, since it implies the absence of visual features. Therefore, idiosyncratic layouts and designs such as the ones used in Design Hierarchies involve both syntagmatically and paradigmatically marked choices by slide designers. Consequently, designing slideshows that predict phases of information entail researchers' familiarity with specific software's functions/commands (e.g. Slide Design, Slide Layout, background formatting) and additional effort as well as time to customize slide layouts and designs to suit their rhetorical needs.

Abiding to the modularised logic of displayed discourse is less demanding in terms of software literacy since it entails using preset resources in PowerPoint 2007 (e.g. Title Slide layout for the first slide and Title and Content layout for most remaining slides; the same Design/background for all slides). This often results in a chaining strategy across slides that is analogous to serial expansion of discourse (Martin and Rose, 2007 [2003]). In this case, except for the Opening Slide, which works as the highest level macroTheme, the internal organization of the presentation is not predicted in the display mode, but delivered as a succession of lower level Themes triggered by slide transition. The audience only gets to know what the next phase is when they get to it. As suggested previously, these slideshows are predominantly composed of slides with Title and Content Layouts,

where the title may have an internal scaffolding function but does not necessarily involve prediction outside the phase level.

In Design Hierarchies, the same format – Title and Content – was used to scaffold higher level Themes such as in Preview Slide, Research Problem or Purposes Slide. In spite of their less distinguished visual features (Preview Slide, Research Problem and Purposes Slides did not exhibit distinctive backgrounds), these functions were found at a relatively stable position in the sequence of slideshows. Moreover, Research Problem and Purposes Slides were highly predictable by the genre itself.

However, it is likely that a modularised logic in the display mode is counterbalanced by consistent scaffolding in the performative mode of these PPRPs. We may assume that presenters are likely more familiar with verbal scaffolding strategies than with visual. That being the case, instead of using the display mode, presenters would orient their audiences to the general organization of the research report in speech.

Moreover, choices of serial expansion as a method of development may count on the audience's generic and disciplinary literacies. When the stages of a genre are recurrent enough in the culture (Martin and Rose, 2007[2003]), such as in research presentations, they become highly predictable and their tracking is presumed from the audience's professional "acculturation" (Berkenkotter and Huckin, 1995), that is, their membership in a disciplinary community and participation in the repertoire of discursive practices valued in that community. In conferences and, more evidently in research seminars, members of the audience can be assumed as highly familiar with the steps involved in a research report and perhaps with the rhetoric of the disciplinary community.

4.4 More on discourse flow: how presenters encode continuity beyond slide boundaries

In this section, I address an additional aspect to discourse flow in the slideshows, regardless of the predominant method of development: how presenters signal continuity across slides composing the same informational unit.

Further evidence of the tension between the software's modularised logic and discourse phasing becomes apparent when the boundaries of a given message part are incompatible with the formal boundaries of a slide.

We may assume that when producing their slideshows, designers often use compacting strategies to fit large material on a slide. For example, verbal language can be condensed by grammatical metaphor, re-instantiating a long clause or paragraph as a nominal group (see Figure 18b). This is common practice in slideshows of research presentations (Tardy, 2005; Castella and Aparicio-Terrasa, 2008). For images, compacting may be achieved by altering the figure's dimensions, which results in the same elements, though in smaller proportions. However, the threshold of compression is co-determined by intelligibility – to what extent the message and its parts can be discerned by the audience during projection – and by the rhetorical function of the material – for example, in Linguistics, data often corresponds to long stretches of textual evidence (e.g. excerpts from printed texts, audio transcriptions) (see the interview data in Figure 20).

The challenge in such cases is to reproduce long messages in their original form and in an intelligible fashion on the slide. In the slideshows of the corpus, such dilemma was managed in part by the employment of continuity strategies (Figures 20, 21 and 22).

When a single message part was split over two or more slides, this was either explicitly indicated by marks such as '(cont.)' and '(over)' (Figure 20), suspension points, and conjunctives (e.g. a slide with the heading 'And so…') or by replication of grammatical and/or visual patterns across slides (Figures 21 and 22).

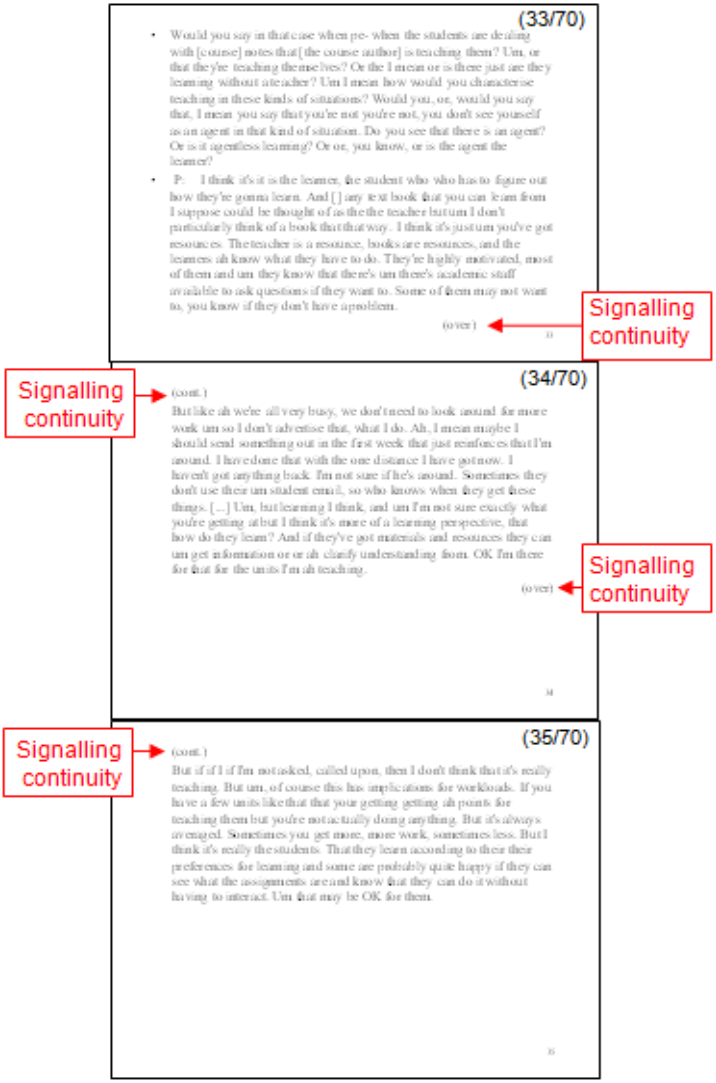


Figure 20 Continuity in the displayed discourse (a) (Pl#6)

In Figure 20, a 477-word transcript from a survey was displayed over a succession of three slides. At the bottom of slide 33, the mark '(over)' indicates that the transcript is to be continued, which is ratified by the mark (cont.) at the top of slide 34, and then from slide 34 to slide 35, where no mark signals the end of the message part.

Figure 21 shows how continuity can be realized less congruently by verbal and visual parallelism. From slide 16 to slide 17, the grammatical parallelism of the clauses (all non-finite) and the visual parallelism provided by the bullet-point organization, and the absence of a new title in slide 17 indicate that the message in slide 17 shall be interpreted as a continuation of the message in slide 16. Therefore, the Theme 'Proposed procedure' in slide 16 extends to slide 17.

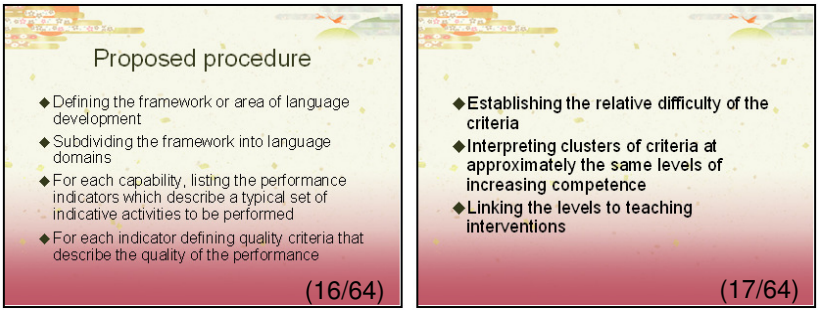


Figure 21 Continuity in the displayed discourse (b) (PI#5)

Figure 22 illustrates continuity as construed by replication[80] of a dominant visual feature across a pair of slides. The double-

[80] The designer of a presentation can produce repetition either by inserting a new element to the same slide by animation or by duplicating elements of the given slide into a new one. In the delivery of PPRP, whether a new element of the composition enters by animation or by transition to a new slide is not significant. The audience cannot tell the difference between them unless slides are numbered.

page image of a book takes the entire background in slide 45. Its replication in the following slide signals that new points will be added (the two callouts in slide 46), but which should be interpreted under the same Theme of the preceding slide.

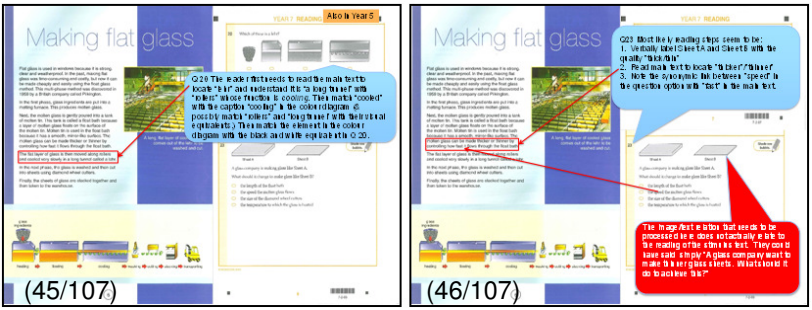


Figure 22 Continuity in the displayed discourse (c) (PI#1, slides 47 and 48)

Figures 20, 21 and 22 not only illustrate how information phasing is a complex process involving the interplay of resources and systems, as stated by Martin and Rose (2007 [2003]), but also, as I would like to suggest, provide evidence of the strong influence of PowerPoint's modularized logic over discourse flow and its signalling in PPRPs. Because thematic flow is so recurrently mapped on slide flow, when these were dissociated in the data, presenters activated various resources to let audiences know that they were manipulating preset structural boundaries.

From the perspective of discourse semantics (Martin, 1992), a modularized logic encourages 'serial expansion' (Martin and Rose, 2007 [2003], p. 199) across blocks of information – instead of 'hierarchies of periodicity' (Idem). As a consequence, presenters predominantly add on to what went before without scaffolding sections to come.

However, as argued previously, presenters may subvert the software preconised logic and assign diverse hierarchical status for individual slides or for groups of slides. By building Design

Hierarchies, they visually orient their audiences into the organization of the slideshow. The previous remarks are evidence of the various strategies producers of slideshows employ to manage information flow across slides and to circumvent the logic of segmentation. They require presenters to construe either thematic continuity across sets of slides or hierarchical relations where a slide or sets of slides (and their content) realize phases of information at different scales.

The fact that presenters employ overt strategies to re-articulate the structural/functional capacity of a slide is evidence of the compelling influence[81] of a modularised logic over the packaging of meanings in slideshows. Moreover, as will be argued next, such logic continues to shape the configuration of PPRPs at the following the strata of Production/Distribution of the presentation in academic events.

4.5 Discourse flow and the mapping of speech onto slideshows

In the delivery of a slideshow[82], corresponding to the strata of Production/Distribution of a PPRP, discourse flow is indicated by slide transition. The sequence of slides, with their 4:3 aspect ratio and landscape orientation, are compulsorily exhibited one at a time in a linear order[83]. Again, by way of comparison, this logic is quite different from that of moving images (such as in films), which afford gradual transition across textual units (see Tseng 2009; Tseng and Bateman, 2010; 2012, for filmic cohesion). In PPRPs, content is displayed in a succession of modules, each new slide superseding the previous.

[81] Not deterministic.

[82] By 'delivery' I mean the projection of a PowerPoint file in the *Slide Show* mode – without ancillary views of the other slides composing the presentation – under the control of the presenter or an assistant. This corresponds to the slideshow as it is exhibited before an audience in a conference or seminar room.

[83] Unless the designer/presenter includes resources such as hyperlinks, which connect a slide and its topic directly to a remote slide or document, the linear sequence is not greatly challenged. Other presentation software may offer resources that allow different relations across slides. It must be kept in mind that the present thesis is concerned only with PPRPs in real-time and controlled by the author/presenter.

The structuring role played by slides over the speech is acknowledged in presentations from several fields (Dubois, 1980; Rowley-Jolivet and Carter-Thomas, 2005; Webber, 2005; Rojo and Schneuwly, 2006). In Applied Linguistics, slideshow Design/Production often precedes the other textual practices integrating the chain of conference genres (Rojo and Schneuwly, 2006):

> Although there are, in certain domains of study and research, many conference participants that write a text to be read in public, in our area, it is customary practice to firstly write an abstract and then to create a file using a presentation editor (a "*power point*", as usually said) [...]. Over these two graphic pieces and relative to them, the presenter's talk is articulated, which can later be transcribed (or trans-codified) and often re-textualized to the production of a paper for publication (Id., p. 470).[84]

Therefore, it can be hypothesized that slides are a major first step both in the preparation and in the enactment of a PPRP, whether it develops from ideas, from an abstract or from a paper; whether the performance resembles fresh talk or is evidently a read aloud manuscript.

Besides exerting control at the Design/Production strata, the flow of discourse in slides both organizes and supports the development of the speech and consequently guides the audience of a PPRP at the Production/Distribution strata, as already suggested in previous studies (e.g. Rowley-Jolivet, 2004; Webber, 2005; Rojo and Schneuwly, 2006; Rendle-Short, 2006).

[84] Embora haja, em certos domínios de estudo e pesquisa, muitos conferencistas que redijam um texto que será lido em público, em nossa área, é mais comum o procedimento de se elaborar inicialmente um resumo e depois um arquivo num editor de apresentações (um "*power point*", como se diz comumente) [...]. Sobre esses dois escritos e em relação com eles, articula-se a fala do conferencista, que, depois, pode vir a ser transcrita (ou transcodificada) e, por vezes, editada ou retextualizada para a elaboração de um artigo acadêmico para publicação.

So slides may have an important Thematic function within the process of PPRPs' semiotic production. They set the point of departure for the textualization of research claims.

Therefore, departing from the premise that slideshows have an influence over discourse flow in the entire PPRPs, in the following sections I set out to 1) identify attempts by the software to regulate speech flow; 2) demonstrate the extent to which speech flow maps onto slideshow flow; 3) describe the dynamics across modes (display and performative) to encode discourse flow; and 4) suggest a multimodal unit of analysis that comprises both modes.

4.5.1 Speech phasing and slideshows: the meaning potential of PowerPoint

PowerPoint's interface also suggests the mapping of speech on slide content. When one opens a PowerPoint 2007 file to create a presentation, the default view (labelled 'Normal view') exhibits three panes, as can be visualized in Figure 23 (1) the Thumbnail or Outline pane[85]; (2) the Slide pane, corresponding to the working area of the slide; and (3) the Notes pane at the bottom of the screen.

The Notes pane, an area that will be hidden during the presentation in 'Slide Show view', encourages presenters to add verbal commentaries (*Click to add notes*) for each slide. If implemented, these notes will possibly form the basis of a presenter's speech.

Following Djonov and van Leeuwen's (2012) markedness model, the 'Normal view', with its 'Notes pane', can be modelled as a syntagmatically unmarked option within the feature 'View' (as are titled slides in the feature 'Slide Layout') since it is the most easily accessible option in the respective feature through the software interface. Thereby, from the perspective of syntagmatic markedness, PowerPoint predisposes authors to build up their performance under the thematic surveillance of

[85] When more slides are added, it allows not only a miniature view of up to four slides in the sequence but also operations such as replication and rearrangement of the sequence.

slides, particularly if we assume that Design/Production of displayed discourse precedes that of performed discourse. Arguably, performance will comprise blocks of speech that are oriented by and expand the information of each slide in the sequence.

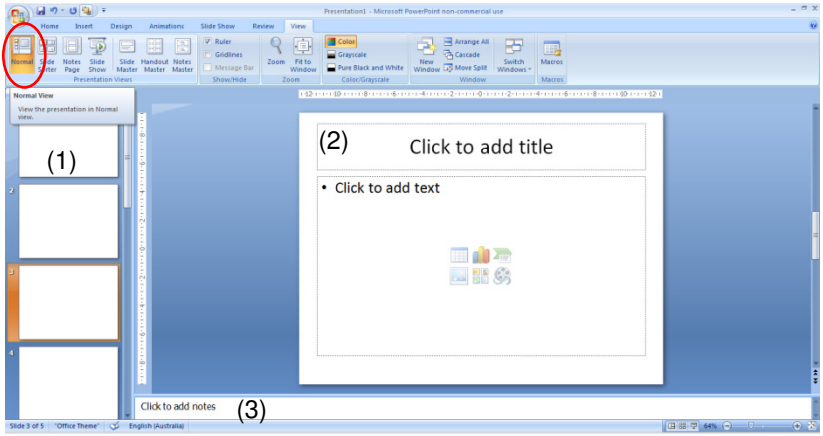


Figure 23 The default view in PowerPoint 2007's interface: standardizing the development of verbal commentaries from slides

Normativity is observed in the discourse of software-related publications. The following excerpt from a Microsoft tutorial on how to create a presentation openly instructs users to employ the notes tool:

> Use speaker notes to elaborate on the points on the slide. Good notes can help you keep your audience engaged and prevent text overload on the slide.
>
> 1 As you develop the content on your slides, type your notes in the notes pane, below the slide. Typically, as a presenter, you print

> these notes and refer to them as you give the presentation. (Microsoft)[86]

The tutorial not only defines a function for the Notes pane (*to elaborate on the points on the slide*) and situates the design of notes within the process of a PPRP's semiotic production (*as you develop the content on your slides*), but also attempts to regulate the use of notes during the delivery of presentations.

Altogether, literature review, technical discourse and software analysis point to the significance of the technology on: 1) how discourse is phased in the technological component of a research presentation; and to 2) how the performance mirrors the packaging of meanings from the slideshow.

4.5.2 Speech phasing and slideshows: a brief analysis of the corpus

Broad examination of the data set suggests that the performed discourse of PPRPs does hinge on slideshows, consisting generally of "a running commentary" on slides, as previously advocated by Rowley-Jolivet (2004). Presenters most often sourced the content of slides from the computer screen and only occasionally from the projection. By reading from screens positioned close to the lectern at their front, presenters manage to use slides as prompts while projecting attention towards the their own performance, as illustrated in Figure 24.

This presenter adopts a fresh talk style (no evidence of manuscripts) by sourcing the content of slides from the computer screen and expanding them. The strategy allows her to maintain her body position oriented towards the audience and dynamically alternate her gaze between the computer screen and the audience.

[86] http://office.microsoft.com/en-us/powerpoint-help/create-your-first-presentation-RZ010186615.aspx?section=8

Figure 24 Sourcing slide content from the computer screen in a plenary (Pl#3)

Exception was observed in research seminars (RS# 2 and RS#3) and, less substantially, in one conference presentation (CP#4), in which presenters resorted predominantly to the projection. The meanings of such choices for audience orientation will be discussed in more detail later. At this point, it should suffice to say that in the case of the research seminars, presenters and audience share the field of scrutiny and slides can be interpreted as prompts for both participant roles in the event. An extreme case can be observed in Figure 25.

The figure depicts presenter RS#3 standing in a position where he almost shares the point of view of audience members in regard to the slideshow (to the right of the first row of seats, gazing at the slides as he triggers transition to the next slide and starts exploring it verbally).

Obviously, there are material constraints involved (see 'layout' in Chapter 2). The immediate situational environment, in particular, lecterns, (single or double) projection screens and room dimensions may engender in layouts that impose restrictions on how presenters manage the two semiotic components. However, as mentioned previously, participants of a genre may either comply or challenge such constraints, thus construing particular meaning configurations (more on this in Chapter 5)

Figure 25 Sourcing slide content from the projection in a research seminar (RS#3)

Regarding the implementation of the Notes pane tool, five[87] out of the fourteen PowerPoint files collected from presenters contained notes in the form of brief schematic annotations and/or grammatically elaborated paragraphs, three of which quite substantially. Among those presenters[88] that did not implement the *Notes pane* in the software, five were in possession of a manuscript during their presentation. However, only two of them noticeably used manuscripts, alternating from a 'reading style' to a 'conversational style' (Dudley-Evans and Johns, 1981).
For one plenary (Pl#2)[89], it was possible to contrast the planned speech (the manuscript) with the instantiated speech (transcription). In Figure 26, the planned speech and the

[87] Two presenters included only a brief comment below one of their slides. Therefore, they were not included in the counting.
[88] From the recording, it is not possible to quantify precisely which presenters used printed notes or a paper as the basis of their performance. Two of them clearly did. The author of PL#2 allowed access to his notes, which were found to correspond considerably to the instantiated speech. In a PPRP for a pilot study, a presenter also marked the point at which slide transitions should occur since he was reading from a manuscript and someone else was controlling the slideware.
[89] This presenter voluntarily handed in the speech manuscript on the occasion of the PowerPoint file collection.

instantiated speech associated to slides 32 and 33 in Pl#2 are paralleled for comparison.

As indicated in Figure 26, this presenter's speech was directly attached to the sequence of slides[90] at Design/Production of the manuscript, a relationship which extended throughout the Production/Distribution of the presentation.

Regarding the Design/Production strata, we can observe how the manuscript was organized under the modularised logic of displayed discourse. Speech phases were identified according to the slide they should accompany, as signalled by the numbers (32 and 33) right above the verbiage in the first column. These numbers correspond to slide pages and were found in the original document of the manuscript provided by the presenter. Apparently, slide numbers in the manuscript have a mnemonic role – reminding the presenter of the exact point at which to display the next slide in the presentation. Yet, they also offer evidence of the mapping of speech phasing on slide phasing.

Regarding meanings added at the Production/Distribution strata, we can observe the changes from designed speech (column 1) to instantiated speech (column 2). Verbiage from the manuscript is fully replicated in the delivered speech with the addition of phonological features (e.g. intonation, pitch, speed of talk), which will be addressed later.[91]

At this point, I would like to draw attention to two other meanings that feature exclusively at the Production/Distribution of the speech in this PPRP: a discursive marker signalling initiation of a new phase of information (realized by the continuity phrase *And again like* ...) and the summarizing statement (*so it extends* ...) at its closure. The statement functions as a higher level New, consolidating the information at phase level and in relation to previous phases (31 and 32). In this particular fragment, we notice that in the enactment of speech, the signalling of topic shift is emphasised and the New information gets consolidated with retrospective discourse.

[90] However, we do not know which text was designed /produced first.
[91]

Designed Speech (manuscript)	Instantiated Speech (transcription)
32 With factual texts the same information is used, but written in different sentence patterns, which the teacher models for the class. But the information is organised in the same sequence of text phases.	[32/16:30] With factual TEXTS (/) the same INFORMATION is u:sed .. but written in different sentence PATTERNS (\) which the teacher models for the class (\) but the information is organised in the same sequence of text ph:ases (\)
33 With arguments, the same phases as the model are used, but discussing a different issue. Here the issue is fast food and its advertising. Like the model, it previews the sides for and against, presents the topic and reasons supporting each side, and finally reviews the arguments, before coming to a resolution.	And again like.. [33/16:47] with ARGUMENTS (-/) the same PHASES as the model are USED but discussing a different issue (-) here the issue is fast food advertising .. its advertising (\) like the model.. it previews the sides for and against (/) it presents the topic and reasons supporting each side (/) and finally reviews the arguments (\) before coming to a resolution (\) s:o, it EXTE:NDS the uh ... genre uh ... of joint construction methodology developed in the uh the eighties by Joan Rothery and colleagues (/), uh extends the research in uh.. genre analysis beyond the stages (/), it is mapping genres and their stages through a MUCH more DETAILED and FLEXIBLE metalanguage that supplies analysing texts across the curriculum (\)

Signalling information shift

Consolidating information

Figure 26 Speech phasing over displayed discourse phasing (PI#2)

If "writing looks forward more often than it looks back" (Martin and Rose, 2007[2003], p. 195), we could perhaps suggest that from Design/Production to Production/Distribution of speech, the potential for retrospection tends to increase. Since speech manuscripts were not collected from authors (the one above is an exception), the issue remains for future investigations.

The main point here is to discuss the influence of PowerPoint slideware on the delivery of PPRPs in Applied Linguistics. Admittedly, the structuring role of slides in research presentations will vary as a function of disciplinary conventions and presenters' individual styles. Notwithstanding, it is my contention that PowerPoint itself and the way that information has been segmented and packaged into the slideshow is a big force in the unfolding of research presentations, as indicated in Figure 26.

Presenters do not simply talk and in parallel play slides. As I argue, they structure their presentation into multimodal complexes of slide and performance. The displayed discourse on the slide and the co-occurring performance form complexes, "iterative sequences working together as a single part" (Halliday and Matthiessen, 2004, p. 21).

4.6 Slide/Performance complexes and discourse flow in PPRPs

Previously, I argued that subsequent slides in a slideshow typically correspond to new information phases in the display mode, whether higher level or lower level. Whenever presenters wished to dissociate slide flow from discourse flow, they would use marks of continuity to signal that the same phase extended beyond the boundaries of a slide.

In this section, I map periodicity of the displayed discourse onto the performed discourse with a focus on speech[92]. That is to say, I show how information phasing in slides orients phasing in speech. In Figure 27, we can observe that the flow of discourse in speech is tightly connected to slide transitions.

[92] Lexical meanings and phonological features will be explored in the next sub-section.

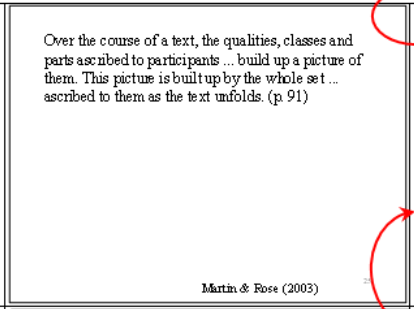
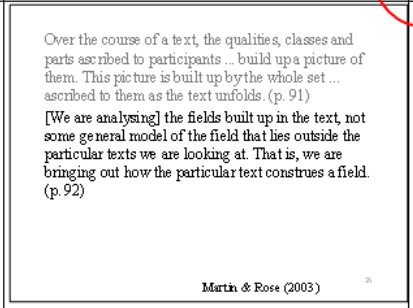
		(MC 24)	
MC25 :lower-lvel Theme		[25/24:55] ok(\) [ct] so(\) [plays back slide 24/25:00] .. about this part of the model (\ /), about where're about to look at... (\ /) (...) Martin and Rose s:ay (--) [25/25:04] "Over the course of a text, the qualities, classes and parts ascribed to participants build up a picture of them. This picture is built up by the whole set ascribed to them as the text unfolds" (\) s:o (- /), as a text unfolds (- /) we learn about the participants in them by the kinds of QUALITIES that are joined to them, the kinds of CLASSES and PARTS that they HAVE, that they belong to and so on and so forth and this ... we UNDERSTAND what the participant in a text IS as the text unfolds	01 02 03 04 05 06 07 08 09 10
MC 26 :lower-level Theme		[26/25:34] [ct] excuse me ... so(\) when we do this kind of ANALYSIS (/) what we are doing is "We are analysing the fields built up in the text, not some general model of the field that lies outside the particular texts we are looking at. That is, we are bringing out how the particular text construes a field". And, I'll illustrate this later but the point here is when looking at these INTERVIEWS, what we are NOT trying to do is ... we are NOT trying to say 'this is what language teacher education by distance is'.. ok (/) what we are trying here to say 'this is HOW this PARTICULAR PERSON (-/) at this particular TIME (-/) has CONSTRUED language teacher education by distance' .. so (-/) it's a specific CONSTRUAL .. so (-/) what you expect is that one person's construal would be different from and different from someone else's .. to some extent (\)	11 12 13 14 15 16 17 18 19 20 21 22
	DISPLAYED DISCOURSE	PERFORMED DISCOURSE	

Figure 27 Modelling multimodal complexes of slide and performance in PPRPs (PI#6)

Figure 27 comprises a sequence of two multimodal complexes of slide/performance (hereafter MC), which were identified as MC 25 (slide 25 + speech accompanying slide 25) and MC 26 (slide 26 + speech accompanying slide 26).

In MC 25, the slide is first made visible on the projection screen [25/24:55]. In this case, the presenter exceptionally replays the previous slide [24/25:00] in order to contextualize what he was about to present (complex 25) in relation to what he had just presented (the highlighted area of a diagrammatic model on slide 24). This way, the hyperNew of the previous MC is condensed into the hyperTheme (hyperTheme) of complex 25 (lines 01 through 02). The new information is presented in lines 02 through 06, and consolidated in lines 06 through 10, as the hyperNew of MC 25.

A similar pattern is observed for MC 26. In lines 11 and 12, the hyperTheme of MC 26 is introduced, which also hooks onto the hyperNew of its preceding complex (*when we do this kind of analysis*, where *this kind of analysis* refers to the analysis of participants' qualities, classes and parts mentioned in MC 25). From lines 12 through 15, the presenter then delivers the new information, and, from lines 16 through 22, he distils the information, construing the hyperNew of MC 26.

What I suggest with the previous analysis is that the transition into new slides in PPRPs signals the boundaries across MCs in PPRPs, which often correspond to information shift. Therefore, in the delivery of PPRPs, unless signalled otherwise, slide flow scaffolds discourse flow. This is important in terms of audience orientation in the genre, since members of the audience can rely on perceived slide transitions as cues of discourse management in the presentation as a whole.

In that respect, what is the influence of PowerPoint slideware if we consider that technologies such as 35 mm slides and overhead transparencies also constrain discourse flow to some extent?

In comparison to earlier technologies, the digital mode of PowerPoint slideshows opens the potential for discourse to be broken down into a larger number of units. Overhead transparencies and 35mm carrousel slides – presentation technologies replaced by PowerPoint (Gaskins, 1984; 2007;

Endicott, 2000; Stevenson, 2003; Gomes, 2007) – imposed economic restrictions on the number of slides afforded in a presentation. Not only did printed visuals imply a potential disconnection between design and production, since authors' depended on graphic companies to produce 35 mm slides, for example, but they also involve direct costs on printing materials[93]. The high popularity of PowerPoint technology and availability of liquid crystal display equipment[94] allow slideshows to be digitally produced and digitally distributed (no costs with printing). We may expect more slides to be included in research presentations. This, in turn, increases the potential for slide flow to follow discourse flow at different scales.

The correlation of discourse flow with slide flow in the data is partially supported by Rendle-Short's (2006) 'display rule', according to which, slides are "made visible to the audience before the presenter commences the topic-talk – either during the pause between sections of talk or during the orientation"[95] (p. 101). The temporal collocation of slides and stretches of performance in the data of this thesis both confirms and extends the display rule. In Rendle-Short's (2006) data – Computer Science research seminars – slides contained only images and were less frequent (1 slide at every 2 minutes of talk).

In the present study of PPRPs in Applied Linguistics[96], slide content is realized by a variety of semiotic resources (image, verbiage, video, sound or combinations). Moreover, the average of 1.24 slides per minute (more than double the average found by Rendle-Short (2006), allows us to estimate a higher potential for slide transitions to indicate flow to new waves of information.

In PPRPs, the transition into new slides was always temporally approximated to the initiation of new phases, either

[93] For instance, the costs of the transparencies and of the ink to print coloured slides.

[94] By way of anecdotal evidence , in the university I work as an EFL educator, such equipment was rare in the late 1990's. Nowadays, many classrooms have an installed LCD projector.

[95] Stage in which presenters "orient the audience to the overall structure of the talk" (Rendle-Short, 2006, p. 93), or in SFL terms, the hyperTheme to the section. It may be realized by a mention of what is about to come; it may refer to something on the screen; or it may be a rhetorical question which is then answered in the topic-talk itself.

[96] Quantitative analysis of the complete data set. For details on how the data set is organized, please refer to the Methods chapter.

anticipating the verbal realization of the Theme or immediately following it. More frequently, slide transitions prompted the next MC by anticipation, as can be observed in the following excerpts.

Eg 1 (PL#1)
[18/12:59] So (\) ok (/) to just to uh.. to give you some concrete examples (/) we take the first uh uh category around concurrence (/) and thus it is useful to distinguish two subcategories that.. one of equivalence and uh one of exposition (-/) […]

Eg 2 (RS#3)
[18/11:12] Again (-/), turning to the musical reviewers (/) really it is interesting to hear what they have to say.. they say […]

Eg 3 (CP#3)
[11/17:18] So (\).. uh .. how did the student engage with this task topic (\) well (-/).. first thing I can say is that […]

Eg 4 (PI#4)
[7/13:48] Now this kind of collective minds (/) or collective consciousness .. as you like (-/) concerning the subjective value of some accents over others (-/) has gone a question of [?] so (-/) according to […]

Eg 5 (RS#2)
[11/08:00] And also.. now.. back to what the critics have to say (-/) that will provide us a clue (-/) a way in to this uh discourses […]

In the examples above, the slide (slide number and time of display in square brackets) is always made visible prior to speech initiation.

Less often, though, slide transitions occurred immediately after the Theme had been embodiedly introduced, as illustrated in the following examples.

Eg 6 (RS#1)

S:o (/) when we move through uh a museum, we take that as a gran … a GIVEN, huumm, so, when we visit a museum (/ \) we generally walk from gallery to gallery and from exhibit to exhibit (/ \).. but, [ct] [2/02:14] what happens when that option has been taken away […]

Eg 7 (RS#1)

So (-/) what is a promenade (\) [24/07:12b] the term comes from uh Le Corbusier […]

Eg 8 (Pl#4)

So (/) I'd just like to show you some uh comparisons [9/18:36] this is one is by Jenkins, they're quite emotive as you will see in nature (/) so Jekins says that […]

In Egs 6, 7 and 8, presenters orient their audiences towards the content of the ensuing multimodal complex in speech before showing the relevant slide.

Both strategies – slide-first or speech-first – can be analysed for the literacy demands they impose on presenters and on audience.

Displaying the slide first and then introducing the Theme in speech is probably more recurrent since, in this order, displayed discourse can work as a prompt for presenters, reminding them of the next multimodal complex. As discussed previously, contextual constraints in presentation genres may affect presenters' ability to manage information delivery according to plans. By choosing to play slides first, presenters may reduce pressures on their

memory capacity and use the displayed discourse to trigger performative discourse.

On the other hand, the verbal introduction of Themes prior to slide display can be considered more demanding in terms of genre literacy for presenters. In the adoption of such a strategy, we may assume that 1) the presenter is highly experienced (e.g. the presentation is an updated version of research presented elsewhere; the presenter has recurrently participated in the genre); and/or 2) the presenter has employed substantial effort in the Design/Production of the presentation (e. g. designing slides, planning and phasing the speech onto slides, preparing a manuscript of the speech and/or slides handout, rehearsing the presentation, resorting to the manuscript/handout during delivery). In both cases, presenters would need to be particularly aware of their own method of development so as to be one step ahead the next phase of information without counting on the display mode.

For audience members, both strategies seem to construe a type of scaffolding. In the slide-first-strategy, audiences can resort to visual scaffolding. What can be speculated at this point is whether a densely fulfilled slide (e.g. a long verbal text with no title or a complexly composed image text) can be as effective, in terms of audience orientation, as a slide containing one identifiable entity (e.g. a Section Header or an image such as the one used to introduce the Research Problem in RS#1 in section 4.2).

In the speech-first strategy, the audience is generally oriented in terms of the purpose and content of displayed discourse before viewing it. Arguably, this will construe a preferred stance for the audience regarding the displayed discourse. To illustrate, in Eg 7, the audience is oriented to expect the definition of a key concept in the study (So (-/) what is a promenade (\)). In Eg 8, the audience is oriented to adopt a comparative stance towards the next three slides, which contain scholarly quotations[97] on issues of native speaker standards (So (/) I'd just like to show you some uh comparisons).

[97] The orientation in speech here works as a macroTheme to displayed discourse in the subsequent three slides. This provides initial evidence to a hypothesis made in

Despite the differences just discussed, slide transitions were always closely coupled with the announcement of Themes and marked the initiation of each MC. Therefore, slides transitions offer cues for both the analyst and audiences to identify the boundaries across waves of information in MCs. MCs may realize waves of different scales: chains of phase-level Themes building onto each other, such as the ones in Figure 27 or hierarchies of Themes, as in Figure 28.

In Figure 28, we can observe three layers of higher level Themes realized in three MCs. MC 2 sets the highest-level Theme of the presentation; MC 3 is a higher-level Theme predicting the organization of the presentation into sections; and MC 4 sets the initiation of the first section (from the eight sections predicted in MC3). The higher-level Theme set in MC4 extends over three ensuing MCs (not included in Figure 28), construing a relation of containment (for a hierarchical view of the slideshow in this PPRP, refer to Figure 16 previously).

previously that periodicity in modal-split genres such as PPRPs may involve a tension between displayed scaffolding and performed scaffolding.

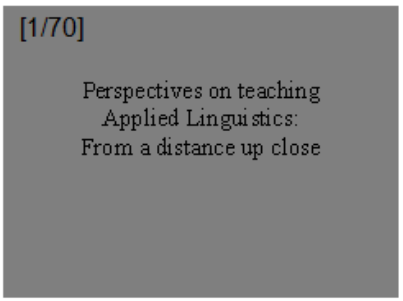
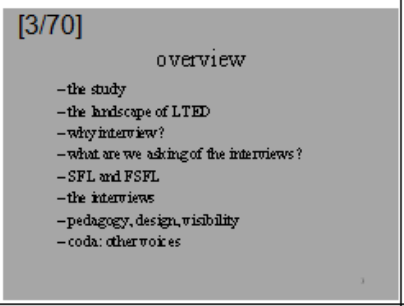
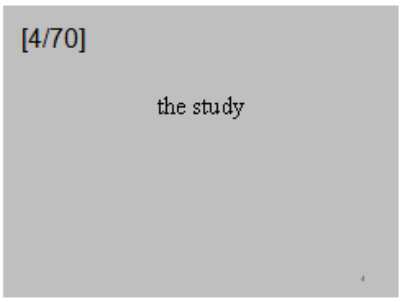
MC 2	Higher-level Theme		[2/05:09] A:nd the title of the paper is "Perspectives on teaching Applied Linguistics: From a distance up close" t! Uhm ... from a distance because [...]
MC 3	Higher-level-Theme		[3/05:40] Ok (\) so, an overview (/) first of all I'll talk about the study (\ /) t! then I'll talk about [...]
MC 4	Higher-level Theme		[4/06:23] Ok (\) so to begin with the study (\ /)

Figure 28 Multimodal complexes and higher level phases (PI#6)

At early stages of the presentation, therefore, we could perhaps represent the method of development as an inverted pyramid of MCs of diverse statuses, such as illustrates Figure 29.

Figure 29 represents the method of development adopted in Figure 28 and includes the sequence of lower-level MCs

subordinated to MC4. In other presentations, we may find longer chains of lower-level MCs, as indicated by the superscripted n.

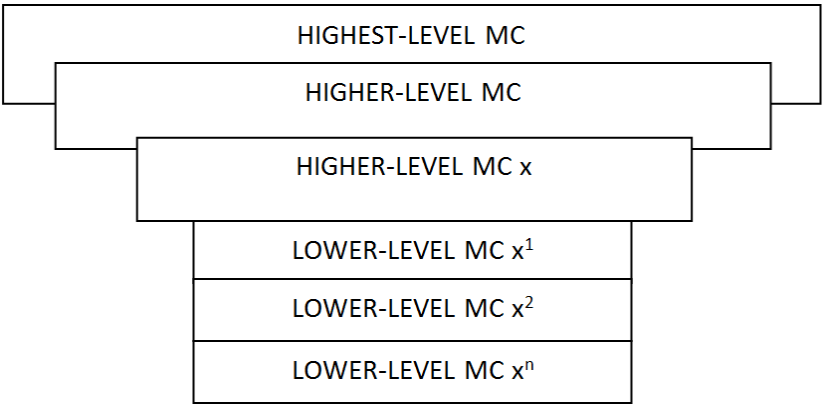


Figure 29 Representing hierarchies of MCs at early stages of PPRPs: an inverted pyramid structure

After such initial stages in PPRPs, MCs tend to be organized either periodically, with higher-level and related lower-level MCs (Figure 30) or serial expansion across several lower-level MCs.

Figure 30 illustrates the first pattern: a higher-level MC followed by its subordinated MCs, which will in turn be followed by another set of MCs with a similar structure, thus construing periodical waves of equivalent status.

In Figure 30, MC 15 introduces a higher-level Theme (*What do we know about sung hooks?*) that points prospectively to MC16 and MC17. The latter, in turn, realize phases of information subordinated to MC15.

In other words, in MC15, the author commits to presenting current knowledge on a given topic (sung hooks), and fulfils the promise, by presenting the perspective of insiders to the practice (*rappers themselves*) and the perspective of the literature on a related issue (sampling) in MC16 and MC17, respectively.

MC 15	higher -level Theme	(15/94) what do we know about sung hooks?	Ok (\) [15/08:53] What do we know about sung hooks (/) ..
MC16	lower level Theme	(16/94) ... It's important to have your hook do two things. First, it must be **fun** to listen to, because it's the part that the listeners are going to hear the most... The second thing that most hooks do is summarize or advance the **main idea** of the song. (The Rapper's Handbook 2007: 203-204)	[16/08:56] This is.. from rappers themselves.. from the field (\) this is what they say they do (\) or, as XX says (-/) well (\ /) what they think they say they do (-/) it's IMPORTANT to have your hook do two things .. […] Clearly there's a lot of stuff going on (-/) …
MC17	lower level Theme	(17/94) Sampling in rap is a process of cultural literacy and intertextual reference. Sampled guitar and bass lines from soul and funk precursors are often recognizable or have familiar resonances. Some samples are taken from recent charted songs, making them **eminently recognizable**. (Rose 1994: 89)	[17/10:07] And one of the IMPORTANT things that's going on (-/) and that I'm not ALSO going to talk much about today (-/) uhm .. i:s this notion of sampling (-/) and it's CLEARLY .. it's functioning here in terms of solidarity [?] and group effort (-/) […]
MC 18	Higher-level Theme	(18/94) what **else** makes the sung hook, hook?	[…]

Figure 30 Multimodal complexes: higher and lower level phases (RS#3)

Therefore, both MCs 16 and 17 realize lower-levels layers of information elicited by the question in MC15. Subsequently, the transition to slide 18 marks the end of the previous higher-level phase and indicates the beginning of a new one. This is achieved not only by transition into a new slide per se, but as a consequence of the marked visual features in the displayed discourse, which construe MC18 as holding a status equivalent to that of MC15.

Such pattern will result in sequences of MCs in roman column structures, as represented in Figure 31.

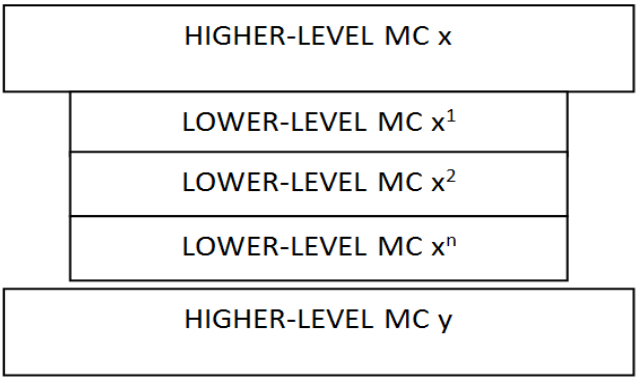


Figure 31 Representing periodical flow across sets of MCs in later stages of PPRPs: a roman column structure

In the second pattern, MCs are delivered in long chains of information of equivalent status, where each MC adds a lower-level Theme to the presentation. An attempt to represent such method of development can be found in Figure 32.

In Figure 33, we can observe an example of such chain structure, where five MCs are presented this way. Except for MC1 (not visible in Figure 33), which introduces the highest-level Theme of the presentation, the role/content of each MC, as well as the relation between them is only established as we get to each MC (Themes are highlighted in the performed discourse in each MC). There is no prediction outside the scope of a MC and

no indication of hierarchical statuses or relationships extending across a MC. What we find in the example though is retrospection. The Theme in MC4 points back to what had been presented in MC3 (*So (-/) with that in mind (\ /).. [4/03:05] if we think about the genre based teaching (\ /) as explicit interventionist pedagogy (-/)*).The same can be observed in MC 5 (So (-/) with that in mind (\ /) ..) towards MC 4. Retrospection in this case construes cohesion between information phases of similar status.

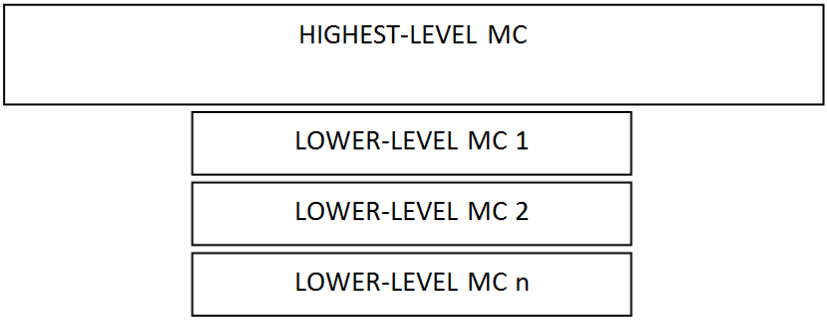


Figure 32 Representing serial expansion across MCs below the highest-level MC: a chain structure

In PPRPs organized in chain structures, we may argue that the modularised logic of slideware has imposed greater influence. As explained previously, these PPRPs are characterized by the presentation of a series of MCs, each introducing a phase-level Theme (Figure 33). Such chain structure across MCs may be either the predominant method of development of an entire PPRP (PI#3, PL#4, PL#5, CP#2, CP#3, and RS#1) or it may feature locally in PPRPs that combine periodicity with serial expansion (the remaining PPRPs in the corpus).

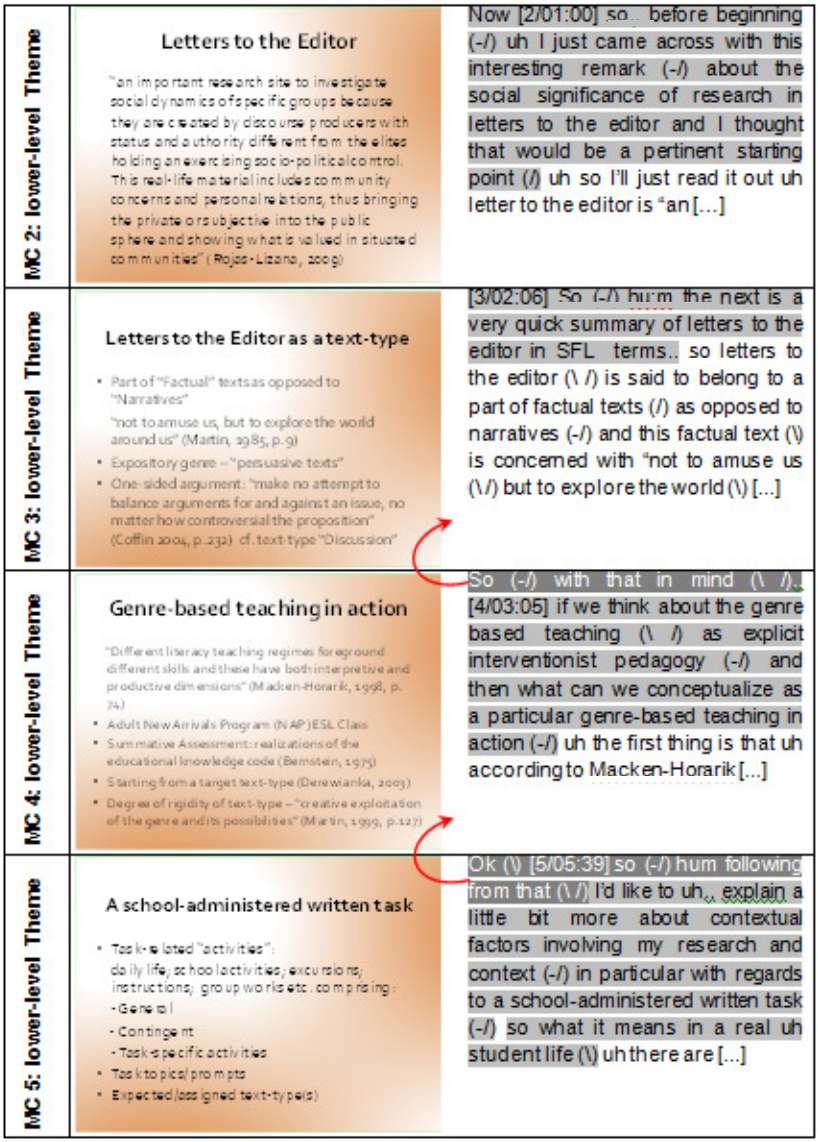


Figure 33 Multimodal complexes and serial expansion (CP#2)

On the other hand, as illustrated in Figures 28 and 30, PPRPs may be delivered in hierarchies of MCs. Such method of development is oriented by Design Hierarchies in display mode (section 4.1).

When the hierarchy is scaffolded at initial stage of the presentation, we have inverted-pyramid structures (Figure 29). If scaffolding continues or features only at later stages of the presentation, we have series of lower-level MCs packed into layers of higher-level MCs, forming roman column structures (Figure 31).

Therefore, in PPRPs, applied linguists may alternate periodicity with serial expansion, similarly to what has been observed for verbal texts (Martin and Rose, 2007[2003]). The main difference seems to be that the main responsibility for scaffolding the method of development in presentation genres is on the display mode. In PPRPs, periodicity is realized as Design Hierarchies, that is, the engenderment of resources of the display mode to scaffold variations in the field and status of discourse across MCs. Therefore, when a slide is visually marked in relation to others in the slideshow – i.e. displays a distinct design and layout, audiences may expect it to mean variation in the informational status of the MC. Additionally, retrospective strategies were found in the performative mode of PPRPs, more specifically in speech, to construe the connection across lower-level MCs and sporadically to summarize a set of MCs composing a higher-level layer.

4.6.1 Scaffolding discourse flow in slide/performance complexes: cues in speech and phonology

Finding ways to identify and break up research objects into recognizable units is a main concern in multimodal investigations (Bateman, 2008a; 2008b). So far, I have proposed to decompose PPRPs into multimodal complexes of slide and performance, which realize layers of information at different scales and can be tracked by slide flow. To provide further evidence of the correlation between MCs and discourse flow, in this section, I set out to identify markers of discourse flow in the performative mode

of PPRPs, more specifically in the speech and phonological features.

What the analysis revealed is that layers of information in MCs of the corpus can also be identified by the presence of discourse markers and phonological features occurring at particular stages within MCs: the initiation of a new MC and the introduction of its Theme; the intermediate part in a MC corresponding to the presentation of New information; and the closure of a MC, usually corresponding to the information consolidation as hyperNew (or macroNew).

In the data, the initiation of new MCs was recurrently marked by the presence of a particular category of conjunctives, that of continuity. Included in this group are typical continuatives such as *well* and *oh*, and structural linkers such as *and* or *so*, which are used cohesively.

Similarly to their role in casual conversation to "indicate when a clause beginning a new turn relates to a clause in a previous turn" (Halliday and Matthiessen, 2004, p. 534), continuatives such as *and*, *then*, *again,* and *well* were employed in PPRPs to establish cohesion between the information in a new MC to the information in its preceding MC, as illustrates Eg. 9[98].

Eg 9 (PL#6)

MC49 [49/10:43] [...] so (\) what can this tell us (\)

MC50 [50/11:19] well (\ /) I think this can tell us about pedagogy (-/) design (-/) and visibility (\)

MC51 [51/11:26] And Carey Jewitt wrote "The use of new technologies in the classroom is important in thinking about pedagogy as design precisely because it can reconfigure *what* is done and *who* does what" [...]

In the example, we can observe the initiation of two MCs in sequence. After the transition to slide 50, the presenter relates

[98] In this sub-section, only the performative mode will be analysed. However, slide transition can also be detected from annotation in square brackets.

the information to be presented in the current MC (50) to the information presented in the previous MC (49) by the use of the continuity marker *well*. In MC51, *and*, which often plays a structural role, establishes a cohesive tie across MCs.

More typically, MCs were introduced with markers such as *so* (\), *ok* (\), *alright* (\) – often in tone 1/, fall, represented by (\) in the transcription – *s:o*, *a:nd*, *no:w* – often with elongated vowel, as indicated by the colon after the vowel – either preceded or followed by short pauses – indicated by suspension points. In such prosodic configurations, the items above indicated the closure of information in a MC and shift into the information of the new MC, as can be observed in the following examples.

Eg 10 (RS#2)

01 [9/16:18] ok (\) first of all let us uh let me just give you some
02 background to what I've been doing (-/) in order to contextualize
03 [...]

Eg 11 (PI#2)

01 [31/text/15:54] a:nd ... joint CONSTRUCTION then goes beyond
02 modelling text STAGES (/) <instead the class follows the pattern
03 of phases used by the author exactly [...]

Eg 12 (CP#2)

01 [16/29:07] now ... hum .. now we go on to the generic structure
02 in the..uh its relationship to the students stance-taking (-/) uh [...]

Eg13 (RS#1)

01 [4/07:13] [ct] so (\) I've divided my talk into a number of
02 SECTIONS (/) and in the first one I'm going to explain how a
03 system network is WRITTEN (/) and read using [...]

Additionally, MCs were initiated by continuatives in association with other less conventional markers such as pauses in Eg 14 and Eg 15), the speaker's clearing of her/his throat *[ct]*[99]

[99] Two presenter s in particular.

(Eg 13), dental clicks (*t!*)[100] and fillers such *u:h* and *u:hm* (usually elongated) (Eg 11 and Eg 14).

Eg 14 (Pl#4)

01 So (\) u:hm … others .. such as Waters (-/) [15/28:57] 2009 (-/)
02 argue or have suggested that .. "an excessive advocacy of
03 authenticity does not properly acknowledge [...]

Eg 15 (Pl#6)

01 [19/17:32] ok (\) … alright (\) so (\) I'm .. [ct] excuse me .. I'm going
02 to look now at SFL and FSFL (/)

As suggested by Rendle-Short's (2006), although these items can be found in other segments of the speech, where they probably play different functions, a number of criteria allow us to categorize them as markers of information shift in MCs: (1) location within the time frame of change from one slide to the next; (2) specific phonological features (intonation, pitch and vowel quality, as explained above); and (3) minimal evidence of other discursive functions. In regard to the latter criterion, for instance, *so, then* and *and* are clearly not operating as conjunctives within or across clauses, but as cohesive ties between larger stretches of discourse. Similarly, in the context of the presentations, the occasions when presenters clear their throat cannot be explained as expressions of emotion (tension or lack of confidence), but as if clearing the space into a new discourse phase or, perhaps, re-engaging in the sequence of thematically-motivated MCs.

In contrast with the initial segment of MCs, which is typically prominent by a combination of increased volume, raised pitch and reduced speed, as reported in Rendle-Short (2006), the closure of a MC is marked by quieter and faster talk, finishing with word-final falling intonation (\), as can be observed in Eg 16.

[100] One presenter in particular.

Eg 16 (PI#2)

01 [38/20:35] So detailed reading burrows down into patterns of
02 written language within and between sentences (/) short
03 passages are selected from reading texts (-/) and students are
04 guided through them sentence-by-sentence (/) highlighting and
05 discussing uh .. each chunk of meaning as they go (/) this
06 technique enables ALL students to read the passage with full
07 comprehension (\) the teacher then guides the class to rewrite
08 [38/circle 2/20:56] the short passage (/) following exactly the
09 same sentence patterns with stories and arguments (/) or using
10 exactly the same information with factual texts (/) students then
11 practise [38/circle 3/21:05] the same activity individually <$_{\text{So these}}$
12 $_{\text{are POWERFUL techniques to enable students to read fluently (-/) and to borrow written language}}$
13 $_{\text{resources into their own writing (\)}}$>

In Eg 16, lines 01 through 02 correspond to the hyperTheme, followed by the New information in lines 2 through 11. Both stages are characterised by higher volume (the default font style) in comparison to hyperNew, from lines 11 to 13. In this latter phase, the presenter consolidates the New information in that MC and signals its closure by lowering the volume (as indicated by subscript font) and by increasing the speed (fragment between angle brackets).

Moreover, in this investigation a preference for rising tones (especially tone 2 (/) and tone 5 (\ /)) was observed in the presentation of the Theme and a concentration of stressed words (in capital letters) in the presentation of the New information, as illustrates Eg 17.

Eg 17 (RS#3)

01 A:nd .. [27/10:18b] the next one is Matavai Tower (/), it's in
02 Redfern (/), in waterloo (/), it's owned by Housing New South
03 Wales (\ /) and it houses some of Sydney's poorest (\ /).. that
04 was a good comparison to see (-/) uh whether one functions
05 better than the other (-/) … so I DESIGNED a system network (-
06 /) that was based on how people ACTUALIZE .. PROMENADES
07 (-/) while they are USING the foyers(\)

In Eg 20, the presenter contextualizes the displayed discourse (the image of a building's foyer) by providing a set of background details (the premises' identification, location, ownership, status). This corresponds to the Theme of the MC (lines 1-5) and is characterized by a pattern of rising intonation. From line 5 on, as the presenter clarifies what is the New information (what is to be considered relevant in the foyer), certain lexical items are particularly stressed and the phase ends with a falling tone.

In MCs, choices of rising tones may construe incompleteness, signalling that the discourse phase has not reached its peak. As Halliday and Greaves (2008) explain, 'a final rise does call for completion, whether it is a question awaiting an answer, as with tone 2, or, with tone 4, a dependency awaiting a termination' (p. 181).

The tone 2 variant found in the data is known as high rising terminal (HRT)[101]. In conversations, it features as encouragement for the addressee's participation or search for his/her assurance (Guy et al., 1986). In the case of PPRPs, turn taking is temporarily suspended and the speaking rights lie with the presenter[102]. Hence, in the genre, HRT is better accounted for as a resource to "build up narrative monologue" (Halliday and Greaves, p. 176) before the critical information is presented.

As can be observed in Eg 21 (lines 1-3), both rising tones (tone 2 and tone 4) occurred predominantly during the presentation of the Theme. In this particular location within the multimodal complex (fragment in a lighter shade of gray in Eg 21), rising tones seem to push discourse forward by leading the attention towards the focal information (New) (fragment in a darker shade of grey in Eg 18), which, in turn, is made salient by the stress on specific words (see capitalised words in the transcription).

[101] The HRT is a rising intonation pattern in the final syllable of the information unit, often associated with the Australian English, particularly in the region of Sydney (Guy et al, 1986; Halliday & Greaves, 2008).

[102] Except for the Questions and Discussion section.

Eg 18 (Pl#2)

[16/06:27] From another perspective (-/) Reading to Learn could be considered a third generation of scaffolding reading PEDAGOGIES (/) [16/effect 1/06:28] the Reading Recovery program was one generation (/), designed for children in the early years of school, using levelled reading books in intensive one-on-one support (/) [16/effect 2/06:36] the scaffolded reading program at the Schools and Community Centre (/) was a second generation (/), designed for children in upper primary (/) using quality children's fiction (/) again in one-on-one support (/) and the Accelerated Literacy or AL program EXTENDS these strategies to whole class teaching and is also focused on reading stories in the primary (\) we are always extending BEYOND THAT (\) [16/effect 3/06:57] Reading to Learn extends the pedagogy to reading and writing ACROSS the curriculum at ALL education levels using the knowledge about language from the genre based research of the Sydney School (\)

In the previous examples (Eg 17 and Eg 18), there is not a significant lowering of the pitch or increase in the speed of delivery as we reach the closure of the MC. Such prosodic features have a greater potential of occurrence when the New information is distilled as a higher level New at the end of a MC. In such case, it is often delivered in a lower pitch (represented by subscript font style) and/or faster rhythm of talk, which occasionally may cause parts of the message to be inaudible, as in Eg 19.

Eg 19 (Pl#6)

[20/17:41] SFL uh … is an acronym for systemic functional linguistics (/) I know a number of people in the room who don't' know about systemic functional linguistics (/) quite a number of people who know quite a bit about systemic functional linguistics (/) [20/17:56] uh ... as you might expect systemic functional linguistics is a linguistic theory (/) or a theory of linguistics (/) or language (/), so it's a theory of language, it's not a theory of linguistics (\), although I can see some of you who [?] that ⋯

In MCs that involve more complex layers of information, with hyperThemes split into lower-level Themes, the intonation patterns tend to reflect onto each of the minor waves of information within a single MC, as can be observed in Eg 20.

Eg 20 (PI#2)

01 [31/text/15:54] A:nd ... joint CONSTRUCTION then goes beyond
02 modelling text STAGES (/) <instead the class follows the pattern
03 of phases used by the author exactly (-/) providing a lot more support to write
04 effectively (\) this example follows the phases Roald Dahl used with Mr FOX (-/) but with Peter Rabbit
05 as the character and Mr Macgregor instead of the farmers> ... [31/part of the text is
06 highlighted by a framing device 1/16:13] So tension is built
07 through the same foreshadowing TECHNIQUE (/) a problem
08 intensified by character´s reaction and then release to the
09 solution (/) and the complication [31/another part of the text is
10 highlighted by a framing device 2/16:24] involves a similar series of worsening
11 problems and reactions (\)

MC 31 involves two layers. The general information (*joint CONSTRUCTION then goes beyond modelling text STAGES*) and its exemplification in a text (the building of tension and move into solution in a narrative). Each of the layers is accompanied by variations in prosody: high pitch, normal speed and rising intonation (lines 1-2) are followed by a period of faster talk, low pitch and falling intonation (lines 2-5) and again a similar pattern into prominence (lines 5-8) and receding force (lines 8-9).

Therefore, as audience members, we may count on patterns of prominence/retraction as indicators of discourse flow across MCs (Figure 34). But we have to be aware that similar patterns may realize minor waves of information within a single MC. However, if combined with slide flow, prosodic patterns are still a relatively reliable cue into MCs. In Eg 20, for instance, the minor layers of information within the MC 31 are also cued by the occurrence of slide animations, as indicated by the highlighted annotations in the Eg 20.

If we set aside the minor layers contained in a MC, typically a MC realizes one wave of information that can be identified by particular features in specific stages of its development. Figure 34

is an attempt to summarize the discussion presented in this subsection.

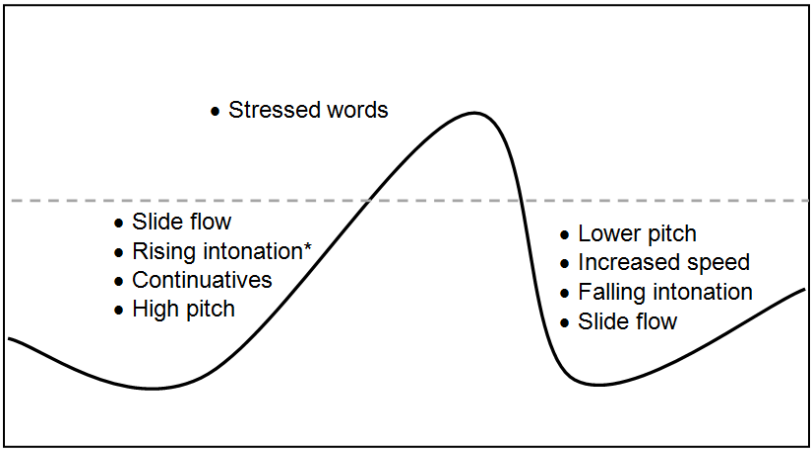


Figure 34 Features of the typical wave of information in a MC
(*Continuatives tend to be articulated in falling tones at the initiation of a MC)

As suggested in the figure, MCs typically realize a wave of information in PPRPs. The initiation of a MC is not only triggered by the transition into a new slide, but it may also be initiated by continuatives such as *so, ok, now, and, again, alright*, used alone or in combination and often articulated in falling intonation, elongated vowel and preceded or followed by pauses. The phase that corresponds to delivery of the Theme is characterized by high pitch and rising intonation at the termination of clauses, as if pushing discourse upward to the informational peak. If the New – either hyperNew, when projecting backwards to the MC, or macroNew, when projecting backwards to a group of MCs – gets consolidated in a final fragment, speech will often be marked by a change in pitch and speed and a final falling intonation. The flow to a subsequent slide then confirms the closure of a MC.

Admittedly, some discursive markers at the initiation of MCs have to be interpreted with respect to the stylistic domain of

a given presenter. For instance, the presenter of CP#3 scaffolds layers of information predominantly (11 out of 21 multimodal complexes) with the continuative *now*, either alone or in combination with *hum*, *so*, *again* or *and*. While this observation points out to consistency along a presenter's enactment, it also contributes to an understanding of generic conventions since particular markers such as this occur at quite specific moments in PPRPs and contribute to scaffolding discourse flow. As audience members, we need to develop generic literacy and at the same time flexibility to grasp a presenter's preference for a discursive strategy.

4.7 Multimodal discourse flow: synthesis

In this Chapter, I set out to investigate multimodal discourse flow in PPRPs with a focus on displayed discourse.

I started by discussing the influence of PowerPoint 2007 technology onto the management of discourse flow in the display mode of research presentations, both as potential, from a brief analysis of selected software features, and as instantiation, from an analysis of the methods of development implemented by Applied Linguist in their slideshows.

From the analysis of the software, I have argued that features such as *Slide Dimensions*, *Slide Design* and *Slide Layout* constrain the packaging of information into series of slides, each slide affording one layer of information in the series. Just as resources of representation and media have logics and facilities (Jewitt and Kress, 2008[2003]), I proposed that PowerPoint slideware has an embedded orientation for meanings to be easily broken down into modules. It was claimed that such modularised logic exerts a powerful pressure onto the way scientific knowledge is produced and distributed in PPRPs. Additionally, by adopting the concept of markedness proposed in Djonov and van Leeuwen (2011), I explained why default options in relevant[103] software functions – e.g. *Title slide* and *Title and Content* are the default options in the function of selecting a *Slide*

[103] Relevant here means influential over the packaging of meanings.

Layout – are less demanding in terms of software literacy and visual literacy since they are unmarked both syntagmatically – easily accessible through the software interface – and paradigmatically – less distinctive than most of the remaining options[104].

In the analysis of collected slideshows, I observed whether and to what extent applied linguists foregrounded the modularised logics of the software or backgrounded it by employing other methods of development. In general. I observed a tendency for slideshows to be organized as layers of information of relatively equal status, which was interpreted as an influence of the modularised logic of the software.

However, in a group of slideshows, resources enabled by the display mode such as *typography, background colour and/or texture, alignment,* and *Slide Layout* (e.g. *Section Header layout*, instead of the typical *Title and Content layout*) were combined with verbiage to assign variable statuses across slides and predict the organization of the presentation into larger phases of information. This method of development was named Design Hierarchy. The choice of the label 'Design' refers doubly to 1) the nature of the mode and the resources it enables as well as to 2) the strata at which these meanings are added, which is the strata of Design/Production of slideshows.

Both methods of development – modularised logics and Design Hierarchy – were explained as extensions of the system of periodicity (Martin and Rose, 2007[2003]), which accounts for how information flow is managed in verbal texts. Therefore, slideshows which foreground the modularised logic of PowerPoint were associated to serial expansion, in which discourse unfolds serially as we move from one slide to the next. On the other hand, slideshows organized in Design Hierarchies were associated to hierarchical texts, that is, in which discourse flow involves many layers of prediction of higher and lower scales. While Design Hierarchies construe an audience in need of explicit scaffolding to discourse flow across the display mode, serial expansion construes a reasonably literate audience stance in terms of genre and discipline, to cope with a more cost-effective strategy,

[104] Except for the *Blank Layout*, which is the least paradigmatically marked option in the function *select a Slide Layout*

particularly if we consider that building Design Hierarchies involves marked choices in the display mode – e.g. to add backgrounds selectively across slides – and thus entail a high level of software literacy and visual literacy by the presenter.

In terms of the distribution of semiotic labour across resources, we can highlight two findings from this chapter.

First, Design Hierarchies co-instantiated verbal and visual meanings. However, whereas verbiage foregrounded layers of discourse that were sensitive to field – sections of the presentation according to the field of experience – and to genre – sections of the presentation according to generic stages, visual resources of the display mode (typography, layout , background, relative position in the sequence) foregrounded textual meanings, by suggesting variations in the informational value across slides, and building relations of containment (e.g. the blank background of a group of slides preceded by a shaded-background slide indicated that the former was subordinated to the latter). Moreover, a multimodal discourse analysis of PPRPs reveals how choices from different semiotic resources and metafunctions can combine in a single semiotic space, a process referred to by Martin (2010; 2010) as coupling. The result of this process is an increase of semantic weight in a given point in the text (Hood, 2008; Martin, 2010; 2011).

Second, slides displaying exclusively photographic images were used at the construal of the research problem. Owing the negative/positive attitudes (Martin and White, 2005) invoked by such images at early stages of the slideshow, I argue that they function as higher level interpersonal Themes (following Martin, 2001), providing an evaluative orientation to knowledge claims negotiated in the remaining of the PPRP.

In research genres, photographic images are more than just direct representations of nature (Arsenault et al., 2006), but may be employed as powerful resources for encoding evaluative meanings. According to Archer (2006), expressions of affect, for instance, tend to be more suppressed and implicit in verbal language than in visual resources. However, the use of images may involve other aspects which go beyond their intrinsic meaning potential. Presentation genres are less regulated than predominantly written ones, such as abstracts, research articles,

and theses. Consequently, the scope for both images and for expressions of appraisal in images is not equally distributed across research genres. From these observations, critical questions in terms of multimodal academic literacies may be raised. For example: for a given genre, are there options of semiotic resources to construe a particular meaning? To what extent are these options constrained by generic conventions, modes and technological facilities? And which available options are preferred at a given instance of the genre, considering the object of study and generic stages?

In sections 4.4 and 4.5, I mapped the analysis of periodicity from the display mode onto the performative mode of PPRPs, in particular to the speech data. My objective was to discuss the significance of PowerPoint technology in subsequent strata within the process of semiotic production of PPRPs.

A series of arguments were presented in support to the assumption that PowerPoint's normativity (Djonov and van Leeuwen, 2011) continues to regulate PPRPs at the strata of Production/Distribution of the presentation (section 4.1 focused on the strata of Design/Production of the slideshow). Based on reports from previous studies (e. g. Rowley-Jolivet and Carter-Thomas, 2005; Webber, 2005; Rojo and Schneuwly, 2006, Rendle-Short, 2006) and analysis of the corpus (whether presenters had activated the Notes pane in their slideshows and on the contrastive analysis of a presenter's manuscript and his speech), I proposed to analyse PPRPs as series of multimodal complexes (MCs), iterative nexuses of displayed discourse (slide) and performative discourse (chunks of performance). Since MC were oriented by how information had been distributed across slides, the boundaries between MCs is marked and triggered by slide transitions during presentation.

Subsequently, I set out to analyse MCs as expressing layers of information of different scales - macroThemes and hyperThemes in the PPRPs of the corpus. As the analysis indicated, the methods of development underlying the displayed discourse were generally extended to the performance accompanying it in each MC.

As expected, hierarchies of lower and higher level Themes in the displayed discourse were expanded as hierarchies of MCs

during the delivery of the PPRPs. Similarly, chains of Themes undistinguished in regards to their status were expanded serially across MCs.

An interesting observation can be made regarding the semiotic contribution of speech in comparison to the resources of the display mode. Resources of the display mode were often employed for prospection, scaffolding Themes either locally, that is, within the current MC, or at larger scales, for instance, by predicting the general organization of the presentation or orienting towards the Theme in a group of ensuing MCs. Although applied linguists were in general more predictive than retrospective in their presentations, the fewer occasions of retrospective discourse observed were realized in speech. Retrospective speech occurred in two situations. First, at the initiation of MCs to connect the Theme of the current MC to information in the preceding MC (e.g., in PI#6: *so(\) when we do this kind of ANALYSIS (/)*; and in CP#2: *so (-/) with that in mind (\ /)..* , where *this* and *that,* respectively, refer to information in previous MCs). Second, retrospective speech was observed at the closure of MCs. At this point, presenters consolidated the new information at phase-level (hyperNew) or, occasionally, in regard to a set of preceding MCs (macroNew).

To conclude, I explored the boundaries across MCs by identifying a set of discourse markers in speech, particularly in the lexicon and in the phonological qualities of speech. Owing to their intrinsic potential and to their specific location in MCs, such markers reinforce the periodic structure of discourse and can be used as additional cues into the management of audience's attention PPRPs.

Up to this point, the analysis has focused on text-forming resources across MCs. In the next chapter, I set out to analyse interdependency relations between slides and performance within MCs.

Chapter 5: Interdependency relations in slide/performance complexes

5.1 Introduction

In the final sections of Chapter 4, I explored the potential of investigating PPRPs in terms of series of slide/performance complexes. The construct draws on the SF notion of complexing to explain how elements at a given dimension may work together to form a single unit. However, it is important to clarify that the clause, to which the notion of complex conventionally applies, is a unit in the structure of language as a semiotic system. Here, the potential of parts to form nexus is adopted to investigate the multimodal constituency of a genre, not a semiotic system. PPRPs are always split in two modes – the display mode and the performative mode. So there is no potential for simplex. That is to say, the display of a slide will always be accompanied by the enactment of a stretch of performance and vice-versa. Here I set out to describe the interdependency between them in each MC.

5.2 Synchronicity: a key feature in PPRPs

The interdependency between slides and performance is ultimately articulated in the real time processing of the genre, corresponding to the strata of Production/Distribution of the PPRPs. It is my suggestion that displayed discourse and performed discourse form multimodal complexes regulated by synchronicity, a principle that indicates both temporal and semantic ties, as I will attempt to explain. However, before describing the system per se, I would like to clarify how the label was devised since it is used in at least two other fields of study.

Outside linguistics, synchronicity is a theoretical tool developed to explain relations across diverse phenomena, which may help throw light into the cohesive relationship between slide and performance in MCs.

In Media Studies, synchronicity theory describes the extent to which media capabilities match the goals of communication processes (Dennis et al., 1998; Dennis et a., 2008). For example, low synchronicity media (e. g. voicemail or written mail) is considered more effective when the goal is to convey information – conveyance –, whereas high synchronicity media (e. g. face-to-face or telephone) is preferred if one wishes to achieve shared understanding – convergence – (DeLuca and Valacich, 2005; Muhren et al., 2009). From Media Studies I derive the relatively acknowledged notion of simultaneity to account for the double source of information in PPRPs - the display mode (PowerPoint slide) and the performative mode (the embodied text) - and their simultaneity.

In Psychology, the concept is attributed to Carl Jung (Kalsched, 2000; Furlotti, 2010), who conceived it as an alternative to linear causality. For psychologists, synchronicity explains the experience of two or more separate events with no obvious (causal) connection or unlikely to occur together. Synchronistic occurrences are not necessarily simultaneous (Robertson, 2002), though they may be, but must be recognized as interconnected by the person experiencing them (Johnson, 2008; Furlotti, 2010). Here we obtain the insight for developing synchronicity as a semantic system of interdependency that goes beyond the material aspects of space and time and implies, not an individual's psychological perspective, but social conventions related to the genre and the discipline. This can help explain, for example, why a slide and co-occurring performance are interpreted in an integrated fashion in academic contexts even when not explicitly indicated.

By incorporating insights from both fields, the system of synchronicity devised here aims to move beyond prescriptive (e. g. Costa, 2001; Cyphert, 2004; DuFrene and Lehman, 2004; Grant, 2010) as well as technically-focused (e.g. Downing and Garmon, 2002; Jones, 2003) descriptions of PowerPoint presentations. Additionally, by borrowing the label, we can build on a previous observation in the field of multimodal analysis. In her study of conference presentations, Rowley-Jolivet (2002) argues that:

> In the time dimension, the dominant relationship between the verbal and the visual channel is therefore one of synchronicity: the information is presented in successive units or packets, each of which includes a visual and a verbal component. The co-existence of the two channels creates a single textual space in which all references to the visual should be considered as endophoric (Young, 1990:91), and which has to be processed as an integrated whole by the audience" (Idem, p. 21).

While introduced as a dominant feature of conference presentations[105], the relationship is not further pursued in Rowley-Jolivet's research project, since she focused either on the displayed discourse (e.g. 2002; 2004) or on the speech (Rowley-Jolivet and Carter-Thomas, 2005). Considering the potential of Rowley-Jolivet's (2002) remark, I set out to develop synchronicity as a tool for the analysis of the internal cohesion in PPRPs from an SF-MDA perspective.

Synchronicity can be modelled as a systematic cohesive principle internal to slide/performance complexes in PPRPs, according to which a slide is displayed and sustained for as long as associated performance is enacted, until that slide is replaced by a new one and a subsequent multimodal complex initiates. Regarding the management of audiences' attention, the removal of a slide strongly signals that the presenter "will soon have nothing more to say on that particular topic" (Rendle-Short, 2006, p. 85).

From a broad perspective, synchronicity functions as a cooperative principle (Grice, 1994[1975]) in response to the "communicative demands" (Martin, 2009a, p. 12) of the genre, in particular its bi-modal layering. Presenters and audiences in PPRPs adhere to a tacit agreement that each module of a

[105] Rowley-Jolivet's data comes from conference presentations using 35mm slides carrousel slide projectors and A4 transparencies collected in 1993 and 1994, before PowerPoint popularized as part of the Windows 97 package.

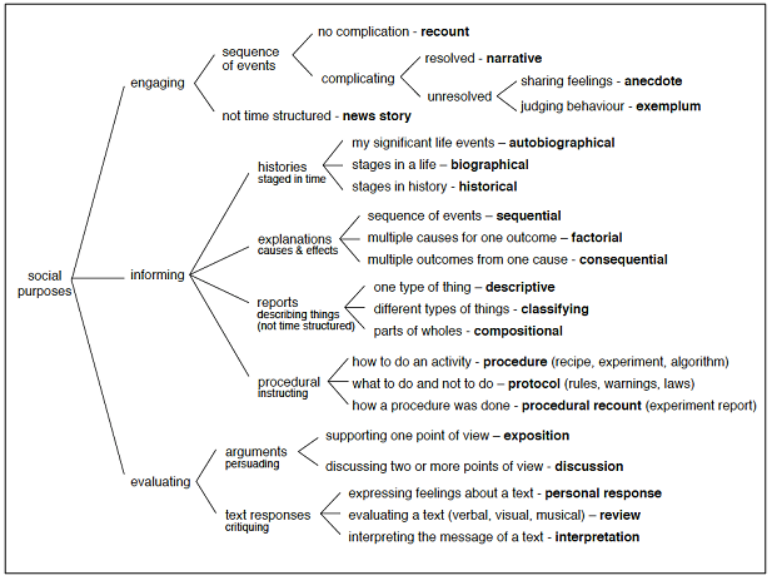
presentation involves the projection of a slide and correlated embodied discourse. Any performance delivered during the projection of slide Y will be interpreted as relative to the content of slide Y. If presenters express anything they wish their audiences to relate to content introduced in another (previous, subsequent or hypothetical) slide, they are expected to signal it properly. Similarly to Grice's principle, this is valid once presenters wish to be cooperative participants in the genre and avoid misleading their audiences.

The more familiar with generic and disciplinary conventions an audience is, the more prepared they will be to track cohesion between discourse split in the two modes, even when this relation is not grammatically[106] manifest, as can be observed in the Figure 35.

Figure 35 illustrates synchronicity in operation between a slide and a chunk of performance (MC 27 in Pl#2). For approximately thirty seconds, the slide is displayed while performance is delivered according to the transcription. The collocation of both modes suggests a relationship. However, the interdependency between them is not made explicit by the use of what I shall name 'channelling devices', that is, elements that overtly guide the audience's attention towards the displayed discourse. These may be realised by the presenter's body orientation and/or gaze towards the projection, or by verbal deixis, pointing gestures and technologically-produced resources such as animations.

In Figure 35, the one occurrence of presenter's gaze towards the projection (as indicated by ←, line 22) was not considered significant as a channelling device for it was brief and isolated. In this thesis, for presenter's gaze to serve as orientation towards the displayed discourse, it must have met at least one of the following criteria: 1) to be prolonged; 2) recurring; and/or 3) co-opted with a verbal and/or gestural device. Hence, situations in which presenters only glance at the projection are considered of little consequence for interdependency in a MC. On these occasions, presenters seem to be merely checking the technological support (Hood and Forey, 2005).

[106] Grammar here is used in a broad sense to account for connecting devices such as conjunctions in language or pointing gestures in performance.



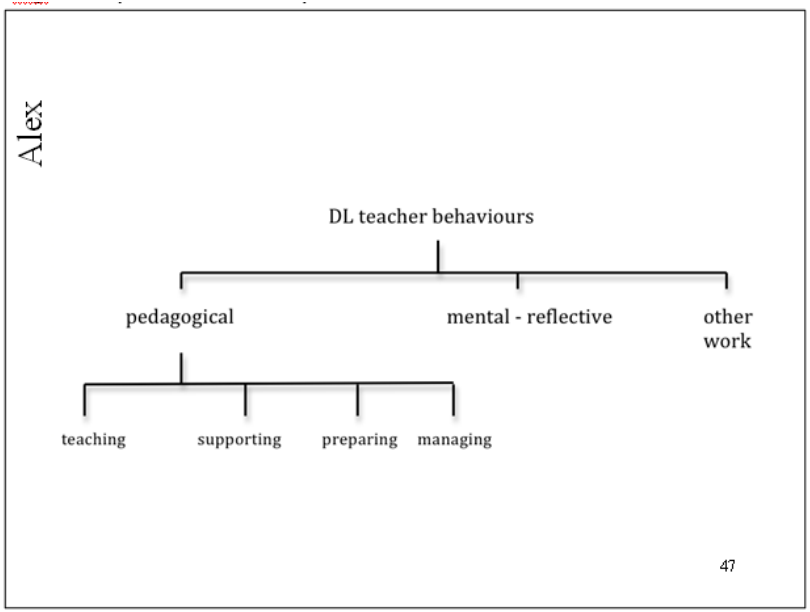
[27/12:10] TEACHERS are shown what looks like an IMPOSSIBLY complex map of the genres that students are expected to read and write in school (/) but as we TALK through each genre in terms of its social PURPOSE (/) it becomes apparent that everyone is familiar with ALL these genres (-/), and regularly use them in the classroom (\) what we have DONE here is to bring this tacit UNSPOKEN knowledge to consciousness and given it names (\) this is the fi:rst step towards explicit language teaching (\) the principle of bringing [12:35-12:35:04 ←] INTUITIVE knowledge about language to CONSCIOUSNESS is used throughout the professional learning PROGRAM (-/) and the classroom strategies (\) [12:43]

Figure 35 One example of synchronicity between displayed and performed discourses in PPRPs (MC 27 in PI#2)

The motivating criteria for synchronicity in a MC are 1) temporal overlap of displayed and performed discourse, and 2) lack of evidence of a relationship with the content of another remotely located slide, such as a previous or subsequent slide in the slideshow.

In Figure 36, the two preceding criteria are met. Notwithstanding, in this MC the semantic relation between slide and performance is presented by the inclusion of a channelling device that draws the audience's attention explicitly towards the displayed discourse. The channelling device is realized by a deictic statement ('*And that's Alex's taxonomy or my taxonomy of Alex's discourse*'), which relates a visually encoded participant (the image of the diagram) to its lexical identification (*my taxonomy of Alex's discourse*).

Based on the differences pointed out, in the next section I design a system of synchronicity for PPRPs.



[47/08:04] And (-/).. that's Alex's taxonomy (/) or.. my .. taxonomy of Alex's discourse (/)

Figure 36 Another example of synchronicity between displayed and performed discourses in PPRPs (MC 27 in PL#6)

5.2.1 Designing the system network of synchronicity: first level of delicacy

As already suggested, synchronicity is a cohesive system at the strata of Production/Distribution of PPRPs. It is only activated as the presentation unfolds in nexuses formed between slide and performance. A slide is displayed and there is no reference to discourse other than the one on display.

Obviously, part of the relationship between discourses in a MC depends on contextual inferences regarding the genre and the disciplinary tradition involved. Such inferences are (re)negotiated as the method of development encoded in the slideshow becomes visible [107] and cumulates along the presentation (see Chapter 4). To illustrate, my own expectations as a member of the audience in the collected PPRPs had to be adjusted. While my previous academic experience told me to expect a methods section in the presentations, such aspects were usually not encoded in the PPRPs. Other meanings, however, were recurrent and involve less renegotiation (e.g. the set up stage; the construal of the research problem, the statement of results) both in terms of occurrence and position in the presentation.

Despite the acknowledged relevance of contextual inferences, they will not be pursued further in the general model of synchronicity. First the model focuses on a relationship at the level of MC. Second, to maintain its applicability across a large corpus of MCs, it has to be selective. Potential inferences made by presenters' are raised in the analysis of examples, though.

Therefore, assuming a threshold of shared generic/disciplinary conventions, a presenter 1) collocates a slide and a stretch of performance, 2) abstains from referring to a slide other than the one on display, and 3) provides a general orientation regarding the Theme of that MC by the encoded method of development (displayed in that slide in relation to the

[107] I refer to the method of development in the slideshows only based on the evidence from sections 4.1 and 4.2 that: 1) presentations tend to be organized around slideshows and 2) presenters tend predominantly show the slide prior to initiating the speech. Therefore, slideshows are considered the primary orientation for the method of development in the data.

previous MCs). Under these conditions, presenters have two choices. Either they presume the relationship between what is on display and what will be presented in speech (Figure 35) or they present the relationship by incorporating the displayed message – and/or part of it – into the performance (Figure 36), thus projecting a path for their audience's gaze towards the slide.

By selecting the first choice, presenters construe a low level of interdependency across modes. As shown in Figure 37, this feature is labelled low synchronicity in the system.

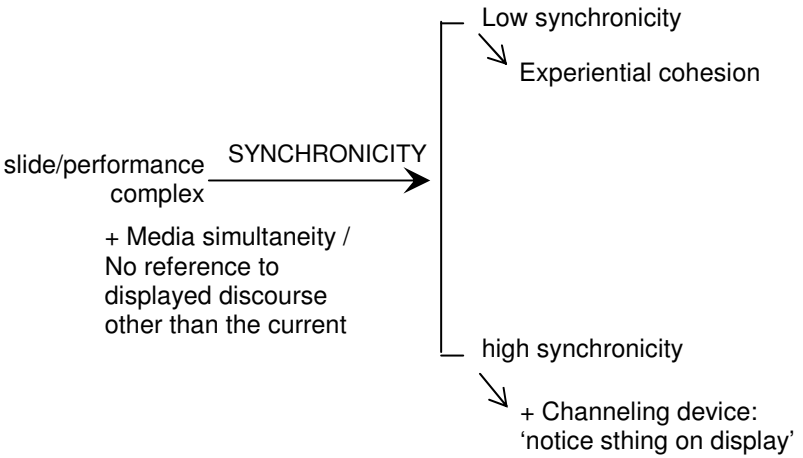


Figure 37 The proposed system network for synchronicity in PPRPs: first level of delicacy

On the other hand, the choice for incorporating the displayed discourse onto the presentation establishes a high level of interdependency between the two modes. Such feature is labelled high synchronicity in the system (Figure 37).

As explained by Halliday (2009c, p. 67) "constructing a system network means identifying a systemic potential at some location in the language". In this thesis, a systemic potential is identified for the internal relationship in a multimodal genre. In PPRPs, such potential originates at the nexus formed by a multimodal complex of slide/performance, which is the entry condition to the system. Put differently, every slide/performance complex in a PPRP enters into a synchronistic relationship, either low or high, where low and high comprise the set of systemic features. Technically, the system is labelled synchronicity owing to its power to suggest both structural (temporal) and semantic connection between the two discursive modes from the point of view of genre participants, as explained previously.

Synchronicity models two degrees of interdependency between the displayed and performed discourses in PPRPs. To illustrate them, we may contrast Figure 35 (previous sub-section) with Figure 36, from the same presentation.

Figure 35 is an example of low synchronicity. In it, apart from the slide transition at the initiation of the MC, no channelling device is employed that incorporates the message on display as obligatory into the performed argument.

The interdependency has to be inferred from the experiential meaning in the slide and in the performance. That is to say, the message on display and the performed message align or complement each other in terms of field of experience. In Figure 35, this is perhaps epitomized in the connection between the visual taxonomy on the slide and its verbal identification in the speech as '*an impossibly complex map of the genres*' (lines 2-3); and between the head of the visual taxonomy, which reads '*social purposes*' and the fragment '*each genre in terms of its social PURPOSE*' (lines 6-7) in speech. Because cohesion in such cases results from the experiential meanings of the parts involved, it will be labelled experiential cohesion in the system (see Figure 37) (more details below).

Saying that low synchronicity is realized by experiential cohesion only, entails that high synchronicity is also realized by experiential cohesion but has an additional feature. What makes the two functions mutually exclusive is that high synchronicity has channelling devices (e.g. presenter's body orientation, gaze, deictic gestures) that orient the audience's gaze towards the projection) and low synchronicity does not (as indicated by the + in Figure 37).

Figure 38 brings an example of high synchronicity.

In this MC, interdependency goes beyond experiential cohesion. This is realized by a deictic phrase (*here is ...*), which introduces the displayed message as a whole and clarifies its rhetorical function (... *an example of a teacher's assessment of one student's narrative*) in the presentation. Additionally, the audience is oriented towards the presence of a particular item in the display mode. First, the presenter's body orientation (BO) and gaze towards the projection (←) (at 18:52 and 18:58) (see also Figure 39) cue his audience's attention to the display mode. Additionally, the coloured marks (circles and underlines) over the displayed image have their meanings clarified in speech (*stages and phases labelled, conjunctions and reference words are circled and lexis and appraisals are underlined*).

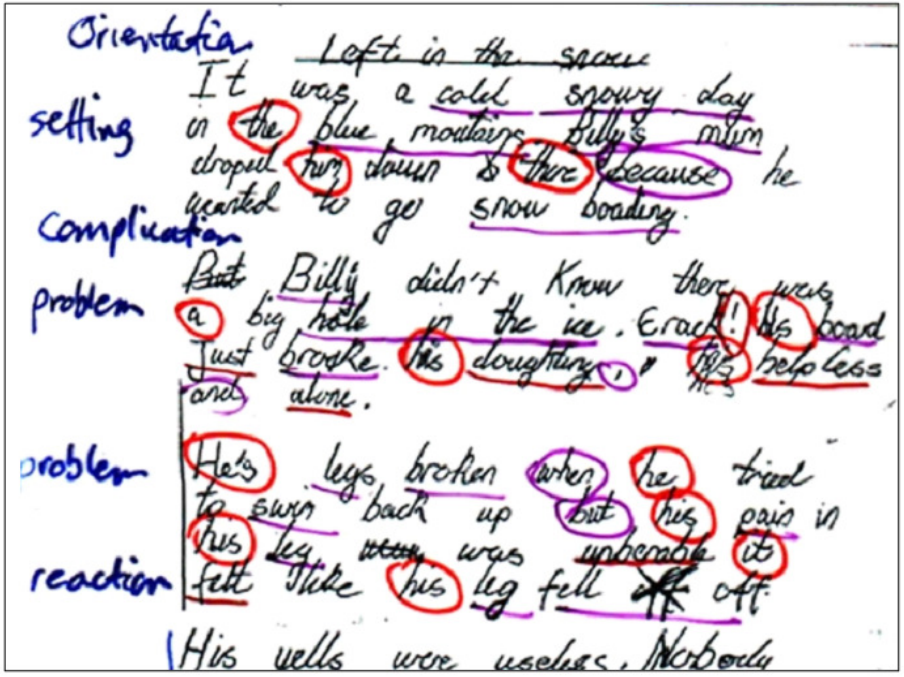


Figure 38 High synchronicity in a MC (MC 35 in PI#2)

[35/18:48] And (-/).. here is an example of a teacher's assessment of one student's NARRATIVE (\ /), [18:52 BO ←] with the stages and phases LABELLED (/) ... [↓] conjunctions and reference words are [18:58 BO ←] circled (/) ... and lexis and appraisals are underlined (\) so it's not just a way of ... uhm uhm ... the teachers TRACKING students and being able to SE:E precisely the LANGUAGE resources they bring to the writing task (-/) it's also a way of apprenticing TEACHERS into knowledge about language through the analysis of their own student's work, which is a tremendously motivating tool.

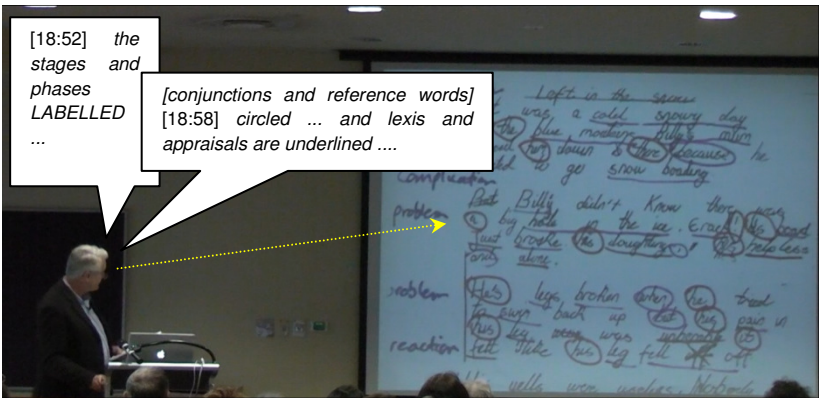


Figure 39 Direction of presenter's gaze co-opted with lexical identification (speech) of specific message parts from the slide (PL#2)

In this MC, the two instances of presenter's body orientation and gaze towards the projection are significant for synchronicity particularly as they co-instantiate with verbal elaboration of the graphic marks on display (coloured circles and underlines). Thus, in contrast with Figure 35, where slide and performance are experientially cohesive but not directly tied, in Figure 38, high synchronicity is realized by the co-deployment of channelling devices that incorporate the displayed message into the presentation.

Considering the research impetus for this thesis, the advantage of synchronicity is that it accounts both for those points in the data during which the audience's attention is explicitly driven towards the slide and for those phases during which the cohesion between the modes is left for the audience to infer. Both Figures 36 and Figure 38 (previously) illustrate how research presenters can construe high synchronicity between the display and the performative modes of PPRPs. Both stand in contrast with Figure 37, where the presenter has most likely assumed an audience familiar with the schematic figure and with the categories it maps.

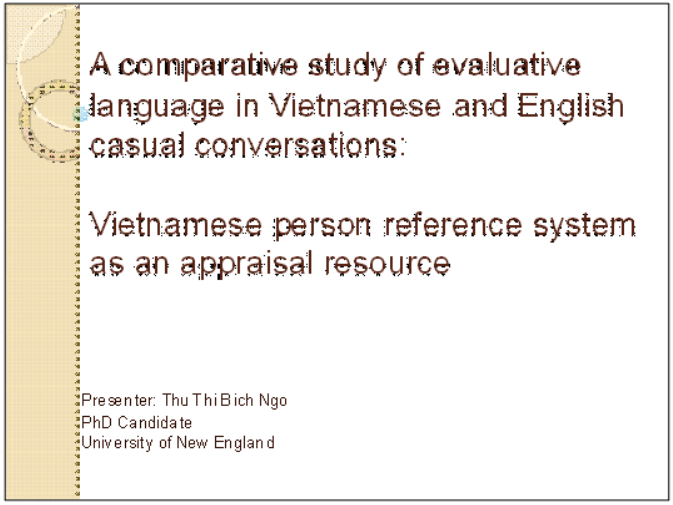
As explained previously, an immediately observable feature in low synchronicity is the absence of channelling devices (e. g., presenter's body orientation, gaze, pointing gestures, verbal deixis, technologically produced 'deixis') that project the audience's attention towards the displayed discourse. Interdependency in this case is triggered by temporal collocation and realized by experiential cohesion. In other words, resources from both modes are employed to complementary construe the field of experience in that particular MC.

To illustrate it further, we can observe Figure 40. It reproduces the first MC in a conference presentation, comprising the generic stage of set-up (Hood and Forey, 2005) or the presentation's highest level Theme.

In this MC, the researcher greets the audience, introduces herself as presenter, introduces supervisors, contextualises the presentation, identifies the topic (as reported in Hood and Forey, 2005), and outlines research implications.

At this point, I would like to focus on the fragment corresponding to lines 1-21, where slide and performance are only experientially tied. [108] In the selected fragment, some meanings are realized exclusively in speech: greeting the audience (line 1), introducing supervisors (lines 3-6), contextualising the presentation (6-14), and outlining research implications (lines 24-25). Others involve semantic relations between message parts across modes. For example, the presenter's introduction and the topic identification are realized both on the slide and on the performance. The presenter's name, academic degree and institutional affiliation are encoded in the displayed verbiage (bottom right of slide) as well as on the performance (speech, lines 2-4, and her physical presence). Similarly, the title of the presentation is encoded in the verbiage on display (top of side) as well as in speech (lines 15-21). In this case, we may say cohesion is realized by the re-encoding of meanings – which are re-instantiated in a different semiotic resource – and then by expansion.

[108] What happens in the remaining of the transcription (lines 23-27) will be discussed later in this section.



All right evervone.. uh.. helllo everyone uh. my name is Thu Ngo .. I'm a p-h-d student (-/) from the university of New England (/) under the supervision of uh professor [supervisor's name] (/), Dr [co-supervisor] (/) and Dr [co-supervisor] (-/) who is sitting in the audience today.. uhm..and before I came to Australia (-/) to do my p-h-d in Linguistic Education (/) I .. I worked as an English language instructor in another university in Vietnam (/) and then at the moment (/) as a part time job (/) I'm working as an English language instructor as well (-/) at uh the English language centre (\ /)at the university of new England (\) so today I'm going to share with you some of my PRIMARY uh FINDINGS of uh a PILOT study (/) on the research title of a comparative study of evaluative language in Vietnamese and English casual conversations (-/) so what I'm going to do uh in my research is I'm going to see how Vietnamese students use the evaluative language (/) in their Vietnamese conversation (/) as well as the SAME participants using evaluative LANGUAGE (/) in ENGLISH (-/) uh by doing that I want o see what is the gap.. in language repertoire (\) so I can support them (-/) or provide them with the language they need (-/) in order to communicate effectively in a western academic culture (\).. uh and [1:29 points to computer screen] here.. as you can see this [1/1:31 BO ← « circular moves around the projected subtitle] subtitle (\ /).. "Vietnamese person reference system as an appraisal resource" (\) so th:is comes from the result of a pilot study where I found out that (-/).. APART from the appraisal resources mentioned by Martin and White (/) VIETNAMESE language has OTHER uh evaluative resources.. uh the person reference system is one (-/) which is the focus of my talk today (\)

Figure 40 Illustrating experiential cohesion in a MC (MC1 in CP#1)

Such choices arguably affect the construal of research authorship in this multimodal complex. The presenter's condition of apprenticeship (her position as a PhD candidate) is reiterated across modes. Additionally, in speech, authorship is extended to the research supervisors, either as a strategy to qualify her persona or to concede intellectual mentorship by others, thus having a dialogical expansive effect (Martin and White, 2005). From a genre standpoint, such strategy indicates the presenter's interpretation of conference presentations as involving a less predictable audience, possibly unfamiliar with her academic qualifications and perhaps less amenable towards her research claims[109]. What is more, this presenter's use of a certain degree of redundancy is compatible with time constraints in the genre – conference presentations in the corpus averaged 38 minutes, while research seminars averaged 58 minutes.

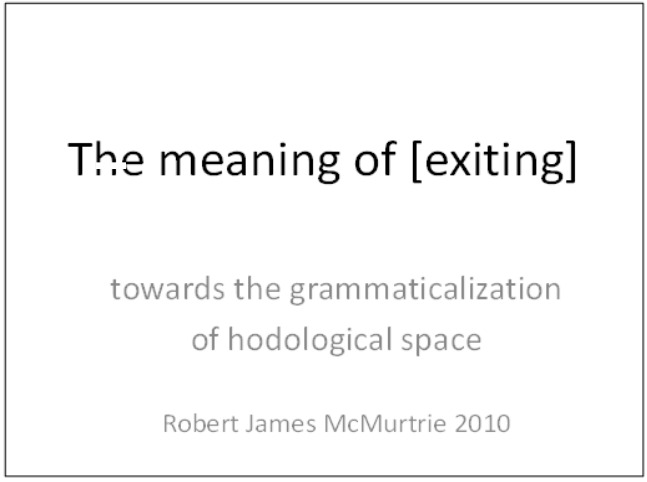
By way of comparison, Figure 41 reproduces an equivalent stage, this time from a research seminar.

Similarly to what occurs in Figure 40, in Figure 41 some meanings are realized solely in one mode while others are co-construed across modes. For example, the function of thanking the convenor (lines 1-2) is realized solely in speech, while contextualising the presentation and introducing self as presenter are jointly construed.

Unlike Figure 40, however, there is no re-encoding of meaning from slide into the speech prior to expansion.

First, to introduce himself as presenter, this author displays his name on the slide and mentions his academic degree in speech. Since title/degree conventionally accompanies the name in academic introductions, the relation between these items can be inferred. So, regarding this sub-stage, meanings are complemented across modes.

[109] As Dr. Viviane Heberle reminded me, cultural (geographic and ethnical) reasons may also have influenced this presenter's relatively submissive stance.



[00:00] OK I´d like to thank X for giving me this opportunity to talk about my thoughts (-/) that I'm thinking about for my p-h-d (-/) because you know it's part of the.. writing PROCESS (\ /). So (\) I've got 2 more years to go for my p-h-d (/) and [ct] .. so, what I'm discussing tod:ay i:s very much EXPLORATORY (/) so I hope that you have a lot of feedback to give me (\) In my p-h-d I'm attempting to develop descriptions of uh.. grammar of ARCHITECTURE (\ /) and I'm using a museum of contemporary art as a case study (-/) .. so I'm exploring the ways in which people move through the spaces of museum of contemporary art (/) and… [ct] in terms of how their movement and the placement of objects in the art gallery create meaning together through.. the [?] called intersemiosis (\) so two semogenic systems acting together.. creating meaning (\) uhm [ct] so that's.. you know.. how the interaction of visitor.. you know.. uh .. movement interaction with the ARCHITECTONIC text (-/) which is the museum itself (\ /) and the curatorial text (-/) <which is the text that has been created by the curators of the exhibits and how they have been designed (\ /)> and also (-/) the visitor text itself (\ /) and the visitor text is the choices that the visitor makes… WHI:LE they are moving through AND interacting uh … in this space (/ \) so I'm OBSERVING these people MOVING and interacting (-/) and then I'm.. actually trying to fo…formalize the potential meaning i:n uh.. system networks (/ \) following Halliday (/ \) so I'm also interested in developing system network writing (-/) that takes into account the dynamic nature of moving through a museum .. and interacting with it (\)

Figure 41 Example of low synchronicity (RS#1)

Next, to identify the topic of presentation, the author expands the subtitle "*towards the grammaticalization of the hodo logical space*" by rephrasing it in speech, as shown in Figure 42.

DISPLAYED MESSAGE		**Towards the grammaticalization of**	**hodological space**
PERFORMED MESSAGE	*EXPANSION 1*	*attempting to develop descriptions of uh.. grammar of* (l. 8-10)	*architecture* (l.10)
	EXPANSION 2	*how [they] create meaning together* (l. 14-16)	*the ways in which people move through the spaces of the museum of contemporary art and […] how their movement and the placement of objects in the art gallery* (l.12-15)
	EXPANSION 3	*formalize the potential meaning i:n uh.. system networks* (l. 23-24)	*the interaction of visitor […] with the ARCHITECTONIC text […] and the curatorial text […] and also […] the choices that the visitor makes… WHI:LE […] moving through AND interacting uh in this space* (l.18-22)

Figure 42 Expansion of the displayed subtitle into the speech: an example of experiential cohesion across modes in PPRPs (RS#1)

The first column in Figure 42 shows how the lexical item "*grammaticalization*" from the subtitle is expanded on three occasions in speech; the second column shows a similar strategy for the noun group "*hodological space*". As we can observe, the expansion of meanings in speech is not accompanied by re-instantiation of the wordings from the slide. Two points can be raised regarding Figure 42. First it provides further evidence of how meanings are experientially related across modes in PPRPs. Second, it illustrates a less redundant strategy of experiential cohesion, in which the items to be expanded are not explicitly identified. We may hypothesize that this presenter assumes a high level of disciplinary literacy from his audience to cope with

such inferences without putting comprehension of his claims at risk. Like the presenter of CP#1 (Figure 40), he seems to be quite sensitive to the contextual configuration of the genre, reiterating the research seminar as a forum for "chosen presenters to bring […] accounts of scholarly work of likely interest for their participants" (Swales, 2004)[110]. Since claims are negotiated with a relatively predictable and perhaps compliant audience, less redundant strategies and the delay of key concepts for subsequent stages[111] of the PPRP can be afforded.

As explained previously, experiential cohesion guarantees a minimum level of interdependency between modes in PPRPs - low synchronicity. Consequently, high synchronicity entails experiential cohesion and requires an additional semantic feature: a channelling device that construes the performed message as presupposing the displayed message – either globally or locally – for the reasoning at a given point in the PPRP.

Taking such distinction into consideration, whereas Figure 41 exemplifies low synchronicity, Figure 40 exemplifies high synchronicity if we observe the final phase of the MC (lines 22-25 in the transcription). At this point, the researcher changes her body position and gaze from the audience towards the projection (Figure 41), thus projecting attention to the displayed message.

As can be observed in Figure 43, in the sequence, the presenter uses computer pointer gestures («) and verbal deixis to assign prominence to a particular item: not the wording of the subtitle per se, but the research's "novelty", that is, her own contribution as adding to a broadly recognized framework in her field. This is revealed in the corresponding speech (*so th:is comes from the result of a pilot study where I found out that (-/).. APART from the appraisal resources mentioned by Martin and White (/) VIETNAMESE language has OTHER uh evaluative resources.. uh* *the person reference system is one (-/) which is the focus of my talk today (/)*).

[110] Swales (2004) refers to "colloquium", not research seminar. However, it seems to be a matter of different labels for the same activity, as the author himself acknowledges.

[111] He unpacks the meanings embedded in the subtitle gradually as the presentation unfolds.

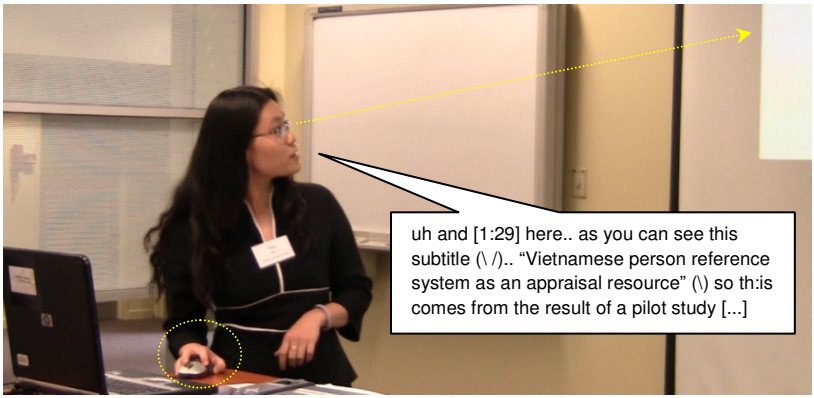
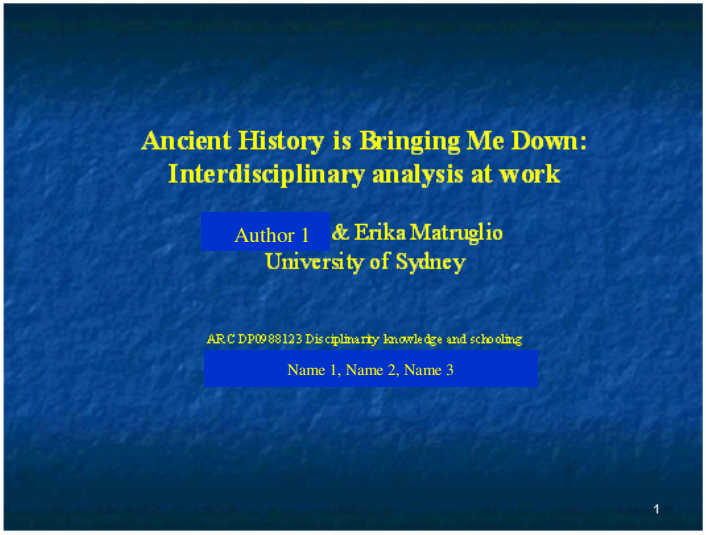


Figure 43 Co-option of presenter’s body orientation, gaze, computer-mediated gestures and verbal deixis to highlight specific message parts on display (CP#1)

From an interpersonal standpoint, I argue that by calibrating the interdependency between two modes, presenters project a pathway for their audience’s attention across slides and performance.

In that respect, synchronicity can be compared to the system of contact in the grammar of visual design (Kress and van Leeuwen, 2006[1996]), according to which images of humanoid participants may create a form of direct visual address, as if demanding the viewer’s gaze, or may be offered for the viewer’s contemplation, by absence of gaze of the represented participant towards the viewer.

Similarly, synchronicity refers to the semiotic construction of the audience’s gaze in a presentation genre. Low synchronicity means low interdependency between modally-split message parts, with the displayed one being simply offered to the audience, not imposed on them. On the other hand, high synchronicity means high interdependency between modes, with the audience’s attention being directly oriented towards the slide and its content, as further illustrated in Figure 44.



[00:09] Hum (/) S:o (\) I'm reporting today on what is JUST a section of uh.. from the memory . uh.. [00:16 BO initiates] results.. I suppose uh.. [00:18 ←;↻ clockwise circular movement over the info at the center of the slide] from THI:S .. uh ..[00:20 ←;↻ three circles around the project details at the center/bottom] A-R-C-D project here (/) [00:21 BO retracts] called disciplinary knowledge and schooling (/) uhm and it's [first author] (/) [second author] (/) and [third author] (/) who are the uh.. chief investigators on the project (/) so we are uh.. incorporating uh.. (t!) conversation analysis (\).. a:nd systemic functional linguistics (/) a:nd legitimation code theory (\) into this project (/ \).. so.. it's uh quite an ambitious uh .. project (/ \) [?] So TODAY I'm just going to be talking (-/)[00:34 manuscript] uhm ...I'm not going to be talking about conversation analysis (/) and that wasn't in the abstract anyway so I hope you are not EXPECTING that ... but we're [00:42 BO ← ↻ clockwise circle over the title of the presentation center/top] talking at the interdisciplinarity that [?] S-F-L and uh.. L-C-T .. now .. one way that they might be able to work together (\)

Figure 44 High synchronicity: incorporating the displayed discourse into the performance (MC1 in CP#4)

As revealed in the transcription of Figure 44, on three occasions, the presenter addresses her audience's attention to message parts on the slide by the co-patterning of channelling devices: the change in her body position and gaze, which globally orient towards the projection, and the laser-pointer gesture (↻) (see Figure 45) plus the deictic phrase (*thi:s .. uh a-r-c-d project here*), which specify points to be attended to in the slide.

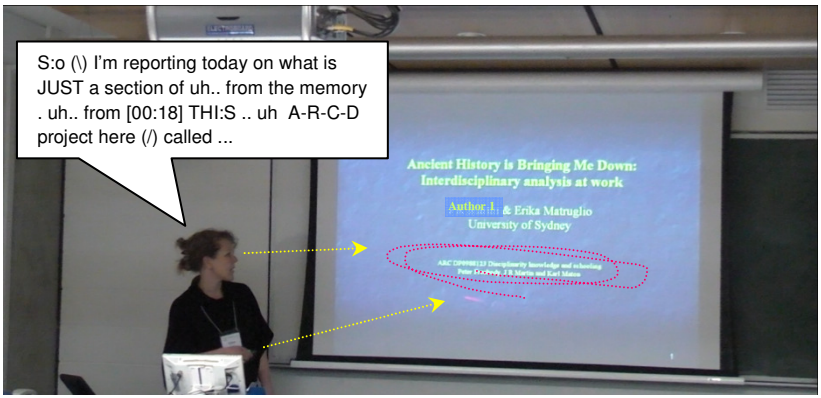


Figure 45 Body orientation, gaze, laser-pointer-mediated gesture, and verbal deixis channelling the audience's attention towards message part on display (CP#4)

In terms of experiential meaning, this multimodal complex contextualizes the presentation by positioning it as part of larger activity – the project – acknowledging its authorship and narrowing down to the topic and authorship of the presentation proper (setup stage as in Figures 40 and 41).

Besides experiential cohesion, the incorporation of the displayed discourse overtly into the presentation construes a further level of interdependency across modes. In directing the audience's gaze towards the displayed title, as indicated in Figure 45, the presenter places added significance on the identification

of the project's exact wordings and thus acknowledges the wider institutional implications attached to her research account.

Both Figure 40 and Figure 44 bring examples of high synchronicity at the sub-stage of narrowing down the topic of presentation. But while the former gives prominence to what is new and potentially controversial, the latter seems to depart from what is more familiar and institutionally grounded.

High synchronicity may be used to incorporate the macro message on display (Figure 36 previously), one or more of its message parts (Figure 40; Figure 44), or it may be construed in layers (Figure 38), following a general-particular pattern (Hoey, 1983).

Figure 46 brings a further example of such general-particular pattern. In it, the audience is first introduced to the macro content/function of displayed discourse (*so this is the first foyer that I'm going to look at.. it's the ...*) and then to particular message parts on display that are relevant for the argument (*so here is the opening and.. around here is the elevator*).

The meanings construed by high synchronicity here go beyond mere spatialization, that is, the relative location of objects in space. As I would like to suggest, in Figure 46 the presenter is able to establish the transition from the image of a building's foyer looked at from a non-technical, perhaps lay, point of view (the information provided in lines 1-5) towards a foyer as an object of study (a 'hodological space', as defined by this author). This implies its delimitation as comprising the building's opening, the elevator, and the walking space between them.

[26/09:48b] So this is the first FOYER (/) 01
that I'm going to look at (-/) it's the Horizon 02
rise in Darlinghurst (/) it was designed by 03
Harry Seidler in 1998 (/) and it houses 04
some of Sydney's [...] wealthiest (-/) so 05
here is the [26/10:05b BO ← ↖ goes to front 06
of the projection RA extended upwards, index finger 07
identifies the location of the 'opening'] opening (/) 08
and.. around here [26/10:07b BO ← ↖ 09
moves further to left RA extended upwards, index finger 10
and then splayed fingers in quick circular shaking 11
identifying the location of the elevator relative to the rest 12
– outside the slide visible frame] is the .. elevator 13
(\) I didn't wanna show a video today.. it's too long (\)

Figure 46 High synchronicity: channelling the audience's gaze from general to particular message parts on display (MC26 in RS#1)

To indicate the slide content in general, the presenter used verbal deixis only (*So this is the ...*). Whereas in order to restrict what is directly remarkable for anaytical purposes, he couples verbal deixis (*here* and *around here*) with more congruent and disambiguating indexical resources. He does so by getting close to the projection and pointing to (↖) the opening (Figure 47a), walking further to left (Figure 47b) and pointing towards the left of the screen (Figure 47 c), and finally estimating the location of the elevator shaft by a wipe-like gesture (Figure 47d) in the off-screen space.[112]

Considering this presenter's home position[113] (standing at the lectern and oriented towards the audience), his leaving the lectern to nearly touch the projection by pointing is particularly significant. By doing so, he construes an extremely high level of interdependency between the displayed and the performative discourse and demands his audience's attention towards the projection as an object for scrutiny.

As argued by Roth et al. (2005)[114], where both the presenter and the slide are visible for the audience, the presenter's body orientation and gaze – either towards the slide or the audience[115] – become powerful resources on which the audience can rely when interpreting the slide in the context of speech. They provide cues to the audience about whether to focus their attention on the slide or on the presenter. Pointing gestures, in turn, function not only as reference to the displayed discourse and/or message parts in it but also as the means by which both modes can be explicitly associated with each other.

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[112] The identification of a message part on display is realized by a stable index-finger pointing (precision) whereas the hypothetical identification of a message part (not on display) is realised by an open hand in wiping movement gestures. This seems to be a pattern in the data. However, it will not be explored further in this thesis.

[113] Based on Schegloff (2002[1975]), home position refers to a person's baseline, the position to which she/he returns after performing an episode of body movement, usually hand/arm's. In this case, we refer to the presenter's predominant location and body orientation in the setting.

[114] It is important to clarify that these authors have studied the use of projected photographs in Geology lectures. I am extending their claims to the display mode, thus including image, verbiage, sound and combinations.

[115] As illustrated previously, a presenter's body may be oriented towards the audience and her/his gaze towards the computer screen at the lectern.

Figure 47 Highlighting particular messages parts on display by hand/arm pointing gestures and verbal deixis (RS#1)

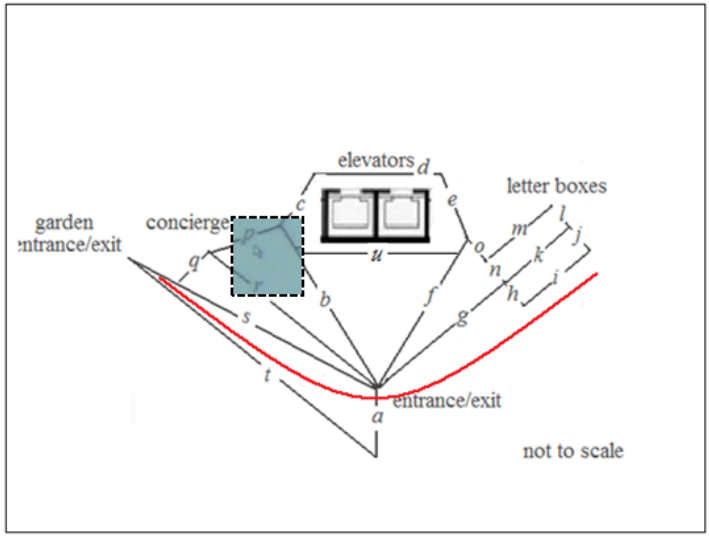
In the data, pointing gestures comprise the conventional hand/arm gestures (↖) (Figure 46; Figure 47), laser-pointer-mediated gestures (↻) (Figure 44; Figure 45) and computer-pointer or cursor highlighting gestures («) (Figure 48; Figure 49).

When used to point to material aspects of the situational context, deixis (verbal or gestural) is considered exophoric.

In PPRPS however deixis realizes a tie between message parts across modes. Therefore, in this genre, it is endophoric (Rowley- Jolivet, 2002) and reference to the displayed message is semantic, not purely material.

An additional example of deixis by computer-mediated gestures used to construe high synchronicity is found in Figure 48, where a cropping from the video file is overlaid to show the activated cursor on screen.

However, the potential for such devices to be implemented is not evenly distributed across the three research genres in the corpus. Moreover, the use of technological mediation may affect the potential for a presenter's body orientation to be a reliable resource for high synchronicity (see Figure 49).



And here [47/03:12c] is the network of.. INTERCONNECTED paratactic PATHWAYS (\) it doesn't matter which way you go (-/) you do not have to back track (\) also, hu:m .. in language (-/) paratactic also means that the clauses are equal value (/) so (-/) I say that [47/03:36c ↓ « down, up and down line identified as "m"] promenade 'm' is equal [47/03:36c ↓ « down, up and down line identified as "p"] to promenade p .. they're not .. because they can be reached by any (/ \) [47/03:40c ↓ « goes to the point identified as entrance/exit and follows up path r, b and s and then circles the left area where these paths are, the path p and then goes to m, and circles m twice clockwise] ... which way you wanna go [47/03:48c ↓ « moves horizontally from m to p twice] they're not dependent on each other (\)

Figure 48 High synchronicity and computer-mediated gestures (MC47 in RS#1)

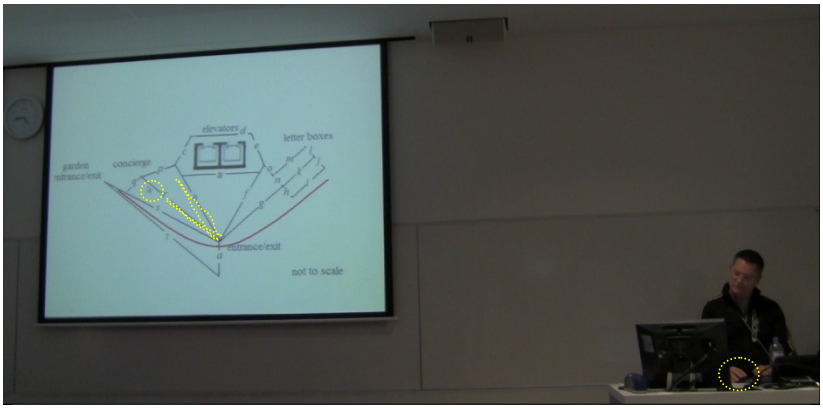


Figure 49 An example of computer-pointer mediated gestures uncoupled with presenter's body orientation and gaze (RS#1)

By way of illustration, plenaries imply a much larger audience than both conference presentations and research seminars and thus require large lecture theatres. Depending on the layout of the theatre, the use of hand/arm pointing gestures was considerably limited. In two of the conferences, plenaries were held in a theatre where the projected screen was far beyond the reach of presenters, either way above them (Figure 50a) or way to their side (Figure 50b). In these PPRPs (Pl#4, Pl#5, Pl#6 and Pl#7) the potential for hand/arm gestures to highlight specific message parts had been completely withdrawn. They could be employed though for introducing the content/function of the slide in general.

In PPRPs such as the one in Figure 50c, the full range of pointing gestures is available, including hand/arm gestures and technologically-mediated gestures[116] and the two functions of incorporating the slide content as a whole as well as specific or selected message parts on the slide.

[116] For Roth et al. (2005), mediated gestures performed directly on transparencies or computer screens (e.g. by mouse pointer) lack an important contextualizing element since the presenter's body orientation is absent from the audience's view.

Figure 50 Layout configurations in plenaries (Pl#5, PL#7, and Pl#1): constraint/potential for hand/arm gestures

In this sub-section I have attempted to clarify the distinction between low and high synchronicity, corresponding to the first level of delicacy in the proposed system for PPRPs. When the cohesion between displayed and performed discourse has to be inferred from the experiential meaning shared across modes, slide and performance are construed as relatively independent and the audience's gaze is not projected towards the slide (analogously to "offer" in visual grammar, cf. Kress and van Leeuwen, 2006[1996]). When presenters employ channelling devices that orient globally or locally towards the displayed message, the slide gains a status of obligatory component of the reasoning. Hopefully, the examples provided have indicated how high synchronicity can be used to identify the displayed message as a whole and/or to highlight specific parts, assigning message parts with specific rhetorical functions in the research presentation.

So far I have only provided examples of high dependency in which slides are incorporated into the presentation by a channelling device originated in the performance. However, I observed that resources on the display mode could also contribute to interdependency. Such observation motivated a second level of delicacy to the system of synchronicity, which will be detailed in the following section.

5.2.2 Designing the system network of synchronicity: second level of delicacy

Depending on whether high interdependency is primarily realized by semiotic resources from the performative mode or by resources from both modes, we can model a second level of delicacy to the system of synchronicity, which will be named SOURCE OF CHANNELING.

The examples provided in the previous sub-section are all instances of high synchronicity sourced from the performative mode. Among them, those realised by computer cursor gestures («) seem to be at the borderline in terms of source. As already suggested, when highlighting is realised by computer-pointer gestures alone, audiences cannot count entirely on the

orientation provided by presenters' body and gaze towards the display mode. Despite such considerations, computer-pointer gestures are still considered one of the resources of the performative mode to realise high synchronicity by attaching message parts on display into the presentation.

Therefore, when high synchronicity involves the deployment of resources of the performative mode, the feature is labelled 'attaching' in the system (second option in the system SOURCE OF CHANNELING in Figure 51).

Attaching is the most congruent and evident way of incorporating the displayed message into the presentation and channelling the audience's gaze towards the slide. As the label suggests, the entire message and/or parts from the slide are attributed additional significance by being tied up to the performed discourse, instead of being simply displayed.

High synchronicity by attaching is realised by the deployment of channelling devices from the performed discourse, most typically deixis. As illustrated by the examples from the previous subsection, deixis is taken here as a broad functional category involving one or more of the following resources: presenters' body orientation (BO) and/or gaze towards the projection (←),arm/hand pointing gestures (↖),laser pointer mediated gestures ↻, computer pointer mediated gestures («) and verbal deixis per se (e.g. *here is ...; this is ...; but then you have this; this is from a …; what's great about this …; I just came across this interesting remark about ...; as you can see, there is a slide up there that says …; somewhere around here*).

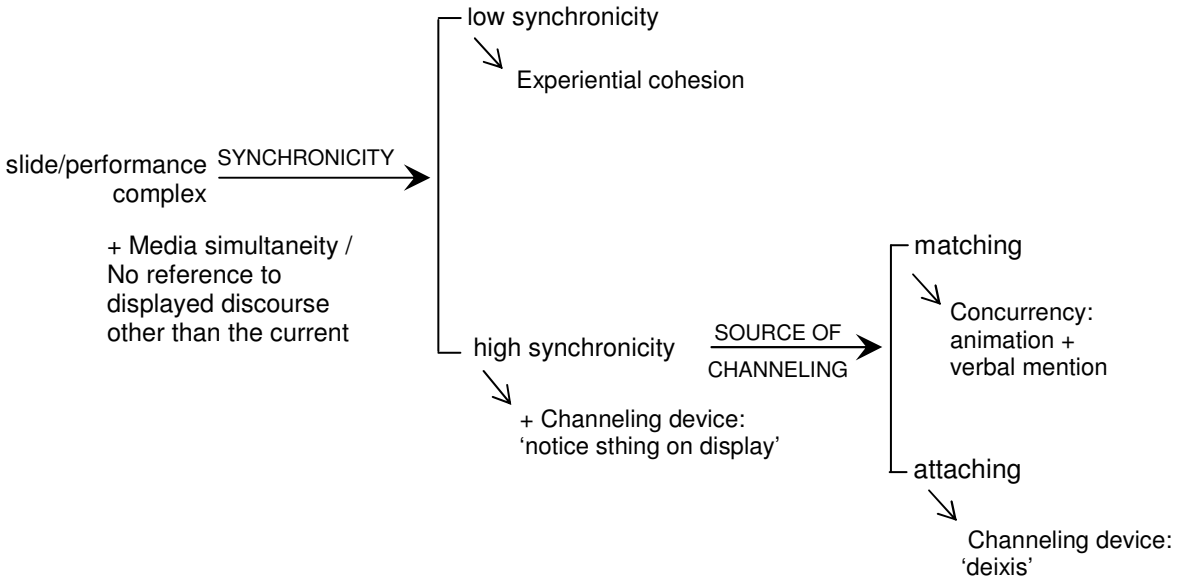


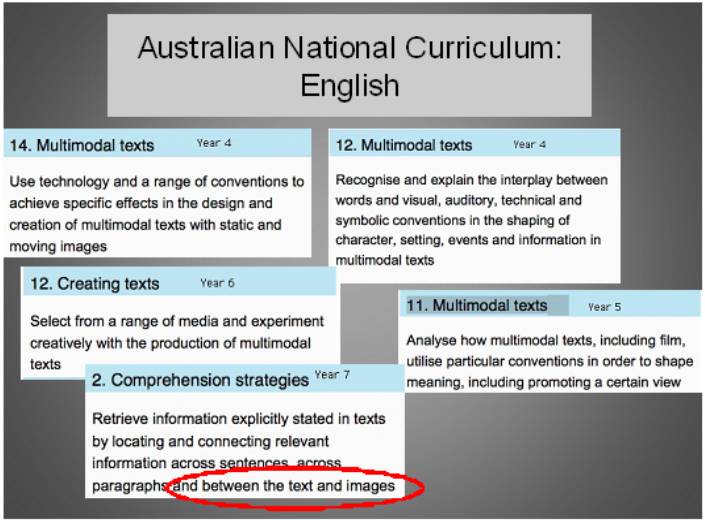
Figure 51 The proposed system network for synchronicity in PPRPs: second level of delicacy

High synchronicity by matching is realized by the occurrence of a manifest change in one aspect of the displayed discourse (e.g. the appearance of a highlighting shape over a message part or the display of an additional message part on the slide) in association with its verbal identification. Therefore, from the point of view of mode of realisation, in matching attention towards the displayed discourse is demanded from the audience by activation of resources from both modes, as illustrated in Figure 52.

In Figure 52, the presenter orients his audience in relation to the content of the current MC (hyperTheme) - multimodal literacy in recent proposals for the Australian National Curriculum, as can be seen in lines 1-4 of the transcription. The slide already provides a general orientation regarding the Theme of that MC However, the high interdependency across modes is only explicitly signalled at 8:39. At this moment, a bright red oval 'appears' over a fragment in one of the five boxes on display. The fragment reads "*between texts and images*". The appearance of the shape is of particular relevance for synchronicity as it closely matches the articulation of "*relationships between text and IMAGE*" (line 6).

We can think of matching as conjunctive relationship resulting from proximity in time and in meaning between a pair of cross-modal items. Therefore, as Figure 51 indicates, the first option in the system SOURCE OF CHANNELING is labelled matching, which is realized by concurrency between a displayed item, typically achieved by means of software animation, and a spoken item.

If we consider that animations require preparation and mechanical triggering by the presenter, concurrency is approximate. In the data, the appearance of the displayed item often precedes – in seconds – the articulation of the spoken item, as can be observed in Figure 52 (the shape appears at 8:39 and the verbal articulation of the paired item begins 2 seconds ahead). The need to consider the different timing of articulation across semiotic resources has already been discussed in Zappavigna et al. (2010), Rendle-Short (2006) and Kendon (2004).



[7/08:31] uh .. to more .. more recent PROPOSALS for the curriculum (-/) and I won't have the time to go through uh all of this (-/) [08:39 ★ red oval ^ entrance ^ appear ^ on click] but drawing your ATTENTION to hum [08:41] relationships between text and IMAGE (/ \) so (\) the RHETORIC (\ /) the rhetoric has been strong and sustained over a number of years (-/) now (\) the REALITY has been something DIFFERENT (/ \) uh .. and HERE the most productive work seems to come from the endeavours of TEACHERS in CLASSROOMS (-/) working on literacy realities with children (-/) and some uh .. attempts by academics and .. researchers (-) but in terms of SYLLABUS development in this area (-/) I think we have a long way to go (\)

Figure 52 High synchronicity by attaching: resources from both modes play a role in channelling the audience's gaze (MC7 in PI#1)

In matching, the paired items not only correspond in meaning but often parallel at the expression level, which allows their immediate recognition as members of a pair. In Figure 52, the fragment on display is reproduced verbatim in speech.

While the performed member will be typically realised by verbiage[117], the displayed member may be realised by a range of semiotic resources, as can be observed in Figure 53.

Figure 53 illustrates how the introduction of a human participant is concomitantly realized by its display as image and articulation as speech - emphasised by rising intonation. As can be observed from the annotation in square brackets, the visual member was displayed close in time to the articulation of the verbal member. The photo of a widely recognized researcher appears on the projection right before his name is mentioned in the presenter's speech.

Two observations can be drawn from this example. First, it shows how matching can involve semiotic resources other than verbiage in the display mode. In the previous case, the matching pair is composed by a photographic image and verbiage. Second, it suggests that matching suits as a channelling strategy across easily identifiable message parts.

In Figure 53, the presenter assumes an audience that is able to recognize the researcher both by his image and name[118], so as to immediately interpret the matching relationship. The presenter's choice reiterates the national scope of the conference in which his presentation occurs. By way of comparison, in Figure 52, recognisability of the item is less dependent on contextual inferences. Arguably it results from the encoding of meanings into visually/verbally compact items (a word group highlighted from a text) that can be quickly detected under the processing demands of the presentation.

[117] It could, however, be articulated in body language as iconic gestures (Kendon, 2004).

[118] I did not request permission from third party mentioned in the presentations, such as co-authors, collaborators or research participants. Therefore, whenever information (images, names, affiliation, etc) on them appeared in the data, it was de-identified to guarantee their anonymity.

At the end of the 80s (-/) I went to [name of a city] to find out more about literacy teaching (/) .. and uh I was [5/01:25 ★ default slide transition; the image of a widely recognised researcher in the field is displayed] lucky enough to meet [01:26] [name of the researcher] (/) and worked with the Write it Right project (/), on language across the curriculum (/), which is still with me (/) ... uhm over uh ... succeeding decades (/) [...]

Figure 53 High synchronicity by matching: presuming the identity of a human participant (MC5 in PI#2)

Keeping that in mind, in PPRPs the main conditions for high interdependency of the matching type are time concurrency[119] and high recognisability of the cross-modal pair (e.g. the image of the research collaborator on the slide and the articulation of his name in speech form a cross-modal pair). My suggestion is that time concurrency establishes an incongruent channelling link, without which the two items would simply relate experientially, thus construing low interdependency between modes. It is precisely time integration that renders matching a powerful cohesive resource for channelling audience's attention in PPRPs and, as I argue, provides further evidence of how co-deployed resources can mean more than the sum of their individual parts, as claimed by Lemke (1998). On the other hand, if the presenter attempts to pair items that are not immediately recognizable by the audience, the matching may not be achieved.

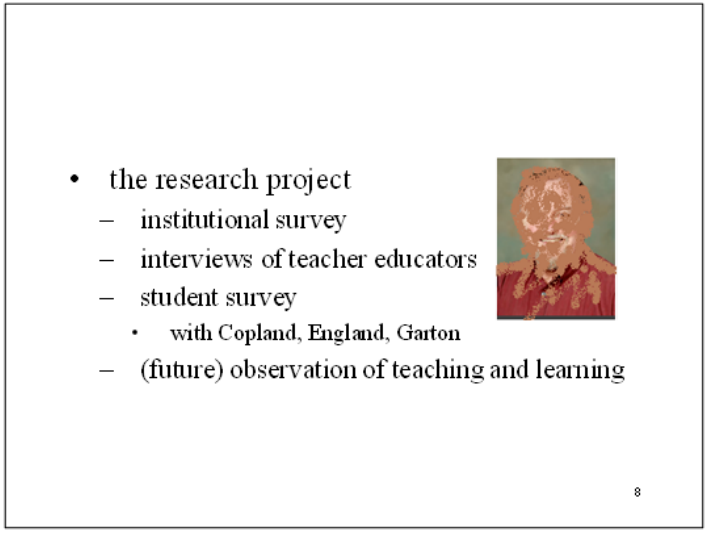
We may hypothesise that when the relation between a pair of items is less recoverable, attaching would be a more suitable option, as employed in Figure 54.

Both Figures 53 and 54 illustrate how a human participant, more specifically, research collaborators in the respective projects, are introduced by high interdependency. In Figure 53, the matching between the scholar's image and name is assumed from the audience. It involves contextual inference by the presenter that his audience are able to interpret the tie: the connection between the name in speech and the image on display.

Differently, in Figure 54, the identification of the scholar is unequivocally attached to his image on exhibition – thus a direct glossing of the displayed photograph (*this is my colleague [name of a researcher] from…*) is employed, which goes beyond concurrency between the pair[120].

[119] See also coupling in Zhao (2010, p. 209) as "a temporally shared meaning space between two semiotic elements during the logogenetic unfolding of a multimodal text."

[120] This implies that attaching subsumes matching, and both high synchronicity strategies subsume the minimal level of interdependency realized by experiential cohesion. For further discussion on the limitations of modeling synchronicity as opposing features, see the conclusion to this section.



[8/08:45cup_a] Our research project (/)… 01
[08:46★ ^ image ^ entrance ^ appear; the 02
image of an adult male human participant 03
appears] uh … this is my colleague [name 04
of researcher] from [name of university] (/) 05
uh … and this is a joint research project 06
between us (\) 07

Figure 54 High synchronicity by attaching: presenting the identity of a human participant (MC8 in PI#6)

In Figure 53, had the presenter introduced the scholar by attaching, it would challenge his wide recognition among audience members and could perhaps invoke unexpected meanings.

The choices in Figure 54, on the other hand, reiterate the context of an international event with a mix bred theoretical orientation and less predictable audience, to whom the research collaborator was congruently introduced.

In the display mode, the message part may be either made to appear on the screen (analogously to material creative clauses) (Figure 54) or, if already present, it can be changed in one or more visual aspects – e.g. change in colour, location – or made prominent by superimposition of a graphic mark (Figure 52) (analogously to material transformative clauses). Such resources are enabled by PowerPoint technology of custom animation (e.g. slide transition, effects of entrance and emphasis over individual objects on slide). Concurrently, in the performative mode, a message part of equivalent value is introduced (lexicalized) and often made prosodically prominent by high pitch and/or rising intonation.

So we can adjust the condition of high recognisability in matching as follows. On the one hand, the displayed message may be realised as the only detectable form against the slide's background. One example is the picture of the human participant in Figure 54. A further example is the nominalisation used to introduce the head of a section in Figure 55. It illustrates how matching can be used in MCs to predict the macroTheme of a section. In such case, the entire discourse is realised by the cross-modal pair, that is, the display of the section header and its re-encoding in speech[121].

On the other hand, matching can be used to assign prominence to an item among others or within a complexly composed background. An example of the latter is Figure 52, in which the presenter construes a gaze for his audience by highlighting one item from the intricate message on display. By doing so, he projects a selective gaze for his audience towards the item that illustrates his argument.

[121] Redundancy will be discussed later.

[24/16:20] ok (\) attitude in the rap verse (/)

Figure 55 High synchronicity by matching and the introduction of macroThemes (MC24 in RS#3)

Matching may be a powerful form of managing the audience's viewing path (cf. reading path, in Kress, 2008 [2003]) particularly in cases of large and intricate visual messages, less regulated by convention[122]. The dual-mode allows for series of items to be dynamically and gradually displayed on the slide in close simultaneity with verbal reasoning in the performed mode. In that sense, the resources of the display mode in this genre have rhetorical advantages over those of the printed, static page (e.g. the research article in printed or electronic media).

Figure 56 provides an illustration of how a large message is assigned a controlled viewing path by matching. The message is a diagrammatic cycle meant to represent a pedagogic model.

The relatively open reading possibilities of the displayed cycle[123] are strictly controlled by the presenter as soon as the MC initiates. He guides the audience to the initial node of the model by highlighting the blue sphere on screen (which reads "Curriculum, Text Selection, Planning & Evaluation") and matching it with its spoken equivalent (*"the texts we select [25/effect 2(circle)/11:35] in the curriculum (\), for students to read (\), and the texts we want them to write for evaluation (\)"*) (second row in Figure 56). The other three stages in the pedagogic model are presented sequentially in a similar way, that is, by the matching of a displayed item with its equivalent member in speech (third, fourth and fifth rows in Figure 56).

By selecting what the audience is to gaze at and in which order, this presenter is able to mark the line along which his research account is to be taken 'properly' (Kress, 2008 [2003]).

[122] As explained by Kress (Id.), in the traditional written text the reading path is highly regulated by convention, while images and multimodal texts are relatively more open in that regard.

[123] Cycles do not have a starting node by convention. Although from a western cultural perspective we would be inclined to read it clockwise, which is perhaps reinforced by the blue loop added to this cycle.

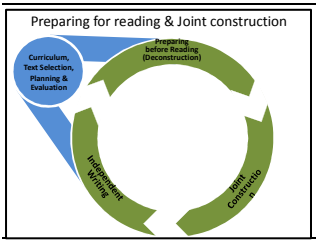
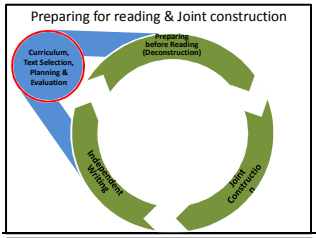
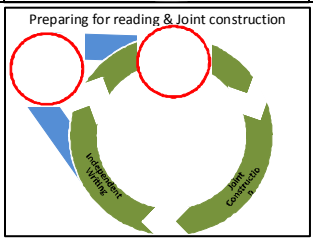
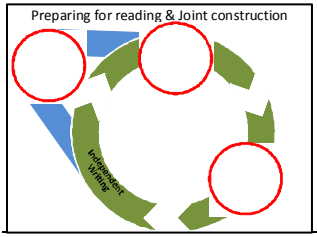
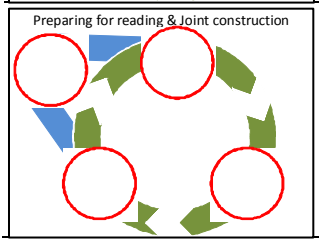
	The first STAGE of the [25/11:44] PEDAGOGY (\ /)	01 02
	[25/11:46★^ Circle 1, top/left: ^ CustAni1 ^ entrance ^ appear] starts with the texts we select [25/effect 2(circle)/11:35] in the curriculum (\), for students to read (\), and the texts we want them to write for evaluation (\)	03 04 05 06 07 08 09
	the TWO key strategies HE:RE (-/) for teaching reading and writing (-/) are [25/11:58 ★ ^ Circle 2, top/left ^ entrance ^ appear] PREPARING for Reading (-/)	10 11 12 13 14
	and [25/11:59 ^ ★Circle 3, top/left ^ entrance ^ appear] Joint construction (\) < at THIS level we are working with whole texts(\)>	15 16 17 18 19
	The outcome of that is [25/12:05 ★ ^ Circle 4, top/left ^ entrance ^ appear] INDEPENDENT writing (/) through which students' learning is EVALUATED at all levels of EDUCATION (\ /)	21 22 23 24 25 26

Figure 56 High synchronicity by matching and control of the audience's viewing path (MC25 in PI#2)

Another similar instance of matching can be observed in Figure 57.

Unlike the previous example, the macro message is not revealed at once and subsequently highlighted. It is only suggested (the covering of the slide main area with a shape)[124] and then introduced in small fragments until a chart with data analysis becomes entirely visible for the audience.

The viewing path construed in this case starts from the particular (instances of language by individuals) and moves into the general (sub-categorisation and then categorisation of processes, as well as the behaviour they are claimed to reveal). By adopting such an order of presentation, the presenter seems to re-construct his own analytical process of converting "ephemeral observations" (Arsenault et al., 2006, p. 387) into relatively refined scientific facts and thus support a claim delivered in an earlier MC (MC 26: *what we are trying here to say … this is HOW this PARTICULAR PERSON at this particular TIME has CONSTRUED language teacher education by distance*). Arguably, the presenter assumes that complexly patterned figures such as the one in MC36 "require the slow, serial processing of cell entries" (Arsenault et al., 2006, p. 387), particularly in the context of a presentation genre. More than just revealing objects, such a strategy is a semiotic one. It shapes the audience's gaze by tailoring the relatively open path of the chart to his audience.

In terms of the management of audience's attention, high interdependency by matching is supported by a phenomenon labelled "cross-modal attentional cuing" (Stein et al., 1996; Kalyuga et al., 1999; Vroomen and Gelder, 2000). The explanation provided by advocates of cross-modal cuing goes beyond the obvious assumption that the audience's gaze would be sensitive to a moving item (Lai and Yi, 2012) on the projection. They predict that "when information is presented in slightly separate locations, the perceived location of the sound is biased to the direction of the visual stimulus" (Vroomen and Gelder, 2000, p. 705).

[124] In older technologies such as the overhead projector, a similar effect was obtained by covering parts of the transparency with a sheet of paper.

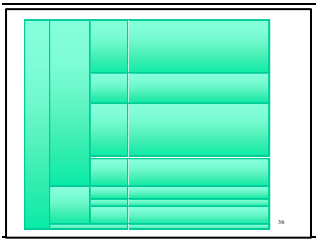
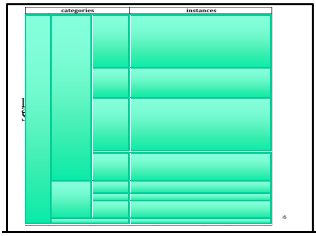
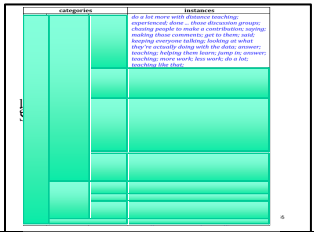
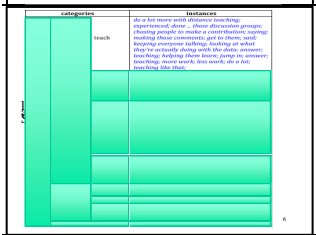
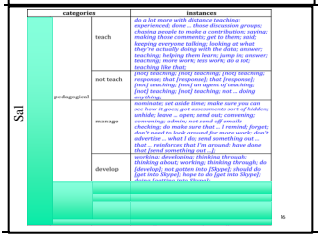
	[36/15:33] Allright (\) ... So, as I said that's about a THIRD of the extract that I've analysed	01 02 03
	[15:39 ★ ^ 'Sal'&chart_headings entrance ^ appear(on_click) ^ 'chart' entrance ^ appear(with_previous)] ok (\) so we're drawing on uh ... Martin and Rose's approach to analysing ideational discourse semantics (-/)	04 05 06 07 08 09
	[36/15:43 ★ ^ exit^disappear] uh ... I've taken a number o:f .. uh .. well (-/) I've come through and look at the teacher behaviours as construed in the discourse of the interviews. [...] s:o in this case (-/) this group has "do a lot more with distance teaching experienced [...] more work(-/)	10 11 12 13 14 15 16
	and [16:22 ★ ^ exit ^ disappear(on_click)] and the:se discursive CONSTRUALS of teacher BEHAVIOUR I've put in the category of teach. [...]* *Other six message parts are revealed between this and the one in the next row of the chart.*	17 18 19 20
	[36/017:00 ★^ exit ^ disappear] and s:o, I've grouped all of the:se into a superordinate AGAIN of PEDAGOGICAL (\) [...]** *Other nine message parts are revealed after this until the whole chart and its content is visible.*	21 22 23

Figure 57 Another example of matching and tight control of the audience's viewing path (MC36 in Pl#6)

Following the previous reasoning, the saliency of a given lexical item in presenters' speech in relative synchrony with its emergence/change on the slide can enhance the perceived intensity of the displayed item thus guiding the audience's gaze towards the display mode. Therefore, matching can be modelled as a device that strengthens the interdependency between discourses across modes

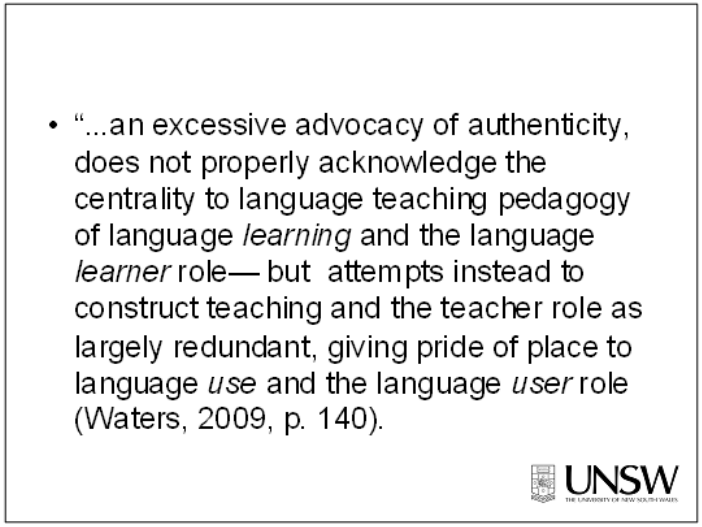
In the corpus, matching is also used to present quotes from the literature which offer support to the claims in the presentation, as can be observed in Figure 58. Figure 58 illustrates the typical stages adopted in the exploration of displayed quotes in the corpus: the quote is introduced (lines 1-3), reproduced verbatim, the matching per se (lines 3-12), and evaluated (lines 12-13)[125].

What is peculiar about this use of matching is that it defies an emblematic tenet from prescriptive literature on PowerPoint presentations (see, for example, Grant, 2010; Atkinson, 2009; Hammes, 2009; Klemm, 2007; Boucharenc, 2007; Jones, 2003; Tufte, 2003): that reading from slides is rhetorically ineffective or counterproductive and should thus be arbitrarily avoided. However, most such publications fail to provide a theoretical basis or empirical evidence for devising "key general requirements" (Jones, 2003) of what they claim to be successful PowerPoint presentations.

In this thesis, eight out of the fourteen PPRPs displayed at least one – usually long – scholarly quote, which is always explored according to the pattern illustrated in Figure 58. This involves reading the quote aloud (either from the computer screen or from the projection). Based on this evidence, we may re-assess rigid prescriptions from technical publications that simply ban reading from the slides. We may instead suggest informed decisions based on generic as well as disciplinary needs, which validate the use of reading[126] as a powerful strategy in specific cases.

[125] This also corresponds to a complete wave of information (hyperTheme, New information and hyperNew).

[126] In a pilot corpus, not included here for matters of ethics, a presenter explicitly oriented and provided time for his audience to read the quote from the slide.



So (\) hum .. others (-/) such as Waters .. [15/28:57] 2009 (-/) argue or have suggested that "... an excessive advocacy of authenticity, does not properly acknowledge the centrality to language teaching pedagogy of language learning and the language learner role— but attempts instead to construct teaching and the teacher role as largely redundant, giving pride of place to language *use* and the language *user* roles" .. so this is too much focus on uh.. that kind of uh authenticity (\)

Figure 58 Matching and the introduction of scholarly quotes in PPRPs (MC15 in PI#4)

In the case of research presentations in Applied Linguistics, using quotes from previous literature seems a recurrent feature and introducing them by matching with speech a foregrounded choice. By doing so, presenters acknowledge intellectual authorship in research genres in a way that is sensitive to the processing demands imposed on audiences, that is, digesting dense verbal texts on the slide.

5.3 'Matching' versus 'attaching': meaning potential and literacy demands in the production of PPRPs

In the above section, I proposed that high synchronicity in PPRPs may be further considered in terms of source of channelling, that is, whether the cohesive device is realized primarily in the performative mode or involves a cross-modally activated device. When presenters incorporate the displayed message into the presentation using gestural and/or verbal deixis only, high interdependency is construed by attaching. On the other hand, when presenters synchronise the entrance/salience of a displayed item with its verbal articulation, high synchronicity is achieved by matching, with both modes playing a role in activating the tie.

Because of the modal resources they require, matching and attaching provide further evidence into what meanings are added at which stages of the production of PPRPS. Therefore, in this section I would like to correlate attaching and matching with the social stratification of PPRPs' semiotic production (cf. Kress and van Leeuwen, 2001) and consider the significance of the software in this process. As explained previously, in this thesis I am considering two main strata in PPRPs: the strata of Design/Production of slideshows and the strata of Production/Distribution of the presentation per se.

It is during the Production/Distribution of the presentation, that is, the final material articulation of PPRPs before a live audience, that meanings of attaching are produced and negotiated. Admittedly, a research presenter may consider using deixis as a cohesive device at earlier strata. Notwithstanding, gestural deixis is only activated during the Production/Distribution

of the presentation, when body language joins the inventory of semiotic resources (van Leeuwen, 2005) available for researchers.

Moreover, it is at Production/Distribution that gestural deixis may be constrained by immediate contextual configurations. To illustrate, presenters may decide to orient their audiences to the message on display depending on the development of presentation, on perceived reactions from the audience, and/or on the layout of the room. As suggested in Figure 50, the meaning potential for gestures is typically reduced in plenaries, where the projection tends to be outside the reach of presenters. By way of comparison, in the research seminars collected for this thesis, the meaning potential for attaching by hand/arm gestures was fully available as a result of a configuration of features: e.g. the layout of the seminar room allowed plenty of space for the presenter to move around and get close to the projection; the long time for presentation of a single piece of research allowed the detailed exploration of data.

Finally, attaching resources entail minimal level of software literacy from presenters. Even technologically mediated gestures such as those with the computer pointer are highly accessible during the PPRP delivery and do not require previous preparation. If we extend the notion of markedness (Djonov and van Leeuwen, 2011) to the entire process of semiotic production of PPRPs, we may consider that the resources of attaching are syntagmatically unmarked since they are immediately available for presenters[127].

On the other hand, to construe high synchronicity by matching, presenters have to manipulate software tools and this entails choices at the strata of Design/Production of PPRPs. That is to say, if presenters are to synchronise an item from the display mode with one from the performed mode they have to consider it when preparing the slideshow and planning the speech.

Matching by slide transition – the introduction of macro messages, such as section headers, pictures of research participants, or scholarly quotes – is an exception. It involves minimal level of preparation. Since slide transition is a default

[127] Here I am not considering cultural constraints on the use of gestures (see Kendon, 2004).

function in the software, it does not require high level of software literacy to be produced and managed.

However, in cases of matching by animation – micro messages from a large composition, such as one or more word groups from a large text; the cells in a chart; the parts of a diagram – considerable semiotic effort is demanded at the Design/Production of the slideshow and of the speech. In other words, the synchronistic appearance/saliency of an item on the slide and of an item in the speech entails meanings designed and produced at early strata in the process of PPRP's social production.

Unlike attaching, the cohesive tie of matching is minimally affected by immediate situational configurations. For example, once a matching pair is planned/produced, it may be realized during the presentation delivery regardless of the presenter's position relative to the projection screen[128].

In terms of software literacy, matching imposes high demands on the presenter. It involves marked choices both paradigmatically and syntagmatically (cf. Djonov and van Leeuwen, 2012).

In opposition to low synchronicity, both types of high synchronicity are paradigmatically marked. They contain at least one discrete property: a channelling device (formal property) which construes high level of interdependency between message parts (semantic property).

Within high synchronicity, matching is syntagmatically marked in relation to attaching. It involves the selection of options that are relatively distant in the spatio-temporal presentation of the software interface (cf. Djonov and van Leeuwen, 2012, p. 16). That is to say, for an item on the slide to be introduced or to be made salient by animation, slide designers have to manipulate several commands/functions in PowerPoint's interface (e.g. go to the *Insert tab*, *select a shape*, *draw the shape*, *format the shape*; *select an object on the slide*, *go to the Animation tab*, *select custom animation*, *select Add effect*, and other embedded

[128] I am not considering the obvious risk of technical failure.

options [129]). These choices are not directly available in PowerPoint's user interface and thus demand high familiarity with the software's intrinsic meaning potential and from such meaning potential, which meanings apply specifically to the genre (research presentations) and the discipline (Applied Linguistics).

For example, matching by animation was nearly absent in conference presentations. It occurred predominantly in plenaries, particularly at fragments of read-aloud, highly designed talk. It allowed construing high interdependency between modes while keeping body orientation focused either on manuscript, computer screen or audience. However, matching and attaching were widely used in the corpus to introduce scholarly quotes. Arguably, this may be attributed to a disciplinary convention since direct quotes occurred in more than half of the PPRPs irrespectively of the generic sub-category (plenary, research seminar or conference presentation).

In general, the potential (probability, in Halliday's terms) for low synchronicity in PPRPs is greater if we consider that it imposes fewer demands in terms of software and multimodal generic literacies on presenters. In other words, a presentation in which the two modes are relatively independent involves less effort in the management of cross-modal cohesion. The structural collocation of a slide and a stretch of performance sets the conditions for interdependency, which is endorsed as slide and performance collaborate to construe a given aspect of experience (experiential cohesion) within the genre.

From the perspective of audiences, however, low synchronicity seems to impose demands in terms of generic and disciplinary literacies. Apart from the transition to a new slide, which signals topic shift, the audience cannot count on other resources that scaffold the interpretation of what is on display. In other words, unless they are experienced in the genre and in the discipline, they may be at a loss of when, where and what to focus on in the displayed message. In this case, presenters seem to assume an experienced audience, qualified, for example, to

[129] In the transcriptions, each additional step underlying a presenter's choice for animation is represented by a ^, conventionally used in SFL to represent the order in a linguistic structure.

identify patterns in displayed data or to 'read' figures that are conventionally employed in the discipline, even in absence of direct orientation. As already suggested, the focus seems to be placed on the presenter's performance, with the displayed message playing an ancillary role: what is on display is not presupposed for an understanding of the research presentation.

By the same token, the potential for high synchronicity in PPRPs is reduced owing to the demands it imposes on presenters, in terms of software literacies (e.g. difficulty of access to the software functions; time implicated to design the slideshow animations) and multimodal generic literacies (e.g. matching the slides with the speech; managing the audience's attention towards the displayed message during delivery of the presentation), as discussed previously.

5.4 Multimodal interdependency: synthesis

In this Chapter I have proposed a multimodal system to describe how displayed and performed discourses relate by interdependency in PPRPs and whether and how presenters guide their audience's gaze of displayed meanings.

The system was labelled synchronicity, as explained in the beginning of this chapter, in an attempt to capture both the temporal and the semantic relation between modes. Low synchronicity construes performed discourse and displayed discourse as relatively independent: what is on display is not incorporated into the presentation, that is, it is only made visible for the audience but with no further direction of the audience's gaze. On the other hand, high synchronicity is construed when meanings in the performed discourse presuppose - the whole or part of - the meanings on display.

Depending on the resources that realise high synchronicity, the system is further divided into high synchronicity by matching – when gestural and/or verbal deixis channel the audience's gaze towards the displayed discourse – and high synchronicity by attaching – when the concomitant delivery of an item on display and its lexical equivalent in speech create a viewing path for the audience towards the displayed discourse.

Choices between low and high synchronicity, as well as choices between matching and attaching were evaluated in terms of the literacy demands they impose on presenters and on audiences. Please refer to the next Chapter for a summary and discussion of the main findings in this thesis.

Chapter 6: Summary, limitations and pedagogical implications

In this thesis I conducted a SF-MDA of PPRPs in order to inform our understanding of how cohesion is achieved when applied linguists negotiate knowledge claims in plenaries, conference presentations, and research seminars. Two text-forming resources were explored: along the displayed discourse (slideshows), and between the displayed and the performed discourses. Departing from the assumption that PowerPoint[130] slideware has become constitutive of research communication (LaPorte et al., 2002; Kunkel, 2004; Tardy, 2005; Adams, 2006), I claim that the technology of slide design and management plays an increasing role in the semiotisation of such practice in Applied Linguistics.

To support that claim, I have gathered evidence of the slideware technology's shaping role at early stages in the social process of PPRP's semiotic production. Within the slideshow, decisions of how to pack meanings are constrained by the built-in resources of the software and its intrinsic metalanguage (e. g. slide dimensions, insert a new slide, slide layout, and slide design, title slide, section header). Underlying these resources is a modularised logic (cf. logic of modes and facilities of media in Kress, 2008[2003]; Jewitt and Kress (2008[2003]), an embedded orientation for (disciplinary) knowledge to be allocated across successive and relatively levelled information modules.

In a sense, such an observation provides partial support to widely spread negative appraisals on PowerPoint's "cognitive style" (Tufte, 2003a), which associate slides to poor reasoning and low resolution. However, previous research (Farkas, 2009a, Stark and Paravel, 2008; Knoblauch, 2008) has identified intrinsic flaws in Tufte's "casually argued and hyperbolic" (Farkas, 2009a, p.1) criticism. First, PowerPoint's display mode is inadequately judged from the perspective of conventional hard-copy written discourse (Stark and Paravel, 2008), with little consideration of the role of accompanying performance (Knoublauch, 2008) and of

[130] It is the most widely adopted technology for slideshow editing and management in the academic setting.

generic criteria (Farkas, 2009a; 2009b). Additionally, Tufte's (2003a) arguments seem to derive from non-systematic analysis of mostly simulated examples, which are inconsiderate of the co-text (the slideshow text and the performed text) and of the social activity which provides any piece of discourse with significance.

In an attempt to tackle these drawbacks, I implemented an analysis of applied linguists' PPRPs, starting from their slideshows. The framing question at this point was:

1. How do applied linguists distribute information in the slideshow and to what extent do they orient their audiences' gaze regarding the adopted method of development?

The analysis of periodicity (Martin and Rose, 2007[2003]) revealed that researchers tend to foreground the software's modularised logic in their slideshows. Except for the Title Slide, which realised the macroTheme of the presentation, they often introduce Themes at phase level only, construing 'serial expansion' (Martin and Rose (2007[2003]) in their displayed discourse. Most likely these presenters placed greater responsibility on the performed discourse – in particular, the speech – for construing discourse flow in their presentations.

Nevertheless, other applied linguists customised their slideshows so as to build a hierarchical method of development in the display mode. They did so by assigning particular slides with higher level statuses, either to predict the organization of the presentation as a whole and/or to predict the topic/rhetorical function of an upcoming set of slides.

These presenters construed a path for their audiences gaze by a configuration of semiotic resources of the display mode – e. g. the slide position relative to others, background, layout, and verbiage typography, alignment and lexical content per se. Slides with a higher level function in the hierarchy were paradigmatically marked (Dojnov and van Leeuwen, 2011) since they displayed at least one discrete semantic property (e.g. coloured background) in relation to the remaining lower-level ones (usually in a blank background). As I would like to suggest, the contrasting backgrounds may guide the audiences on to the

hierarchical status across information units during the delivery of the presentation.

To denote the multimodal nature of such method of development, it was labelled Design Hierarchy (cf. hierarchy of periodicity in Martin and Rose (2007)[2003]; visual hierarchy in websites in Djonov, (2005;2007;2008); slideshow's visual and logical hierarchy (Farkas, 2009b); and Design as proposed in the pedagogy of multiliteracies by the New London Group (1996); Kope and Kalantizis, 2000).

Further evidence of the software's significance can be found in the choices of semiotic resources implemented by applied linguists to encode particular meanings on display. My claim is that the resources allowed by the display mode and sanctioned by generic as well as disciplinary conventions imply different meaning possibilities in PPRPs as compared to research genres such as the print research article.

In PPRPs, the display mode allows for certain meanings to be encoded in a wider range of resources. One example is the construal of the research problem either as photographic, attitudinally-loaded images, as interactively-appealing verbal clauses or as series of nominalisations articulated logically by means of arrows and other graphic shapes.

Also, the display mode encourages the conflation of metafunctionally varied meanings. To illustrate, macroThematic slides co-instantiated textual and experiential meanings. While the colour and background oriented to the hierarchical status of discourse, verbiage oriented to field or generic staging. By coupling (Martin, 2010; 2011) two functions in a single unit, presenters amplify the semantic weight (Lemke, 1998; Hood, 2008; Martin, 2010; 2011) of Themes in this multimodal genre.

The significance of slideware technology also extends to the strata of Production/Distribution of the presentation, when slideshows often play a Thematic role over the speech and presentation in general. Manuscripts of the speech tend to be built around the slides and to mirror the distribution of information adopted in the slideshows. This continues in the Distribution of PPRPs, when slide transitions set expectations on the audience that the presenter will move into a new phase of information.

By way of suggestion for future studies, we may investigate for example, to what extent evaluative Themes are adopted in Applied Linguistics and/or establish comparisons across disciplinary fields, particularly in the humanities.

At the end of Chapter 4, I suggested that PPRPs are organised in multimodal complexes (MCs), that is, iterative series of displayed and performed discourse.

From the previous analysis, I defined the unit of analysis necessary to pursue the second research question in this thesis:

2. How do applied linguists establish cohesion between the slides and the performance? To what extent do the meanings built in the performance presuppose meanings from the slides? To what extent and how is the audiences' gaze oriented to such relations?

For this purpose, I proposed a multimodal discourse system that modelled levels of interdependency between displayed and performed discourses. According to it, a slide and a stretch of performance may be lowly interdependent when presenters display the slide for as much time as they deliver a stretch of performance. In such case, the audience's gaze is not compulsory channelled towards the displayed discourse in general or message parts in it. On the other hand, a slide and stretch of performance may be highly interdependent. In such case, the presenter not only displays the slide and delivers a stretch of performance, but demands and creates the audience's attention to the display meanings of the slide in general and/or to minor message parts in it.

This system was labelled synchronicity on two grounds. First to avoid direct comparisons to the system of taxis (Halliday, 1994; Halliday and Matthiessen, 2004), which explains the semantic relationship between two units of the same constitution. While taxis suits well for a "dynamic open system" (Halliday, 1987; Lemke, 1984) such as verbal language, it may not be straightforwardly applied to explain interdependency in a multimodal genre at the level of discourse. Second, synchronicity suggests both the structural arrangement between slide and performance – they co-exist in time – and the generic/disciplinary

inferences involved – participants of this genre expect a slide and a co-existent performance to be relatively related. The decision of whether or not to incorporate the displayed discourse into the performance involves, in part, presenters' assumptions regarding their audience's relative disciplinary knowledge.

Therefore, in lowly synchronistic relationships, presenters display the slide and deliver the performance as relatively independent. Besides the threshold generic/disciplinary knowledge – a condition to the system, the dependency has to be inferred from the experiential cohesion across modes. That is to say, the displayed discourse and the performed discourse co-construe a sub-domain of experience. Experiential cohesion involves a continuum between more redundancy (e.g. every message part is addressed and expanded in speech) and more complementarity (e.g. not every message part is re-instantiated across modes). It would be misleading for audiences if slide and performance pointed to unrelated or contradictory aspects of experience.

In highly synchronistic relationships, presenters construe the displayed discourse as indispensable for the presentation. In such case, the meanings in the performative mode presuppose meanings from the displayed mode. This is realized by the deployment of one or more channelling devices that manage the audience's attention to meanings on display.

Depending on whether the device originates in the performance only or is realized cross-modally, the system is further discriminated into two types: high synchronicity by attaching – which involves embodiedly-produced devices such as the presenters' body orientation and gaze, verbal deixis and gestural deixis, and high synchronicity by matching – which involves the dynamic appearance or saliency of an item on the slide and the articulation of its verbal equivalent simultaneously in speech. Temporal concurrency between the members of the cross-modal pair is what differentiates matching from experiential cohesion.

These choices construe a path for the audience's gaze during PPRPs. At the initiation of any MC, the change into a new slide can admittedly engage the audience into the display mode. But slide transition per se is considered an indicator of

information flow. In this thesis, for it to be significant in matching, the transition has to reveal an easily detectable message part, which is soon identified in speech.

Interdependency raises a concern regarding PowerPoint slideshows distributed independently of the performance (e.g. PowerPoint files on the web) and recording of presentations in which displayed meanings are not available. Considering PPRPs in which both discourses are highly interdependent, to what extent can each piece be properly interpreted without the other?

In general, synchronicity accounts for what happens after a slide is displayed. From that moment on, presenters may choose to leave their audiences relatively free to infer the relationship across modally-split discourses or they may overtly manage their audiences on what and how to interpret displayed messages (e.g., what to focus on, what rhetorical function it plays in the research account, in what sequence to read large and complex messages).

From an interpersonal standpoint, the proposed system adequately describes presenters' management of their audiences' attention across modes in PPPRPs. It accounts for those MCs, and sometimes entire presentations, in which the audience is assumed as literate enough in terms of genre, discipline and multimodal reading to be able to infer the relation across discourse from the experiential meanings in each mode. On the other hand, synchronicity accounts for those stages in PPRPs, and in certain for most of the presentation, when researchers assume less conventionality in the reading of slideshows or wish to control more closely their audiences' 'take' of the displayed claims. The construal of cross-reference between modes and the demands each strategy imposes in terms of software and visual literacies, on the one hand, and conventional speech literacy, on the other hand, can perhaps illustrate what Lemke (2010) has defined as metamedia literacy.

Looked at from the perspective of the text base (Halliday and Matthiessen, 1999; 2004), the choices in synchronicity assign different statuses to the displayed message: either as ancillary (low synchronicity) or as constitutive (high synchronicity) of the research claims at a given point in the presentation. So although slides play a role in orienting to the Theme of the MC (by slide

transition) and thus creating expectations in terms of discourse flow, in low synchronicity they are not further incorporated in the presentation for their value of New information.

Despite its explanatory power, the model of synchronicity is not without limitations. Instead of a binary system, which implies an either/or choice, I have considered the gains in modelling synchronicity as a scalar system, in which choices would be graded in relation to one another. This way, it would include intermediate levels of dependency as in van Leeuwen's (1999; 2009) parametric systems for voice quality. To illustrate, there are instances in the data when presenters employ both deixis (high synchronicity by attaching) and cross-modal identification (high synchronicity by matching). Are these instances more adequately accounted as a maximally high synchronicity in a scale from extremely low to extremely high interdependency? Or should they perhaps be modeled as a third option of high synchronicity, labeled 'a combination' of both resources (deixis and cross-modal identification)?

Notwithstanding, as Halliday (2009c) himself has pondered, system networks do pose a few problems for the researcher, among which he mentions the precise difficulty "of resolving continuous contrasts, or "clines", into discrete categories" (emphasis in the original) (p. 68). Therefore, regardless of the limitations raised above, at this stage of my investigation, I have committed to describing synchronicity as a binary system (either/or) by associating each choice to multiliteracy (New London Group, 1996; Cope and Kalantzis, 2000) demands affected by PowerPoint technology in academic presentations.

If the displayed message plays an ancillary role, fewer demands are imposed on the presenter regarding the Design/Production of the display mode. We may hypothesize that, in such case, high demands are potentially placed on conventional speech-based rhetoric, in opposition to a "visual rhetoric" (Brumberger, 2005). On the other hand, if the displayed message is assigned a constitutive status in the presentation, presenters are imposed with high multiliteracy demands, which include "understanding and competent control of the representational forms" (New London Group, 1996, p. 61) enabled by PowerPoint's display mode, and legitimated by the

discipline, the genre, and occasionally influenced by material aspects of the context (layout, in Norris', 2004, terms).

Following this reasoning, the criterion used to disambiguate matching from attaching is whether the performative mode is the only source of conjunction (attaching) or the resources of the display mode also play a role in establishing high interdependency (matching). Again, these choices involve a demarcation in terms of multiliteracy demands on presenters. Using attaching implies lower commitment at the strata of Design/Production of the presentation, since this choice is mainly realized by gestures, which only become available at the strata of Production/Distribution of the presentation. On the other hand, matching entails efforts at both strata considered here: at the Design/production of the presentation, to create slide animations and phasing of speech, and at the Production/Distribution of the presentation to match the cross-modal pair in real time.

PowerPoint research presentations, either in conferences or research seminars, play an important role in the development, critique, and refinement of scientific knowledge. These genres allow for innovative and often provisional claims to be shared and negotiated among peers before they get consolidated into the more coherent and well-structured (written) mode of research articles, dissertations and theses.

From an SF-MDA perspective, the very construal of claims and scientific knowledge, as well as their sharing with peers, is realised semiotically. Thus disciplinary knowledge is both enabled and shaped by the resources and technologies of representation and communication. Such remark corroborates pedagogies of science literacy such as proposed Norris and Phillips (2003), who advocate that a "scientific theory cannot exist outside of text altogether" (p. 231) since "nothing resembling what we know as western science would be possible without text" (Id). Re-contextualising these authors' statement from science curriculum to the teaching of English for Academic Purposes, I suggest that successful participation in academic practices of research presentation entail critical knowledge of the resources of representation and media of communication that are endorsed both by generic and disciplinary conventions.

Traditionally, academic pedagogy has provided guidance on written genres and with a focus on verbal discourse. Perhaps the most widely acknowledged program of academic literacy intervention is the English for Specific Purposes by Swales and his colleagues in the United States. However, pedagogical publications that are research-informed are still scarce. One example of international scale is *Academic Writing for Graduate Students* (Swales and Feak, 2004). In the Latin American context, Text Production in the university[131] (Motta-Roth and Hendges, 2010) is recognised for re-contextualising Critical Genre Analysis (Meurer, 2002; 2005; Motta-Roth, 2009) into reasonable guidance for newcomers to the academia.

However, when it comes to "multimodal communicative competences" (Heberle, 2010) in the academic context, it seems that such abilities are for the most developed implicitly. As contended by Rendle-Short (2006, p. 2), "standing up and giving a seminar may seem an easy task - the presenter simply stands up in front of a group of people and talks". However, PPRPs entail all the challenges of multimodal communicative competences of co-deploying "the visual, gestural, audio and spatial dimensions of communication, including computer-mediated-communication" (Heberle, 2010, p. 102).

If researchers are judged according to such competences, then we need to outline clear parameters in order to guide those who have not yet mastered them. Perhaps one such initiative – focusing on software literacy – is offered by David K. Farkas'[132] in his homepage. There, one can find considerations and general guidelines on using PowerPoint to produce effective presentations from the standpoint of Information Design (e.g. Farkas, 2005; 2006; 2009a; 2009b). The guidelines can be starting point for researchers who are highly aware of the conventions in their own disciplines or for EAP educators to use them in combination with other materials.

As the findings in this thesis have suggested, the entire process of semiotic production of PPRPs as well as its final

[131] 'Produção Textual na Universidade' is new version of 'Redação Acadêmica: princípios básicos' (Motta-Roth, 2001) – 'Academic Writing: basic principles'.
[132] http://faculty.washington.edu/farkas/powerpoint.htm

configuration at delivery are partly shaped by the software's meaning potential and by researchers' ability to access particular features of the software in response to disciplinary and academic needs. Therefore, it is time for academic literacy pedagogy to incorporate the challenges of multiliteracies (New London Group, 1996; Cope and Kalantzis, 2000) in its agenda in order to facilitate access to the evolving forms of multimodal discourse in the 'research world' (Swales, 2005[2004]).

Responsibility should be reclaimed from prescriptive, opinion-based and technically-oriented manuals into pedagogical intervention that provides guidance on how to use publishing software such as PowerPoint and its meaning potential in combination with conventional verbal rhetoric to build research presentations that are highly sensitive to genre and field. This involves critical evaluation and deliberate manipulation (Design) of meaning-resources to achieve rhetorical effects that are socially valued in specific contexts. The challenge is perhaps greater in the context I work as an EFL/EAP educator, where the struggle of junior researchers, myself among them, to participate and gain recognition in the international English-dominant community poses additional literacy concerns.

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Appendix A: Invitation for conference/seminar organizers

Project Title: RESEARCH GENRES AND NEW LITERACIES: THE MULTIMODAL TEXTURE OF POWERPOINT PRESENTATIONS

Dear Dr./A/Prof./Prof. _____,

I am writing to request your permission to collect data for a research project on the use of PowerPoint in research presentations. The project will contribute to the PhD of Roseli Goncalves do Nascimento in a joint doctoral degree program with the University of Sydney and the Universidade Federal de Santa Catarina, under the supervision of:

- Professor Jim Martin (University of Sydney, Sydney, AU);
- Dr Emilia Djonov (University of Technology, Sydney, AU),
- Dr Viviane Heberle (Universidade Federal de Santa Catarina, BR)

The study focuses on how presenters use multiple communicative abilities to organize information in PowerPoint presentations. It will also explore the technological potential of the software for research presentations.

To explore how presenters use PowerPoint in higher education settings, we are interested in video-recording presentations during conferences or seminars in the field of Linguistics and collecting the PowerPoint files used in these presentations. Recordings will be conducted at the conference/seminar venues and the files will be collected during the conference or by e-mail. We may also collect data already available from past events, as long as we get the presenters' consent.

We would be grateful if you would allow us to video-record presentations in the venues of the conference/seminar that you are organizing.

For more details on the project, please see the attached participant information statement & consent form documents and do not hesitate to contact Roseli Goncalves do Nascimento (ph +61 2 0450 045 470, e-mail: rnas3545@uni.sydney.edu.au).

We look forward to hearing from you soon and thank you for your assistance with this request.

Yours sincerely,

Invitation – PowerPoint Presenters/Scholars
Version 1.0, 23 August 2010

Appendix B: Conference/seminar organizer consent form

THE UNIVERSITY OF SYDNEY

Department of Linguistics
School of Letters, Arts and Media
Faculty of Arts

ABN 15 211 513 464

James R. Martin
Professor

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Transient Building F10
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CONFERENCE/SEMINAR ORGANIZER CONSENT FORM

Research Project

TITLE: MULTIMODAL ANALYSIS OF POWERPOINT PRESENTATIONS

I,.....
[NAME OF THE CONFERENCE/SEMINAR ORGANIZER], give my consent to Roseli Goncalves do Nascimento to video-record academic presentations during the
.....
[NAME OF THE EVENT] to be held at
.....
[EVENT'S LOCATION AND DATE].

Signed: .....
Name: .....
Date: .....

PowerPoint Presentations
Version 1.0, 23 August 2010

Appendix C: Participant information statement

THE UNIVERSITY OF SYDNEY

Department of Linguistics
School of Letters, Arts and Media
Faculty of Arts

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Web: http://www.usyd.edu.au/departs/linguistics/staff/jmartin.html

PARTICIPANT INFORMATION STATEMENT
Research Project

Title: Multimodal Analysis of PowerPoint Presentations

(1) What is the study about?
The study focuses on how presenters use multiple communicative abilities to organize information in PowerPoint presentations. It will also explore the technological potential of the software for research presentations.

(2) Who is carrying out the study?
The study is being conducted by Roseli Goncalves do Nascimento (+61 2 0450 045 470) and will form the basis for her degree of *Cotutelle PhD in Linguistics* at The University of Sydney under the supervision of *Professor James R. Martin* (+61 2 9351 4227) and associate supervision of *Dr Emilia Djonov* (+61 2 9514 3065).

(3) What does the study involve?
One part of the study involves video-taping presentations during conferences/seminars in the field of Linguistics and collection of the PowerPoint files used in these presentations. Recordings will be conducted at the conference/seminar venues and the files will be

collected during the conference or by e-mail. We may also collect data already available from past events, as long as we get the presenters' consent. You can participate in the study by giving me your permission to record your presentation and PowerPoint file and, additionally, to use images of the recordings/PowerPoint files in scientific communications.

A complementary part of the study involves conducting written surveys with scholars from Applied Linguistics. In the survey, you will be asked questions regarding your use of PowerPoint for academic activities in general.

(4) How much time will the study take?
The video-taping will have low impact on participants since it will take as much time as the presentation itself (30 to 50 minutes, depending on the conference or seminar's guidelines). Time to complete questionnaires is estimated to be 25-30 minutes.

(5) Can I withdraw from the study?
Being in this study is completely voluntary - you are not under any obligation to consent and - if you do consent - you can withdraw at any time without affecting your relationship with The University of Sydney.

You may stop the video-taping of your presentation at any time if you do not wish to continue or you may ask the researchers to exclude it from the study right after the recording is done. If that be the case, the recordings will be erased and the information provided will not be included in the study.

As for the survey, if you answer the questions and return them via e-mail, we will understand that you consent to participate in the study.

(6) Will anyone else know the results?
The results of the study will be made available through research publications. All data collected will be de-identified prior to use in any publications or conference presentations except where you give consent to having your name and affiliation identified in order to acknowledge authorship of your ideas (first option under 'Confidentiality' in the consent form) or to having images from the video-recording of your presentations being used in scientific

communications (second option under 'Confidentiality' in the consent form).

(7) Will the study benefit me?

Researchers who wish to get feedback may benefit from reflecting on their presentation skills.

(8) What if I require further information?

When you have read this information, *Roseli Goncalves do Nascimento* will discuss it with you further and answer any questions you may have. If you would like to know more at any stage, please feel free to contact

1. Researcher: Roseli Gonçalves do Nascimento, Cotutelle PhD candidate at the University of Sydney, +61 2 0450 045 470, rnas3545@uni.sydney.edu.au
2. Supervisor: Professor James R. Martin, The University of Sydney, +61 2 9351 4227, jmartin@sydney.edu.au
3. Associate Supervisor, Dr Emilia Djonov, Postdoctoral Research Fellow at University of Technology Sydney, +61 2 9514 3065 , Emilia.Djonov@uts.edu.au

(9) What if I have a complaint or concerns?

Any person with concerns or complaints about the conduct of a research study can contact the Deputy Manager, Human Ethics Administration, University of Sydney on +61 2 8627 8176 (Telephone); +61 2 8627 8177 (Facsimile) or ro.humanethics@sydney.edu.au (Email).

This information sheet is for you to keep

Appendix D: Invitation for potential research participants

Project Title: RESEARCH GENRES AND NEW LITERACIES: THE MULTIMODAL TEXTURE OF POWERPOINT PRESENTATIONS

Dear Dr./A/Prof./Prof. _____,

I am writing to invite your participation in a research project on the use of PowerPoint in research presentations. The project will contribute to the PhD of Roseli Goncalves do Nascimento in a joint doctoral degree program with the University of Sydney and the Universidade Federal de Santa Catarina, under the supervision of:

- Professor Jim Martin (University of Sydney, Sydney, AU);
- Dr Emilia Djonov (University of Technology, Sydney, AU),
- Dr Viviane Heberle (Universidade Federal de Santa Catarina, BR)

The study focuses on the use of multiple communicative abilities to organize information in PowerPoint presentations. It will also explore the technological potential of the software for research presentations.

To explore how PowerPoint is used in higher education settings, we are interested in video-recording presentations during conferences or seminars in Applied Linguistics and collecting the PowerPoint files used in these presentations. Recordings will be conducted at the conference/seminar venues and the files will be collected during the conference or by e-mail. We may also collect data already available from past events, as long as we get the presenters' consent.

We would be grateful if you would agree to participate in our project and allow us to video-record one of your presentations from October 2010 to December 2011 or collect one of your presentations that has already been recorded from past conferences/seminars. We reassure that our project does not aim to evaluate individual presenters but focuses on semiotic resources in general.

For more details on the project, please see the attached participant information statement & consent form documents and do not hesitate to contact Roseli Goncalves do Nascimento (ph +61 2 0450 045 470, e-mail: rnas3545@uni.sydney.edu.au).
We look forward to hearing from you soon and thank you for your assistance with this request.

Yours sincerely,

Invitation – PowerPoint Presenters/Scholars
Version 1.0, 23 August 2010

Appendix E: Participant consent form

THE UNIVERSITY OF SYDNEY

Department of Linguistics
School of Letters, Arts and Media
Faculty of Arts

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Email: jmartin@sydney.edu.au
Web: http://www.usyd.edu.au/departs/linguistics/staff/jmartin.html

PARTICIPANT CONSENT FORM
Research Project

I, ...[PRINT NAME], give consent to my participation in the research project

TITLE: MULTIMODAL ANALYSIS OF POWERPOINT PRESENTATIONS

In giving my consent I acknowledge that:

1. The procedures required for the project and the time involved have been explained to me, and any questions I have about the project have been answered to my satisfaction.

2. I have read the Participant Information Statement and have been given the opportunity to discuss the information and my involvement in the project with the researcher/s.

3. I understand that I can withdraw from the study at any time, without affecting my relationship with the researcher(s) or the University of Sydney now or in the future.

4. I understand that my involvement is confidential and that I can consent to the video-taping (or video collection from past events) and PowerPoint file collection. Additionally, I can consent to the use of my name and affiliation, so that authorship of my ideas can be

acknowledged (first option under 'Confidentiality' below), or to the use of video stills/cuts of my presentation in scientific publications/communications (second option under 'Confidentiality' below).

5. I understand that being in this study is completely voluntary – I am not under any obligation to consent.

6. I understand that if I do not wish to continue, the video recording and PowerPoint file will be erased and the information provided will not be included in the study.

Data Collection

☐ I allow my presentation to be video-taped/collected for this project.
☐ I agree to give the researchers a copy of the PowerPoint file used in the video- taped presentation.

Confidentiality

In publications generated from this project:

☐ I allow my name and affiliation to be used so that authorship of my ideas can be acknowledged;
OR
☐ I would like my name and affiliation to be kept confidential;
OR
☐ I would like my name and affiliation to be kept confidential *and* my face and voice to be de-identified in the video-recording.

Receiving Feedback

☐ I would like to receive feedback from researchers.

If you selected the "Receiving Feedback Option", please provide your details i.e. mailing address, email address.

Feedback Option

Address:_____
_____

Email: _____

Signed: .....
Name: .....
Date: .....

Appendix F: Annotations and transcription conventions

1) Annotations on video stills:

a) [03:47] time of recording (particularly when stills are used to illustrate a point)
b) [Cup] recording in close-up (focus on the presenter's gaze and gestures)
c) [LS] recording in long shot (focus on the slideshow manipulation)

2) Annotations on miniatures of slides:

a) (RS#3) Corpus coding (e.g. research seminar number 3)
b) (3/71) slide page/overall number of slides in the slideshow

3) Performance

3.1 General

a) [transcribers' comments are inserted between square brackets]
b) [3/03:47] slide page/time of slide transition
c) [?] audio excerpt that was hard/impossible to hear
d) "*presenter reads aloud from the slide*"
e) .. short pause
f) … long pause
g) $_{\text{subscript}}$ reduced pitch (low voice)
h) <fast talk>
i) [...] excerpt excluded for space reasons

3.2 Prosodic features

a) CAPITAL LETTERS stressed word
b) (\) fall or tone 1 (Halliday and Greaves, 2008)
c) (/) sharp rise, HRT (high rising terminal) or tone 2 (Id.)
d) (-/) level rising or tone 3 (Id.)
e) (\ /) fall-rise or tone 4 (Id.)
f) (/ \) rise-fall or tone 5 (Id.)
g) so:o extended or elongated vowel

4) Body language and technology

a) → presenter's gaze towards the audience
b) ← presenter's gaze towards projection
c) ↓ presenter's gaze towards computer screen
d) ↖ presenter's pointing gesture towards projection
e) ⮉ presenter directs laser pointer towards projection
f) « computer pointer (cursor) activated on the projection
g) ★ PowerPoint animation (entrance/emphasis/exit)