

Creating a Framework for the Analysis of Academic Posters

Larissa D'Angelo

Within ESP, much attention has been given to the 'open genre network' (Swales & Feak 2000: 8) of academic writing, which comprises the most public and visible research genres. In particular, researchers have investigated journal articles, abstracts, dissertations, and conference proposals; other genres, such as conference poster presentations, have instead received little if any attention. The aim of the present paper is to suggest an analytical framework capable of highlighting the communicative purposes, reader-oriented strategies, and visual-linguistic interaction employed in the multimodal genre of academic posters. Borrowing from Hyland's (2000) theoretical approach to metadiscourse interpretation and from Kress and van Leeuwen's (1998, 2001) visual analyses, a new framework is suggested and exemplified using an academic poster recently presented at an international conference of applied linguistics.

1. Introduction

Research on academic writing has so far examined a variety of genres such as journal articles, abstracts, dissertations and conference proposals, but conference poster presentations have received hardly any attention from researchers. This is probably due to the fact that not all research genres have equal value in the eyes of disciplinary participants (cf. Swales 2004) and their value seems to vary across academia. Also, as Hyland (2000) pointed out, different disciplines value different kinds of arguments and set different writing tasks: for example, while Power Point presentations are now the norm in the humanities, it is in the hard sciences that posters are mostly used and valued.

The conference poster is often seen as a 'marginal' genre, lacking prescriptive guidelines but allowing for creativity and individuality, whose goal is both to inform and to persuade. Furthermore, the poster can be defined as a multimodal communicative genre, with text, graphics, colour, speech, and even gesture used to convey meaning (Kress & van Leeuwen 2001). Also the fact that the content is displayed as a 'visual unit,' all on a single view plane, distinguishes it from other academic genres. Nevertheless, the academic poster, a unique spoken/written research genre, has evolved from research papers, conference visuals and handouts (Swales 2004). A further useful concept, when considering these genres is that of the *genre set* (Devitt 1991; Swales 2004), which sees the use of conference presentations limited to senior scholars; likewise, conference posters are mostly used by or assigned to junior scholars, working their way up a commonly perceived and accepted hierarchy of genres.

Poster sessions, in particular, are an increasingly important part of scientific conferences and constitute a valid and interesting alternative to paper presentations at conferences. In fact, by facilitating informal discussions between presenters and their audience, poster sessions provide a more intimate forum for exchange than do regular paper presentations. Ideally, a well-constructed poster is self-explanatory and frees the presenter from answering obvious questions so that he/she can supplement and discuss particular points of interest. Like research articles, to achieve both coverage and clarity, posters need to follow a precise format and content organization: in addition to a title/author label and abstract, most successful posters, in fact, provide brief statements of introduction, method, subjects, procedure, results,

and conclusions (Alley 2003). At the same time, visual presentation and graphics become vital to outline a piece of work in a form that is easily assimilated and stimulates interest and discussion (Matthews 1990; Tufte 1990). Nevertheless, conference posters have so far been marginalized within less prestigious ‘constellations of genres’ (Swales 2004: 7), and are often considered as second class, compared to oral presentations (Swales & Feak 2000).

Because of its unique characteristics, the poster necessarily needs to be analysed differently, applying more than one framework of analysis to fully understand how its different parts work together to successfully convey meaning. In this sense, following Kress and van Leeuwen’s (1998) observation, it is important to understand that the semiotic code of language and the semiotic code of pictures each have their own particular means of realizing what in the end are perhaps quite similar semantic relations. For example, what in language is realised by words of the category ‘action verbs’ is in pictures realised by elements that can be formally defined as ‘vectors’. What in language is realised by locative prepositions is realised in pictures by formal characteristics that create the contrast between foreground and background. In other cases, what is expressed through language cannot be expressed through images and vice-versa, making the relationship between images and text complementing but in no way dependent on one another. To carry out an exhaustive analysis, one should take into consideration the written text together with the visual elements as they both work together to achieve unity, clarity and most of all, salience.

My aim here is to introduce an analytical framework of analysis capable of accounting for the importance, communicative purposes and reader-oriented strategies employed in this multimodal genre. Although academic posters also have a spoken component (presenters are required to verbally describe the poster, summarize it, point out the most salient elements and interact with viewers), at this stage such verbal component will not be taken into consideration. The analysis will focus on the visual and textual elements present in the text, in order to understand how and to what extent they replace verbal interaction.

2. Theoretical background

There is quite an impressive amount of material available on academic posters, ranging from how-to tips and techniques (Woolsey 1989; Block 1996) to discussions of how to use posters as a tool for professional development in the workplace (Miracle 2003). Posters have also been studied as a situated practice (Brown and Duguid 1991; Gherardi 2000, 2001; Wenger 2000) and social action (Miller 1984; Paré & Smart 1994) and some authors describe the use of posters as a teaching and evaluation device within university courses (van Naerssen 1984; Howenstine et al. 1988; Bracher et al. 1998; Denzine 1999; Hay & Thomas 1999). Baird (1991) in particular, explains the logistics of conducting poster sessions in a classroom and discusses their possible use in alternative to traditional term paper assignments. In-Class poster sessions, he believes, are suitable for classes of all sizes, promote collaborative learning, encourage creativity and independent thought, develop research and communication skills, and ease the grading burden on instructors. Along the same line, Chute and Bank (1983) consider poster sessions as an alternative to undergraduate seminars in the field of Psychology and demonstrate that devising and presenting a poster can be successfully done at an undergraduate level. Learning to cope with this genre in the very early stages of one’s academic career, he sustains, is important and should be taken into consideration when devising EAP courses.

There are some studies relating to partial aspects of poster exhibitions such as the process of abstract selection for diverse conferences (Panush et al. 1989; Rubin et al. 1993; Ector et al. 1995; Kemp & Goddard 1999; Timmer et al. 2001), and the publication rate of conference contributions (Boldt & Maleck 1999; Eloubeidi et al. 2001; Scherer et al. 2007). Others have shed light on the motivation of authors to design a poster (Tulsky & Kouides 1998), on poster

contributions presented at different conferences (Wang et al. 1999; Bhandari et al. 2005) and on the time spent by conference delegates in studying a poster (Wright & Moll 1987).

On the other hand, very few linguistic/semiotic analyses have been carried out on academic posters. The few available are pioneering explorations of the genre, taking into consideration forms, norms and values (MacIntosh & Murray 2007), how poster exhibitions are systematically and prospectively accepted and their perceived value (Salzi et al. 2008) or briefly considering grammar, rhetoric, graphic design and visual perception in general (Matthews 1990). In particular, Matthews (1990: 231) realised that:

A visually effective and informative poster must be designed with regard to audience conceptualization. Integrating text and graphics within a limited space to convey a visual message requires detailed organization. Without professional assistance, the poster presenter must function as a writer, editor, designer, and artist. In displaying scientific information, a poster functions “to give visual access to the subtle and the difficult – that is, the revelation of the complex” (Tufte 1983); it achieves this function through the pure form of a condensed, high-impact message integrating text and graphics.

More specifically, Waehler et al. (1995) have observed that participants attending poster sessions evaluated posters on three dimensions: visual display and organization, demeanour of the presenter, and content. Although each of these dimensions are considered important, visual display seems paramount. Ease of poster review – facilitated by large type, print colour, alignment of text, concise presentation of material, and use of supplemental graphs and charts – is preferred. Poster presenters who are appropriately attentive to individuals reviewing their material are also appreciated.

Also Rowe and Ilic (2009) have explored the perceptions of academic poster presentation, together with its benefits and limitations as an effective mechanism for academic knowledge transfer and contribute to the available academic data. Their survey addressed attitude and opinion items, together with their general experiences of poster presentations and found that the majority of respondents believe that posters are a good medium for transferring knowledge and a valid form of academic publication. Visual appeal is cited as more influential than subject content and respondents also believe that posters must be accompanied by their author in order to effectively communicate the academic content. Given that academic posters rely heavily on visual appeal and direct author interaction, they conclude, the medium requires greater flexibility in its design to promote effective knowledge transfer.

Despite these tentative studies, vision-language (and vision-gesture) interaction has, indeed, been neglected in the multimodal resources community, though the needs for related multimodal corpora are becoming increasingly demanding. Currently there are no systematically collected and annotated corpora of conference poster presentations belonging to different academic disciplines, allowing for a comprehensible textual and semiotic analysis of this ‘marginalized’ genre. Furthermore, no corpora exist, collecting video/audio recordings of interviews made with poster presenters belonging to different disciplines, with different amounts of experience and holding different academic positions. There is therefore an urgent need for a corpus that not only gathers the visual/written elements of poster presentations, but that also records how poster presentations are evolving within each discipline, also thanks to digital and electronic media (De Simone et al. 2001; Powell-Tuck et al. 2002). Various disciplines, such as Physics, Biology, Law and Medicine are in fact, experimenting with different ways of facilitating presentation and discussion of posters (MacIntosh-Murray 2007), through poster projections followed by two-three minute oral presentations, online poster sessions and virtual science fairs with online conferencing or weblogs.

De Simone et al. (1991) note that the traditional poster presentation is often associated with a sense of frustration and incompleteness by the presenters and the audience and that traditional posters are seen as inadequate communication tools since they only reach a limited audience. A new system for organizing poster sessions is proposed, called the Digital Interactive Poster Presentation (DIPP). This new system allows participation of a larger

audience, interactive presentation, and more effective discussion of scientific data. The audience, they say, generally meets digital poster presentations with wide and enthusiastic acceptance.

Powell-Tuck et al. (2002) also compare the quality of what they call ‘e-poster’ and the traditional poster communication. At a medical congress in 2001, presenters were invited to supplement their poster by submitting its title and contents electronically. On projection, the submissions appeared as a poster. During chaired rounds, presenters ‘talked to’ the projection as if it were a traditional poster. They clicked on individual tables or figures to enlarge to full screen. A further click returned the screen to poster format. Delegates attending two e-poster sessions, and a control group attending two simultaneous traditional poster rounds, responded to a questionnaire on the ability of delegates to hear and see well, on the posters’ clarity and attractiveness, on whether the format of the session captured their interest and encouraged discussion. Delegates also responded on how e-posters should be used in future meetings. The trend was in favour of e-posters, because they facilitated the viewing of the full content of all posters, they captured viewers’ interest and encouraged discussion. E-posters also enable detailed search of a computer-based database of presentations, and post-conference collaboration is enhanced by facilitating e-mail contact.

Although posters have not yet been analysed following a linguistic framework of analysis, other genres, such as the abstract, the research article and the book review have been thoroughly investigated and have been repeatedly searched for metadiscourse devices. For example, Hyland & Tse (2004, 2006) see metadiscourse as a way of understanding how writers express their interpersonal standing and orientations towards their text and their readers. Using Thompson’s (2001) terminology, academic metadiscourse can be distinguished between interactive resources (transitions, frame markers, endophoric markers, evidentials, code glosses) and interactional resources (hedges, boosters, attitude markers, engagement markers, self mentions).

Interactive resources primarily serve to manage the flow of information and guide readers through the content of the text. They not only help organize discourse but also anticipate the audience’s likely reaction, needs and background resources, in order to decide what needs to be made explicit to constrain and guide readers’ interpretations. In particular, transitional devices favour the flow of argumentation from one sentence to another, from one idea to another, or from one paragraph to another, linking sentences and paragraphs smoothly so that there are no abrupt jumps or breaks between ideas. There are several types of transitional devices, each one leading the reader to make certain connections or assumptions. Some of them help the reader decode the argumentative structure correctly, while others induce the reader to compare ideas or draw conclusions, as can be seen in the following two examples [my emphasis]:

- (1) *Finally*, the paper by A. Hornero (‘Marry, hang thee, Brock!: linguistic tools for impoliteness in Shakespeare’s works’) analyses the different possibilities of breaking the linguistic norms of courtesy in Elizabethan England, by using a corpus consisting of three romantic comedies and three tragedies.
- (2) *Moreover*, the self reflective orientation of each chapter paints a panoramic and highly individualized picture of what it is like to carry out research in the field of second language writing.

Following Widdowson’s (1984) assumption, interactional devices can also be seen as the overt performances in the text of interactive devices. Instead of simply moulding the text interactively to guide readers in their assumptions, writers may choose to make their management of the unfolding of the text visible and to engage the reader explicitly in the process with the aid of interactional features. Interactional resources, on the other hand, serve to involve readers in the argument of the text. They allow writers to conduct a more or less overt interaction with their audience, thus establishing a suitable relationship to their data, arguments and audience, marking the degree of intimacy, the expression of attitude, the communication of commitments, and the extent of reader involvement, yet following the

norms of disciplinary communities. For example, the use of first person pronouns and possessives clearly marks the author's presence in the text and sets a certain degree of personality, as in (3) and (4):

- (3) *I* also think that the scale and level of analysis, when one moves from linguistic text to the (literally enormous) Sydney Opera house, might demand some further thinking.
- (4) This, *I* believe, will force *us* to ask what *we* are trying to do. Is the goal of *our* analysis to model what *we* think politeness is? Is it to predict what others think it is? Why? However *we* answer these questions, unless *we* change the way *we* think about such linguistic phenomena, *I* fear that *we* are not going to stop seeing *ourselves* in *our* theory, and thus in *our* data.

Engagement markers contribute not only to bring the reader into the text and to establish solidarity between scholars and thus favor communal understanding, but also work towards the creation of a shared evaluative context in which the reader is led towards the acceptance of the writer's point of view. An example of how certain engagement markers such as questions and second person pronouns serve these functions, can be seen in (5) and (6):

- (5) Specifically, can labelled diagrams of the body help untrained interpreters communicate with non-native patients?
- (6) In 1998 it was clear that, in order to make serious use of the Internet, *you* needed English.

Hedges, on the other hand, while still soliciting agreement, do so by toning down the author's judgmental authority. The hedges in (7) are a clear example of a writer's reluctance to present his/her viewpoint categorically:

- (7) While the example used in this chapter represents a discourse community of pool players, the author's work overall *seems* to suggest a more general application. Further development of this intriguing proposition *might* yield even more intriguing conclusions.

As these examples demonstrate, by analyzing the use of interactive and interactional resources in texts, it is possible to research the way writers, with different amounts of experience and authority, use different communicative styles and relate with their audience. If written text can be analysed in terms of interactive and interactional forms, the same can be done for the visual components found in poster presentations. A new approach to reading visual images came with the publication of Kress and van Leeuwen's work (1998). Taking as their starting point the idea that visual images can be read as 'text', the metaphor of 'grammar' can be applied to the study of visuals. In this sense 'grammar' is not a set of rules for the correct use of language but rather a set of socially constructed resources for the construction of meaning.

Kress and van Leeuwen's work is revolutionary in the sense that it provides a key to reading images as if they were a text. In particular they raise the status of the visual component in multimodal texts by considering it as "an independently organized and structured message – connected with the verbal text, but in no way dependent on it: and similarly the other way around" (1998: 17). Consequently, they take the view that language and visual communication both realize the same fundamental and far-reaching systems of meaning that constitute our cultures, but that each does so by means of its own specific forms, and independently, although not everything that can be realized in language can also be realized by means of images, or vice versa. This approach becomes then fundamental for those seeking a descriptive framework of analysis to be applied to multimodal texts.

3. Methodology

The text of the academic poster taken as an example is analysed using Hyland's (2000) theoretical approach to metadiscourse interpretation. Using Thompson's (2001) terminology, the academic metadiscourse found in the poster is distinguished between interactive resources (transitions, frame markers, endophoric markers, evidentials, code glosses) and interactional resources (hedges, boosters, attitude markers, engagement markers, self mentions). The full list of interactive and interactional markers searched is based on Hyland (2000).

In order to analyse the visual component of academic posters, a framework has been devised drawing from Kress and van Leeuwen's (1998; 2001) semiotic work. In particular, a number of visual elements have been categorized as interactive or interactional depending on their communicative function. As Table 1 shows, the interactive elements, organizing information and guiding the viewer in the comprehension of a multimodal text consist of the following interrelated systems: Information Value, Framing, Connective Elements, Conversion Processes, Taxonomies, Flowcharts and Networks.

<i>INTERACTIVE RESOURCES</i>	<i>Achieved through</i>	<i>INTERACTIONAL RESOURCES</i>	<i>Achieved through</i>
Information Value	Left- Right Top-Bottom Centre-Margin Triptych	Saliency	Contextualization Foreground/Background Contrast in colour (saturation, differentiation, modulation) Use of pictures (demand/offer) Use of schematic analytical pictures (one, two, three-dimensional graphs) Representation Depth Illumination Brightness Font size Font type Font colour Disalignment
Framing	Frame lines Discontinuities of colour Discontinuity of shape Empty space between elements		
Connective Elements	Vectors (size, colour, shape, attenuated or amplified density/frequency) Repetition of shapes Repetition of colour Alignment	Size of Frame	Medium shot: human figure from knees up Medium close shot: human figure from waist up Close up: head and shoulders Extreme close up: anything less than head and shoulders, or an isolated body part is used for dramatic visual impact.
Graphs	Conversion process Taxonomies (Covert/Overt) Flowcharts Networks Tables	Perspective	Frontal Vertical
Fonts	Size Colour Type		

Table 1. Framework for the analysis of visual elements in conference posters.

Information Value is created through the placement of elements, which endows them with specific informational values attached to the various 'zones' of the image: left and right, top and bottom, centre and margin (see Figure 1).

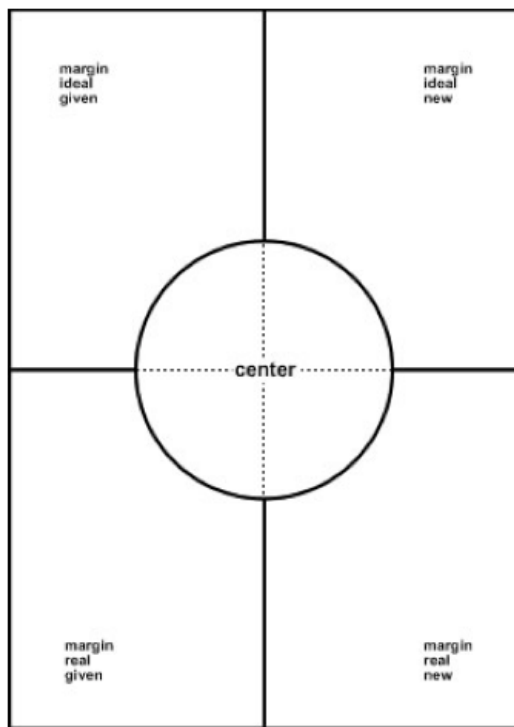


Figure 1. The dimensions of visual space (from Kress & van Leeuwen 1998: 208).

The presence or absence of framing devices (realised by elements which create dividing lines, or by actual frame lines) instead disconnects or connects elements of the image, signifying that they belong or do not belong together in some sense. Other interactive devices could be connective elements such as vectors (used in different sizes, shapes, colour or used in an attenuated or amplified way, denoting density or frequency), the repetition of shapes and colours and the alignment of elements within the poster. Information could be visualized through conversion processes, taxonomies (covert or overt), flowcharts, networks and tables.

Interactional elements, used to attract, involve and engage viewers, evolve around the concept of Saliency, through which elements are made to attract the viewer's attention to different degrees, as realized by such factors as Contextualization (a scale running from the absence of background to the most fully articulated and detailed background), Representation (a scale running from maximum abstraction to maximum representation of pictorial detail), placement in the foreground or background, contrasts in tonal value or colour, use of pictures of real people and/or objects instead of schematic analytical pictures, depth in pictures and images, illumination, brightness and use of font (size, type and colour). Interactional devices are also the Size of Frame (ranging from 'extreme close-ups', which attract and interest the viewer more, to 'very long shots', which are much less salient), the Perspective used (frontal, engaging the viewer explicitly or vertical, conferring more or less power to the viewer).

Another differentiation must be made between the images depicting people directly looking at the viewer – defined as 'demand pictures' (Kress & van Leeuwen 1998: 126) – and those in which the subject of the picture looks away. In the first case, just like Engagement devices in text, the picture engages and demands the attention of the viewer. Just like a direct question forces the reader to answer and engage in a dialogue with the author, the image of a person looking directly into the camera (and therefore at the spectator), demands the attention of the viewer and establishes a relationship with him/her. If the person depicted in the picture does not look at the camera and is involved in some sort of activity, the viewer is simply a spectator. The person depicted is 'offered' to the viewer, who can see what the person does but no relationship is established between the two. Also important are the types of graphs used in posters, as one-dimensional graphs are more objective and less salient than two- or three- dimensional graphs.

The visual components of posters must be necessarily analysed qualitatively. Visual elements will be categorized either as Interactional or Interactive and single instances will be counted in order to determine the different levels of modality (salience) of posters and the most frequent interactive/interactional devices used. The quantitative and qualitative analyses are based on both automatic and manual searches. For the computer-based counts, Wordsmith Tools 4.0 (Scott 2004) and Portable Document Format (PDF) search options were used. These were followed by manual correction to rule out any non-relevant cases.

4. Applying the framework

Following Hyland's (2000, 2004) interpretation, metadiscourse is seen as a way of understanding how writers express their interpersonal standing and orientations towards their text and their readers. The text found in an academic poster belonging to the discipline of Applied Linguistics (Figure 2) and presented at an international conference by a Senior Lecturer of the University of Reading was searched for metadiscourse devices.

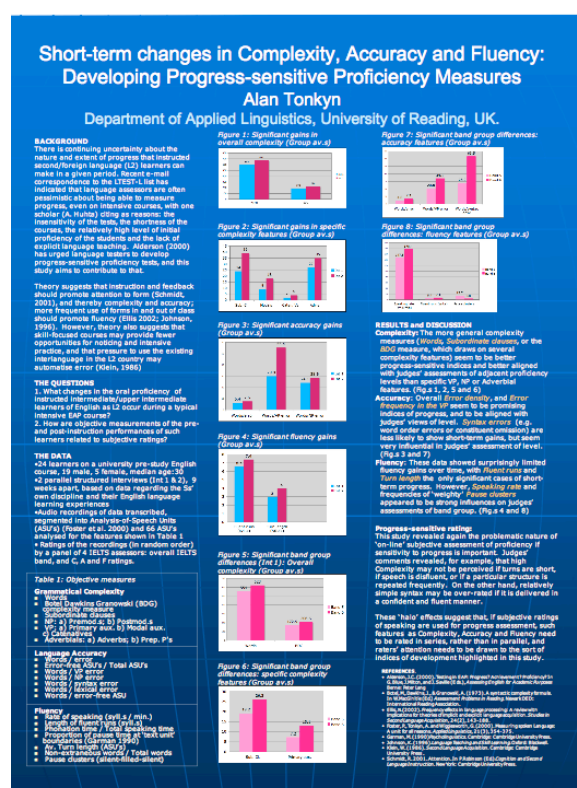


Figure 2. The academic poster analysed.

Several interactive and interactional devices were identified in the poster. These are listed by type and number of occurrences in Table 2 below.

<i>INTERACTIVE RESOURCES</i>	<i>Occurrences</i>	<i>INTERACTIONAL RESOURCES</i>	<i>Occurrences</i>
Transitions	34	Hedges	12
Frame Markers	20	Boosters	-
Endophoric Markers	2	Attitude Markers	5
Evidentials	10	Engagement Markers	7
Code Glosses	6	Self Mentions	-
TOTAL	72	TOTAL	24

Table 2. Framework of analysis for textual elements in posters.

In the poster analysed here, interactive resources are used much more frequently than interactional resources. Interestingly, the same has been found in other genres and disciplines, such as book reviews appearing in Applied Linguistics, Economics, Law and Medicine (D'Angelo 2008, 2010). This is probably due to the fact that interactional devices are much more face-threatening than their interactive counterparts and are therefore used less frequently.

In terms of interactive discourse, transition markers, frame markers and evidentials seem to be the most frequent devices, whereas in the case of interactional resources, hedges and engagement markers are the most frequently used. As mentioned before, the transitional devices are the most frequently used in discourse in general and they serve an important function, as they act as bridges between parts of the text, which help the reader interpret ideas in the way the writer wants him/her to understand them. Two examples of transition markers found in the poster are the following:

- (8) *However*, Speaking rate and frequencies of 'weighty' Pause clusters appeared to be strong influences on judges' assessments of band group.
- (9) *On the other hand*, relatively simple syntax may be over-rated if it is delivered in a confident and fluent manner.

The frequent use of frame markers demonstrates instead the author's expertise in constructing arguments clearly as can be seen in (10), which lists and numbers its research questions:

- (10) 1. What changes in the oral proficiency of instructed intermediate/upper intermediate learners of English as L2 occur during a typical intensive EAP course?
2. How are objective measurements of the pre- and post-instruction performances of such learners related to subjective ratings?

Evidentials in particular, instead of boosters, are used by the author to support his viewpoints by bringing forth examples and referring to other information sources. An example can be found in (11):

- (11) Theory *suggests* that instruction and feedback should promote attention to form (*Schmidt, 2001*), and thereby complexity and accuracy; more frequent use of forms in and out of class should promote fluency (*Ellis 2002; Johnson, 1996*).

Interestingly, in the text analysed a high number of hedges are found, whereas no boosters are used, suggesting that the author, while still soliciting agreement, prefers to use a more careful, less judgmental tone:

- (12) Judges' comments revealed, for example, that high Complexity *may* not be perceived if turns are short, if speech is disfluent, or if a particular structure is repeated frequently.
- (13) These 'halo' effects *suggest* that, if subjective ratings of speaking are used for progress assessment, such features as Complexity, Accuracy and Fluency need to be rated in series, rather than in parallel, and raters' attention needs to be drawn to the sort of indices of development highlighted in this study.

Engagement markers, the second most recurring interactional device used by the author, is an important indication of the degree of involvement of the reader. Certain engagement markers such as questions and words in parenthesis found in the poster, for example, serve these functions:

- (14) What changes in the oral proficiency of instructed intermediate/upper intermediate learners of English as L2 occur during a typical intensive EAP course ?
- (15) Complexity: The more general complexity measures (*Words, Subordinate clauses, or the BDG measure, which draws on several complexity features*) seem to be better progress-sensitive indices and

better aligned with judges' assessments of adjacent proficiency levels than specific VP, NP or Adverbial features. (Figs. 1, 2, 5 and 6)

As mentioned previously, by adopting in part Kress and van Leeuwen's (1998, 2001) analytical framework, the visual components of poster can also be analysed in terms of interactive and interactional forms. In the poster analysed, several interactive resources are used, in order to make the poster clearer to the reader (Table 3).

<i>INTERACTIVE RESOURCES</i>	<i>SUBTYPE</i>	
Information Value	Left-Right	
	Top-Bottom	
	Centre-Margin	
	Triptych	✓
Framing	Frame Lines	✓
	Discontinuities of Colour	
	Discontinuities of Shape	
	Empty Space between elements	
Connective Elements	Vectors	
	Repetition of Shapes	✓
	Repetition of Colour	✓
	Alignment	✓
Graphs	Conversion Process	
	Charts	✓
	Taxonomies	
	Flowcharts	
	Networks	
Font	Colour	
	Size	✓
	Type	
TOTAL No. of interactive resources		7

Table 3. Visual elements employed as interactive in the poster resources.

The author of this poster has chosen to divide the visual unit into three main vertical columns (triptych), suggesting the reader to move his/her gaze vertically and from the column on the left to the column on the right. Also helping the viewer in making correct connections and in following a pre-established order of thought are the repetition of colours and of shapes, as well as the alignment of elements in the visual. Certain elements are also given special attention through the use of frame lines, as in the 'boxed' information found in the bottom left corner of the poster. By using several charts, the author deliberately seeks to render the data more accessible and of immediate comprehension; the use of different colours for the columns also helps in making the information understandable. Another interactive device used is font size: the writer distinguishes the various chapters of the text by inserting titles in bold and in capital letters.

<i>INTERACTIONAL RESOURCES</i>	<i>SUBTYPE</i>	
Salience	Contextualization	
	Representation	
	Foregrounding/Backgrounding	
	Relative Size	
	Colour Contrast	✓
	Use of Pictures	
	Use of Demand Pictures	
	Use of Schematic Analytical Pictures	✓
	Use of s.a.p. (two/three dimensional)	
	Depth in Pictures	

	Brightness	
	Font Size	
	Font Type	
	Font Colour	
Size of Frame	v.l.s.	
	l.s.	
	m.l.s.	
	m.s.	
	m.c.s.	
	c.u.	
Perspective	e.c.u.	
	Frontal	
	Oblique	
	Vertical	
TOTAL No. of interactional resources		2

Table 4. Visual elements employed as interactional resources in the poster.

As Table 4 shows, the number of visual elements considered to play an interactional role is not very high in the poster considered. The only devices used are the contrast of colour (white text and tables on a dark blue background) and the use of one-dimensional graphs. These elements have been added to the poster to make it more attractive visually salient – a fundamental requisite for a successful poster presentation. It is interesting to note that the visual as well as the textual elements all convey the same deferential authorial voice of the author, thanks to the frequent use of interactive elements and the less frequent use of interactional devices.

5. Conclusions

The present work is an exploratory study whose purpose is to draw attention to the interesting and hybrid genre of academic posters, a genre that makes use of different, sometimes fascinating communicative strategies and is therefore difficult to do well. Although a the framework of analysis described above is still in its embryonic stage and will surely be modified several times before it serves its function successfully, it already highlights the different visual and textual strategies authors deliberately employ when devising an academic poster. The analysis carried out on the Applied Linguistic poster for example reveals that the author is an experienced researcher who carefully constructs his discourse and makes sure, by using many interactive devices, that the logical construction of the text is clear to any potential viewer. The interactive visual elements aid him in displaying information coherently and in an orderly fashion, by dividing the text in columns, by framing part of the text and by using graphs to visually represent data. At the same time, the scarce interactional elements used, both visual and textual, suggests the idea that clarity and readability, instead of attractiveness (using prominent visuals such as pictures and ‘flashy’ colours in the visual as well as in the text) is a priority for the present author.

In the future, an interdisciplinary analysis applying this framework could reveal patterns in the interactive and interactional discourse, underlining more or less effective communicative strategies employed by poster presenters, depending on their discipline, authority and experience. Such research would fill the gap currently existing in this genre: the lack of linguistic analyses currently available on academic posters or even corpora gathering examples of poster in different disciplines is in fact a clear sign of the marginal importance this genre still retains in the Academia. Furthermore, despite the existence of various guidelines indicating how a poster should be visually devised and presented, an analysis

taking into consideration the semiotic code of language and the semiotic code of images has never been carried out.

Though applied to only one poster, the framework adopted here is likely to identify significant differences and similarities in a cross-disciplinary context. Such analysis would reveal if, within this genre, a number of cross-disciplinary conventions exist and if the rules and formats used in one discipline influence other disciplines. Given the need for data in the field and the lack of knowledge of academic posters, this framework will hopefully contribute to our understanding of a neglected genre and provide valuable insights for different academics as well as EAP teachers.

References

- Alley, M. (2003). *The Craft of Scientific Presentations*. New York: Springer Verlag, 211-217.
- Bhandari M., Patenall V., Devereaux, P.J., et al. (2005). An observational study of duplicate presentation rates between two national orthopedic meetings. *Canadian Journal of Surgery* 48, 117-122.
- Baird, B.N. (1991). In-class poster sessions. *Teaching of Psychology* 18, 27-29.
- Block, S.M. (1996). Do's and don'ts of poster presentations. *Biophysical Journal* 71, 3527-3529.
- Boldt, J., & Maleck, W. (1999). Fate of presentations given at German anesthesia congresses. *Anaesthetist* 48, 802-806.
- Bracher, L., Cantrell, J., & Wilkie, K. (1998). The process of poster presentation: a valuable experience. *Medical Teacher* 20, 552-557.
- Brown, J.S., & Duguid, P. (1991). Organizational learning and communities-of-practice: toward a unified view of working, learning and innovation. *Organization Science* 2, 40-57.
- Chute, D.L., & Bank, B. (1983). Undergraduate seminars: the poster session solution. *Teaching of Psychology* 10, 99-100.
- D'Angelo, L. (2008). Gender identity and authority in academic book reviews: a metadiscourse analysis across disciplines. *Linguistica e Filologia* 27, 205-221.
- D'Angelo, L. (2010). Exploring gender identity in academic book reviews. In Garzone, G., & Archibald, J. (eds) *Discourse, Identities and Roles in Specialized Communication*. Bern: Peter Lang, 365-383.
- De Simone, R., Rodrian, J., Osswald, B. et al. (2001). Letter to the editor. Initial experience with a new communication tool: the 'Digital Interactive Poster Presentation'. *European Journal of Cardio-Thoracic Surgery* 19, 953-955.
- Denzine, G.M. (1999). An example of innovative teaching: preparing graduate students for poster presentations. *Journal of College Student Development* 40, 91-93.
- Devitt, A. (1991). Intertextuality in tax accounting: generic, referential, and functional. In Bazerman, C., & Paradis, J. (eds) *Textual Dynamics of the Professions*. Madison: University of Wisconsin Press, 336-355.
- Ector, H., Aubert, A., & Stroobandt, R. (1995). Review of the reviewer. *Pacing and Clinical Electrophysiology* 18, 1215-1217.
- Eloubeidi, M.A., Wade, S.B., & Provenzale, D. (2001). Factors associated with acceptance and full publication of GI endoscopic research originally published in abstract form. *Gastrointestinal Endoscopy* 53, 275-282.
- Gherardi, S. (2000). Practice-based theorizing on learning and knowing in organizations. *Organization* 7, 211-223.
- Gherardi, S. (2001). From organizational learning to practice-based knowing. *Human Relations* 54, 131-139.
- Hay, I., & Thomas, S.M. (1999). Making sense with posters in biological science education. *Journal of Biological Education* 33, 209-214.
- Howenstine, E., Hay, I., Delaney, E. et al. (1988). Using a poster exercise in an introductory geography course. *Journal of Geography in Higher Education* 12, 139-147.
- Hyland, K. (2000). *Disciplinary Discourses: Social Interactions in Academic Writing*. Harlow: Longman.
- Hyland, K. (2004). Metadiscourse in Academic Writing: A Reappraisal. *Applied Linguistics* 25, 156-177.
- Hyland, K., & Tse, P. (2004). Metadiscourse in academic writing: a reappraisal. *Applied Linguistics* 25, 156-177.
- Kemp, P.M., & Goddard, J.R. (1998). Assessment of abstracts submitted for the BNMS annual meeting: concordance or lottery? *Nuclear Medicine Communications* 20, 195-198.
- Kress, G., & van Leeuwen, T. (1998). *Multimodal Discourse: The Modes and Media of Contemporary Communication*. London: Arnold.
- Kress, G., & van Leeuwen, T. (2001). *Multimodal Discourse: The Modes and Media of Contemporary Communication*. London: Arnold.
- MacIntosh-Murray, A. (2007). Poster presentations as a genre in knowledge communication. A case study of forms, norms and values'. *Science Communication* 28, 347-376.

- Matthews, L.D. (1990). The scientific poster: guidelines for effective visual communication. *Technical Communication* 37, 225-232.
- Miller, C.R. (1984). Genre as social action. *Quarterly Journal of Speech* 70, 151-167.
- Miracle, V.A. (2003). How to do an effective poster presentation in the workplace. *Dimensions of Critical Care Nursing* 22, 171-72.
- Naerssen, van M. (1984). Science conference poster presentations in an ESP program. *The ESP Journal* 3, 47-52.
- Panus, R.S., Delafuente, J.C., Connelly, C.S. et al. (1989). Profile of a meeting: how abstracts are written and reviewed. *Journal of Rheumatology* 16, 145-147.
- Paré, A., & Smart, G. (1994). Observing genres in action: towards a research methodology. In Freedman, A., & Medway, P. (eds) *Genre and the New Rhetoric*. London: Taylor & Francis, 146-154.
- Powell-Tuck, J., Leach, S., & MacCready, L. (2002). Electronic poster presentations in BAPEN: a controlled evaluation. *Clinical Nutrition* 21, 261-263.
- Rowe, N., & Ilic, D. (2009). What impact do posters have on academic knowledge transfer? A pilot survey on author attitudes and experiences. *BMC Medical Education* 9, 7.
- Rubin, H.R., Redelmeier, D.A., Wu, A.W., & Steinberg, E.P. (1993). How reliable is peer review of scientific abstracts? Looking back at the 1991 Annual Meeting of the Society of General Internal Medicine, *Journal of General Internal Medicine* 8, 255-258.
- Salzi, G., Gölder, S., Timmer, A. et al. (2008). Poster exhibitions at national conferences: education or farce? *Deutsches Ärzteblatt international* 105, 78-83.
- Scherer, R.W., Langenberg, P., von Elm, E. (2007). Full publication of results initially presented in abstracts. *Cochrane Database of Systematic Reviews* 18, MR000005 Review.
- Swales, J.M. (2004). *Research Genres: Explorations and Applications*. Cambridge: Cambridge University Press.
- Swales, J.M., & Feak, C. (2000). *English in Today's Research World: A Writer's Guide*. Michigan: Michigan University Press.
- Scott, M. (2004). *WordSmith Tools - Version 4*. Oxford: Oxford University Press.
- Thompson, G. (2001). Interaction in academic writing: learning to argue with the reader. *Applied Linguistics* 22, 58-78.
- Timmer, A., Hilsden, R.J., & Sutherland, L.R. (2001). Determinants of abstract acceptance for the Digestive Diseases Week – a cross sectional study. *BMC Medical Research Methodology* 1, 13.
- Tse, P., & Hyland, K. 2006. Gender and Discipline: Exploring Metadiscourse Variation in Academic Book Reviews. In Hyland / Bondi (eds), 177-202.
- Tufte, R.E. (1990). *Envisioning Information*. Cheshire, CT: Graphics Press.
- Tulsky, A.A., & Kouides, R.W. (1998). Abstract presentations: what do SGIM presenters prefer? *Journal of General Internal Medicine* 13, 417-418.
- Wahler, C.A., & Welch, A.A. (1995). Preferences about APA posters. *American Psychologist* 50, 727.
- Wang, J.C., Yoo, S., & Delamarter, R.B. (1999). The publication rates of presentations at major Spine Specialty Society meetings. *Spine* 24, 425-427.
- Wenger, E. (2000). Communities of practice and social learning systems. *Organization* 7, 225-246.
- Widdowson, H.G. (1984). *Explorations in Applied Linguistics* 2. Oxford: Oxford University Press.
- Woolsey, J.D. (1989). Combating poster fatigue: how to use visual grammar and analysis to effect better visual communication. *Transactions in Neurosciences* 12, 325-32.
- Wright, V., & Moll, J.M. (1987). Proper poster presentations: a visual and verbal ABC. *British Journal of Rheumatology* 26, 292-294.

Larissa D'Angelo is a research fellow at the Department of Comparative Languages, Literatures and Cultures of the University of Bergamo and a lecturer of English. After graduating in Foreign Languages and Literatures, she studied in the USA (Youngstown State University), where she obtained an M.A. in English. Her publications deal with the synchronic/diachronic analysis of genre, gender and cultural identity in academic discourse. She is now at the end of her first year as a research student on the University of Reading's applied linguistics doctoral programme. Email: l.dangelo@student.reading.ac.uk.