



Francesca Costa*

THE USE OF POWERPOINT PRESENTATIONS IN ACADEMIC ENGLISH IN THE SOFT SCIENCES

1. Introduction

“PowerPoint enhances, quite literally, the ability or power to point” (Adams 2006, 10). This tautological definition perfectly encapsulates the idea of what PowerPoint (PPT) is and what it is used for. This *power to point* is the characteristic that has made it among the most used digital genres for academic lessons (Knoblauch 2008) or for presentations at conferences, even though it is also increasingly used in school settings (Wecker 2012). Clearly, this type of support is linked to the increasing use of new technologies in the educational and academic areas, as Knoblauch has rightly noted:

“[...] these presentations are here considered as enactments in which speech and images are interrelated with technology and media. Speech, texts and slides are embedded in the use of technologies, such as notebooks, beamers, laser pointers, and presentation software; and these technologies allow for a mixture of written texts, visual projections and bodily modes of communication” and also sees PPT as a “hybrid form consisting of both interaction as well as technologically mediated action.” (2008, 77)

In fact, PPT is a simple Microsoft computer programme used for multimedial presentations that aid academics in following the thread of discourse, while at the same time making a lesson and the discourse of the presenter more concise and (if so desired) more captivating (since there is the possibility of including images, video, graphics and audio into the text). Presentations are organised into slides projected to the audience, with each slide containing only a defined portion of the text. There are other programmes for presentations, but for now these are less utilised. The first PPT programme dates to 1987, though it entered into academic use only later, when it was streamlined and made easier to use.

PPT has become common among academics. As Kmalvand states, “PowerPoint knowledge representation is the sine qua non of communication in academic settings” (2015, 41). Wecker (2012) emphasises that it is the students themselves who consider PPT as a learning facilitator, even if his study (based on 209 students) showed that this occurs only if the slides are prepared in a concise form. PPT is thus a tool with multiple aims; in fact, when used for conferences and, at times even for lectures, its aim is not only informational but also persuasive, and therefore rhetorical, since it aims at being convincing and persuasive for the audience. When it is instead used for lectures, a PPT presentation aims at teaching content to students. In fact, despite the level of similarity of conferences and lectures, there are still quite a few differences in PPT use in these two contexts, especially regarding the discourse aims (Mariotti 2006).

The use of PowerPoint has become common in the academic, scientific and humanistic disciplines. However, there have been few linguistic studies on this topic in the humanities (see Diani, 2015, on PPT in conference presentations); and none of these studies have undertaken an analysis at three different levels of comparison: Lectures/Conferences, Native/Non-Native and Psychology/Pedagogy. This type of comparative analysis was in part inspired by the literature and in part explicitly designed for the present study. The present study seeks to redress this gap in the research. Being an initial study, the aim is descriptive and intended as a starting point for future studies (see the Discussion and Conclusions section). The main question posed by the study is: when analysing the various types of categories (see Methodology section), do differences emerge between lectures and conferences, between native and non-natives, and between psychology and pedagogy as regards the use of PPT in academic settings?

* Francesca Costa is a Researcher in English Language and Linguistics at the Università degli Studi di Bergamo. Her research focuses on Bilingual Education (BE), Content and Language Integrated Learning (CLIL), Integrating Content and Language in Higher Education (ICLHE) and English-medium Instruction (EMI) contexts with reference to input, output, the acquisition of lexis, focus on form, code-switching and defamiliarisation. She has published several articles on these subjects and presented her work in both national and international journals.



2. PowerPoint in the Literature

As mentioned above, there have been few linguistic studies on PPT in the academic field although there is research on PowerPoint as visual communication in general. These studies will be presented below together with those not strictly tied to linguistics but more to PPT as a pedagogical tool. All studies highlight positive as well as negative aspects. More common with respect to PPT studies, and in some regards similar to the present paper, are studies on conference papers (Rowley-Jolivet 2002; D'Angelo 2016) and didactic, scientific spoken discourse (Young 1990; Flowerdew 1994). Moreover, studies on multimodal analysis of lecturing and presenting styles (Rowley-Jolivet 2012; Crawford-Camicciottoli and Fortanet Gomez 2015; Morell 2015) are well-known.

PPT represents a particular type of redundancy and semiotic mix (Rowley-Jolivet 2002), since for presentations it utilises both written and visual channels. Morell notes that “the written mode represents the key lexico-grammatical features that can guide both the speaker and the audience throughout the talks” (2015, 141). It should also be emphasised that PPT is only one component of the semiotic mix (spoken input of speaker, written/visual input from power points, and extra-linguistic input from gesturing) or multi-semiotic code (Cassily and Ventola 2002) represented in lectures and conference presentations.

Adams' study on PPT (2006) found that it is a commonly-used method, but also one that is highly criticised for the constraints inherent in the programme. In fact, the programme encourages the use of a type of default slide characterised by bullets and excessive conciseness. Tufte (2003) even believes that PPT could impede the higher analytical skills, since it tends too much toward the simplification of discourse. Moreover, it also favours a monologue by the academic and encourages a teacher-centred pedagogy when used during lectures. The fact that PPT can lead to fragmentation is also mentioned (Degano 2012).

3. Reference Literature for the Categories of Analysis

As far as the reference literature for the categories of analysis in this study is concerned, the present study uses parameters found in the literature on studies of academic discourse rather than studies on PPT, given the scarcity of the latter. For each comparison group (Conference/Lecture; Native/Non-Native; Psychology/Pedagogy) macro categories have been examined that have been grouped under the title of: stance (1), culture (2) and epistemology (3).

1) The first category of analysis is the search for elements linked to stance by comparing PPT used for conferences and lectures. As already noted, the aims of PPT presentations for conferences and those for lectures are very different. In fact, in the first case the aim is more rhetorical-persuasive since it is addressed to experts in the field, while in the second it is to teach students about the subject-matter. Moreover, presentations at conferences are events that start and end in more or less one hour, while lectures are longer and cyclical (Mariotti 2006).

The first study that referred to the categories of analysis of PPT presentations in lectures vs conference presentations was by Kmalvand (2015) in Iran. Although the study focused on PPT for students (70), its categories of analysis, which can be defined as typographic (type of font used, transitions between one slide and another, the use of colour), can easily be applied to the present study on PPT for academics, since it can provide indications about how academics change their type of stance depending on whether their audience is students or expert colleagues. In fact, Kmalvand's study shows that, as far as the type font is concerned, most students use Times New Roman, which could signify a need to adapt to the discourse community, which uses this font quite frequently. Moreover, the study reveals little variety in the transitions between one slide and another (the students used the slides available in the programme). Regarding the use of colour, most students used blue for the first slide, grey and blue for the background, and exclusively blue and grey for the text font. Here, too, Kmalvand attributed the choice of colour to the need of students to feel part of the academic community by adopting “serious” colours.

2) The second category of analysis, comparing the use of PPT of native and non-native speakers, is more tied to comparing the differences in the use of the English language between native and non-native speakers. The type of analysis was inspired by Rowley Jolivet and Carter-Thomas' study (2005) on conferences (proceedings and presentations), which analysed, among other categories, the length of clauses between NS (native speakers) and NNS (non-native speakers). The results showed that NS use



shorter clauses than do NNS.

3) The third category of analysis, comparing the PPT for psychology and pedagogy, is obviously more closely linked to epistemological questions. The search for categories of analysis for linguistic elements characterising the differences in the disciplines started from Flowerdew's study (1992). Flowerdew studied the use of definitions in the scientific lectures of native speakers of English, classifying them based on their function. In fact, definitions represent a focal point in knowledge transmission. The aim of the study was to see if there were differences based on the field being examined (psychology/pedagogy). In Flowerdew's corpus (1992), definitions occur quite frequently and can be divided into formal, semi-formal, substitution and ostention. Using Flowerdew's classification, the present paper will adopt copulas as signalling elements for definitions – phrases such as *is called*, *is known as*, and all the forms of the verb *define*.

Rowley-Jolivet's (2002) analysis was adopted as a second category of analysis for comparing PPT use in psychology and pedagogy. Her study analysed the visual features and represents the only study on projected visuals in conferences. She started from Bertin's description (1973) of the types of visuals, which distinguishes between graphical image visuals (monosemic, graphs, diagrams) and figurative ones (polysemic, photographs); she also identified other forms for categorising visuals. Rowley-Jolivet's categorization, which will be used in part in the present study (see also Diani 2015), is scriptural (texts), graphical (graphs and diagrams), figurative (photographs) and numerical (formulas).

4. Methodology

The methodology adopted in this study refers to the qualitative paradigm (Dornyöi 2007), even if for the data analysis quantitative elements will also be used. A qualitative paradigm was chosen because the research is focused on processes and not outcomes and it is centred on the researcher as the main instrument of investigation. Within this framework some elements of quantitative analysis were chosen. In particular when comparing PPT use in lectures and conferences typographical differences were counted. When comparing PPT use in native and non-native speakers the length of sentences was counted. When comparing PPT use in Psychology and Pedagogy visual parameters and the number of occurrences of definitions were counted. As regards the visual analysis, the ratio between their frequency in each corpus and the total number of slides was calculated.

This is an exploratory study aimed at a larger study on the multimediality of the input of university faculty using English as the vehicular language. The mini corpus consists of 18 Power Points: 3 each for conferences and lectures, 3 for native and non-natives, and 3 for pedagogy and psychology (Table 1).

In short (see the previous section on the categories of analysis in the literature), the analysis focuses on three categories of reference:

- a comparative analysis of PPT use in conferences and lectures, with a particular focus on fonts and colours in order to see if there is a different stance between expert and non-expert lectures as opposed to conferences (among equals).
- An analysis which compares PPT used by natives and non-native academics. Moreover, the length of sentences was counted to see if there are any differences when a non-native speaker uses English as a foreign language.
- An epistemological analysis focusing on how knowledge is structured in two distinct but similar disciplines: pedagogy and psychology. First, the use of graphical, figurative and numerical visuals were counted, followed by a linguistic analysis of the frequency in the use of definitions in the two corpora (psychology and pedagogy). Finally, a qualitative analysis was undertaken using excerpts from the mini corpus.¹

MINI CORPUS OF PPT ANALYSIS

	Lectures	Conferences	Native	Non-native	Psychology	Pedagogy	Total
Number	3	3	3	3	3	3	18

¹ Given the peculiarity of the categories and the limited size of the corpus, it was decided to undertake a manual analysis of all the slides analysed.



of PPTs and slides	(119 slides)	(84 slides)	(98 slides)	(92 slides)	(92 slides)	(84 slides)	(566 slides)
Type of analysis	Typographical elements		Length of sentences		Use of definitions and use of visuals (graphical, figurative and numerical)		

Table 1: Mini corpus of PPT analysis

4.1 Sampling

The data (PPT) for the mini corpus were gathered in various ways. Initially, lecturers who were known to the author were contacted, however, this type of data gathering did not provide much information. Out of ten lecturers only two agreed to share their PPT slides with the researcher. Subsequently, web sites of Italian universities with degree programmes in English were examined to download any published PPT material. This procedure only provided two PPT presentations. Finally, the slide sharing site (<https://www.slideshare.net/>) was accessed to gather most of the slides used in this study (n. 14). All together, 566 slides were analysed.

5. Analysis of data

5.1 PPT for Lectures/Conferences

The following results were obtained from an analysis using typographical parameters of the use of PPT in lectures compared to its use in presentations. As expected, the number of slides used for lectures was greater (by 29.4%) than those used for conferences. As far as the font is concerned, for lectures Calibri was used in all the lectures (only one used Calibri Light). However, there was more variety in the use of font for conferences, with Century Schoolbook, Arial and Calibri all being used. Nevertheless, all these fonts are available in Windows, and therefore no one deviated from what is available within the system. Perhaps a very common font was used in lectures so that all the students could follow the lesson, since many international students do not use the Latin alphabet and could therefore have problems in understanding texts. Another explanation could be that the lecturers used the default version for the presentation scheme they use. On the other hand, all the slides had a white background, perhaps to make them easier to read while also giving them a more serious tone. One possible explanation for the use of white might be due to the fact that the use of colours is seen as frivolous, indeed.

Once the corpus was analysed, the analysis was broadened to investigate lexical aspects used in the two mini corpora. In fact, the analysis revealed the use of technical lexis in the form of collocations, though not in a prevalent manner. The discourse was more narrative and less technical (Table 2). Even the acronyms were very few in number: 3 in the lectures (*RAT-replacement, amplification, transformation*) and 2 in the conferences (*NBS-Newcastle Business School and PRS-Psychiatric Rehabilitation Services*).

TECHNICAL LEXIS IN PPT USED IN CONFERENCES AND LECTURES

Lectures	Conferences
authentic pedagogies	Co-responsibility
quality pedagogies	action-research
critical pedagogies	critical pedagogy
turn-around pedagogies	ethnographic research
belonging	performative self
acknowledgement	inner self
	p-policies
	performativity

Table 2: List of technical lexis in the mini corpus



5.2 PPT Use by Native/Non-Native speakers

For the comparison of PPT used by native and non-native speakers, length of sentences was used as a parameter of analysis. The average for native speakers was 9.75 words per sentence, while for non-natives the number was slightly higher at 11.34 (see section on Discussion and Conclusions).

5.3 PPT Use in Psychology/Pedagogy

For the analysis of the difference in PPT use in the fields of psychology and pedagogy, both visual parameters for the slides (graphical, figurative or numerical) as well as a more linguistic analysis of the number of occurrences of definitions and their description was used. Regarding the visual analysis, since the psychology and pedagogy slides differed in length, it was decided to calculate the ratio between their frequency in each corpus and the total number of slides. It should be noted above all that the number of slides used for psychology were 8.7% higher than those used for pedagogy.

In terms of the analysis of the graphicals, there were 0.06 occurrences per slide for psychology against 0.05 in the mini corpus for pedagogy; thus, the data is almost equal. There were 0.11 figurative elements per slide for psychology compared to 0.10 for pedagogy, also revealing a similarity in the data. Numerical features are absent in the pedagogy corpus, while there are 0.02 per slide for psychology.

A more discursive analysis of the definitions shows instead that they were twice as frequent in the psychology mini corpus (0.11 per slide) than in the pedagogy corpus (0.05 per slide). This quantitative analysis was complemented by a qualitative analysis of the discursive data for PPT use in psychology and pedagogy.

The first example below refers to a definition of the branch of developmental psychology. The extract contains both the *definiendum*² (*developmental growth*) and the *definiens*³ (*studies...*). Moreover, it is a semi-formal definition, since it does not include the class the definition belongs to (term – class – definition). There are no linguistic elements such as the term *define*; however, it is clear the academic wants to provide a definition of the concept (developmental psychology). In order to do this, he/she first and foremost associates it with other disciplines, only at the end presenting two synonyms (*growth* and *throughout life*). The definition is referenced by three photos: one of a small child, another of a boy, and a photo of one or two elderly persons (extensive definition).

Developmental psychology studies the biological, physical, psychological, and behavioural patterns of growth and changes that occur throughout life. (PSI 2)

In the second example, two periods (*critical* and *sensitive*) are explained. Here, too, the *definiendum* is provided (*critical period* and *sensitive period*) as well as the *definiens* (*an age range* and *an optimal range*). The definition is semi-formal as it does not provide the class to which it belongs. In this case as well, the term *define* does not appear; however, the use of colons helps to make clear that it is a definition. The concept of period is defined as a synonym of *age range*, whereas *critical* requires periphrasis: *must occur for development to proceed normally*. Of note is the use of the modal *must*, which differentiates this definition from the similar one that follows. The second definition (*sensitive period*) has a similar structure: it starts with a colon, but this time *age range* is not used to explain period; instead, the synonym *optimal range* is employed, with the definition ending with *normal development is still possible*.

Critical Period: an age range during which certain experiences must occur for development to proceed normally.

Sensitive Period: an optimal range for certain experiences, but if those experiences occur at another time, normal development is still possible. (PSI 2)

² “A word, phrase, or symbol which is the subject of a definition, especially in a dictionary entry, or which is introduced into a logical system by being defined.” <https://en.oxforddictionaries.com/definition/definiendum>. Last Visited December 12, 2017.

³ “A word, phrase, or symbolic expression used to define something, especially in a dictionary entry, or introducing a word or symbol into a logical system by providing a statement of its meaning.” <https://en.oxforddictionaries.com/definition/definiens>. Last Visited December 12, 2017.



Finally, the last example contains both the *definiendum* (*assimilation* and *accommodation*) and the *definiens* (*the process...*). This is a formal definition. The definition does not contain the syntactic signalling of the copula, but the colon serves the same purpose. Since the two definitions are conceptually linked, their structures are parallel, the difference being the significant choice of voice *are incorporated into* and *cause existing schemas to change*. Moreover, both definitions adopt a common lexis. Clearly putting the two definitions together in the same slide was intended to make it easier for the audience to directly compare them.

Assimilation: the process by which new experiences are incorporated into existing schemas.

Accommodation: the process by which new experiences cause existing schemas to change.

(PSI 3)

The definitions below are taken from the excerpts from pedagogy.

The excerpts from the pedagogy mini corpus often present citations pertaining to the definitions (e.g. *Mac Kenzie et al.*). The definition reported below includes both the *definiendum* (*authenticity*) and the *definiens* (*an inner self...*). The lexical signalling is *refers to*, which is quite unusual. It is a semi-formal definition since the class it belongs to is not specified. In the first example, the term *refers* introduces the definition, followed by two verb phrases (*can recognize* and *can act*) that describe the action carried out by the defined term. Moreover, the definition includes two adverbs: *knowingly* and *mindfully* to better define the concept.

Authenticity refers to an inner self that can recognize performative demands and act knowingly and mindfully in response to them. (Mac Kenzie et al. 2007, 47) (PED 3)

In the following extract the definition is longer, including both the *definiendum* (*big-P policy*) and the *definiens* (*that is a formal...*). The academic refers to big-P and uses *that is* to give a short, clear definition using a synonym (*legislated policy*). However, he then immediately expands the definition, contrasting big-P with little-p policy. The definition is semi-formal.

Big-P policy that is 'formal' and usually legislated policy.... But we need to remain aware that policies are made and remade in many sites, and there are many little-p policies that are formed and enacted within localities and institutions. (Ball 2008, 7) (PED 2)

The last example presents the definition of *socially just pedagogies*, using the verb *to be*. The definition contains both the *definiendum* (*socially just pedagogies*) and the *definiens* (*are the firm...*). The syntactic signalling is provided by the copula. In this case, a citation of reference is not used.

Socially just pedagogies are the firm belief that everyone has the right to a quality education.

6. Discussion and Conclusions

The present study has analysed PPT in an academic context to determine whether there are differences when it is used in lectures as opposed to conferences, by native and non-native speakers, and in the different disciplines of psychology and pedagogy. The most important aspect to emerge from the data of this qualitative and explorative study is the enormous variation determined by the style that each academic chooses as his/her own. Therefore, the data cannot in any way be generalised and is only valid for the preliminary initial sampling.

Starting from the research question (see Introduction), and thus from the three parameters of comparison, the following results emerged. There are no differences between lectures and presentations as far as the identified for the analysis parameters are concerned (see Introduction); these parameters would have indicated whether or not the participants belonged to the academic community (in which case there would have been a higher value for the conferences). There is very little specific lexis in PPT for both conferences and lectures. The use of the same font is common to all the lectures, with a slight variance in conferences.



There is more variety in the font used during conferences than during lectures, perhaps because the aim of the lectures is to present intelligible and understandable content also to students with different alphabets (e.g. international students) who might encounter difficulties in quickly decoding written language. Therefore, this mini corpus did not provide a clear indication of membership in the scientific community. It can be hypothesised that these elements are transmitted more through the speech that accompanies the PPT rather than through the PPT itself; however, this type of analysis was beyond the aim of this study.

If we instead compare native and non-native speakers we note (see also Rowley-Jolivet and Carter-Thomas 2005) that native speakers use shorter sentences, which could indicate a need of non-natives for more text in the PPT as an aid in the event their competence in English is not entirely suitable. It could also indicate differences in the length of sentences due to intrinsic characteristics of languages other than English. This way PPT would serve as a support and aid for the audience in overcoming any language shortcomings caused by the spontaneous speech of the academic speaker. The PPT would provide a presentation based more on reading than on spoken interaction although this interpretation is only hypothetical given that the actual delivery of the presentations could not be observed.

From the epistemological point of view, the slides for psychology are longer than those for pedagogy. When we analysed Rowley-Jolivet's (2002) categories for visuals, the PPT for psychology and pedagogy had roughly the same number of graphicals and figuratives as they did numericals, which were present only in the psychology slides. The explanation could be linked to the fact that psychology might use more of a quantitative method of analysis, and thus more numbers in its slides.

With regard to definitions, these were all found to be very clear and simple and mainly of the semi-formal type (Flowerdew 1992). They were also twice as common in the psychology corpus, perhaps due to the fact that pedagogy might transmit knowledge in more of a narrative manner. However, when we compared definitions in the scientific field (which Flowerdew investigated in spoken academic discourse, with one every 55 seconds), these turned out to be less frequent than in the PPT for psychology and pedagogy, perhaps indicating that these disciplines require fewer well-defined definitions and more discussions surrounding these definitions, or perhaps that they were not contained in the PPT but could be present in the accompanying speech.

An additional aspect of PPT (as regards the sample of this study) was also uncovered, which was not part of the original research design but which came out during the analytical phase. All but two of the PPT (whether for conferences or lectures) under examination had a reference section.

The present study clearly represents only a description of what the data revealed; however, it can represent an initial exploration that could be useful for future research. The categories of analysis, which perhaps provided more data regarding the use of PPT, were the difference between native and non-native speakers and the ones regarding the use of definitions in psychology and pedagogy. A larger corpus could provide similar or different indications, and thus it could be useful to investigate this further. Moreover, it would also be useful to understand how PPT is received by the target audience (students or academic colleagues). In this sense, if PPT is as useful as it seems from Wecker's initial studies (2012), then we can consider introducing PPT and the various types of analysis in training courses for academics. In fact, it is crucial for PPT to be clear and intelligible, particularly in a globalised educational context in which knowledge is increasingly shared at the international level.

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