PowerPoint in the Classroom.

A few considerations

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Today I'm going to discuss with you a few issues related to the use of PowerPoint in the Classroom. (And, of course, I'm going to do it by using PowerPoint).

Slide 2

Since our website encourages the use of slides as a way to enliven lessons, I thought it could be useful to explore the studies and researches which have been published up to now dedicated to assess the usefulness – or uselessness – of this tool.

Curiously enough, there are not so many as one could think. And most of them are case studies limited to small numbers of students.

And I say curiously, because nowadays Powerpoint has become the omnipresent tool for business presentations and the most popular for university lectures as well.

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As Wecker says, "Appearing at a meeting without PowerPoint slides has even been compared to wearing no shoes"[1], and Craig adds that "the use of PowerPoint is so widespread in higher education institutions that for a faculty member to refrain from using PowerPoint is "sometimes seen as a mark of seniority and privilege"[2]. It has even been described, by Van Jole, "the Viagra of the spoken word ... [and] a wonder pill for flabby lectures"[3].

Slide 3

As a matter of fact, PowerPoint has a dubious reputation. Even if its use is so widespread, the debate about its superiority against a traditional "chalk and talk" pedagogy[4] is not over – at all I'd add– and very often teachers may have the impression that PowerPoint is a tool devised rather to entertain than to educate students[5].

Slide 4

I would like to start by presenting the positive effects which have been recorded in the studies I've considered.

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[1] Wecker, 263
[2] Craig, 147
[3] In Craig 147.
[4] see Kunkel 188
[5] see Szabo 187

First of all, appreciation. In many studies, the most relevant element which emerges from questionnaires is that students – about the 75% on average – prefer lectures where Powerpoint is used rather than those where the traditional blackboard or overhead projectors are employed[6]. This is not only due to a "novelty effect" as it was initially hypothesized in several studies, but, to a convergence of several factors. The visual quality of the slides gives a greater appeal to the lesson material: the colours, the possibility to use different fonts, the addition of illustrations and even sounds or video are all perceived as elements increasing the palatability of a lesson.

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But there are other, perhaps less superficial, reasons. One is structure. As a matter of fact, PowerPoint "enhances lecturers' ability to order and pace lectures and to present clear summaries"[7] and, as a direct consequence of this, "students perceive lectures accompanied by computer-mediated PowerPoint presentations as more organized"[8]. They also feel that, during a slide presentation, they manage to take better notes and that they are easier to study. Finally, the students believe that they learn more from a PowerPoint lecture.

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Now, is this true? Has it been proved? Much as I would love to answer yes, I cannot. It has not been proved. On the contrary, the matter has probably never been so debated and confused. Of all the studies I've taken into considerations, Szabo, Lowry, Blaclock and Montgomery found evidence of better performances in tests given to students after single slide-assisted lessons or at the end of the course in comparison to the performances of students attending traditional lessons. On the other hand, other scholars such as Bartscha, Wecker, Sharma and Savoy demonstrate, in their surveys, that performances are similar and, in some cases, even worse. So, we cannot say that PowerPoint is helpful, for sure not for the purpose of improving exam results. However, personally, even if it were definitively proved that there are no substantial improvements in the test performances, I would not discard PowerPoint as useless. The fact that it is so widely appreciated by students, that is perceived as a tool adding to the clarity, enjoyability and interest of a lesson is, in my opinion, of great impact on the choices we should make. We all know that a positive attitude when facing a two hours lesson is priceless and that the feeling that we are listening to a well organized and useful lesson, rather than wasting our time with a boring and complicated one, helps a lot, most of all, in the long run.

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Finally, there is another positive effect which has been recorded and which is connected to the use of Powerpoint as a means for students to present their assignments: as Yoneoka illustrates in her case study, "students tend to feel comfortable in making oral presentations

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[6] See Szabo p. 181, Suhagara p. 399, Yoneoka p. 4.
[7] Susskind p. 1229.
[8] Ibid.

using PowerPoint. Their work looks professional; it therefore gives them the illusion that it IS professional." She also adds that "PowerPoint can be said to bring out creativity and motivation. The availability of a variety of resources—word, excel and web files, and even sound and video clips that can be arranged in a "beautiful" manner tended to encourage even less motivated students to do their best."[9] To this, other studies added that the use of technology in general at school, so not only PowerPoint but also the use of the Internet, cds and dvds for extra work, homework, assignments or other, have been proved to be of great help to enhance self-directed learning[10] thus encouraging students to be active participants in their lifelong learning process.

Slide 5

And now, let's take into consideration the drawbacks. Which are of extreme interest, in my opinion, to develop a stronger awareness in the use of this tool and, perhaps, also, in avoiding a few, avoidable, mistakes.

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The first factor is mainly due to a wrong "adaptation" of the lecturer to this new tool: it has been recorded that inadequate pacing of presentation[11] results in student confusion. Very often we tend to rely too much on slides and perhaps we speak too fast and also we don't observe our public.

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So, in a sort of way, we transform ourselves in a "voice over" for our slides thus suppressing dialogue, interactivity and possibly the adaptability of a lecture to the students' needs. However, these risks can easily be avoided with a careful planning of the lecture and some practice.

Slide 6

The second set of problems is instead mainly caused by the physical characteristics of the medium itself. First of all, compared to the traditional blackboards, information presented on computer slides is less persistent: phrases written on blackboards tend to be left there until all available place is full and when they are deleted very often this action is meaningful too. "With blackboards, instructors would often refer back to previously written content during a lecture – sometimes to information recently presented, and other times to content originating much earlier in the presentation." [12] Slides, instead, present concepts in sequence one after the other: thus the transitoriness of the presented information appears to be one of PowerPoint's main flaws.

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[9] Yoneoka p. 2,4.
[10] See Suhagara 391.
[11] See Suhagara 393.
[12] Lanir p. 893.

Secondly, the synthetic nature of slides is sometimes considered detrimental to student's literacy: "PowerPoint slides are often devoid of paragraphs, pronouns, punctuation, conjunctions, auxiliary verbs and articles. The obligation to form full sentences has become optional and the spelling of polysyllabic words has become a lost art in a sea of PowerPoint-induced abbreviations."[13]

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Thirdly, in many studies students complained about the difficulty to see and take notes in the dark[14]. In some cases, a good solution for this problem has been identified in the possibility to make slides available to students before each class. As Kunkel points out, "This process allows for more listening and less frantic note taking because students are able to have the main outline of important points in front of them during class discussion. As more detail is presented in class, students can write additional notes on the printed slides"[15]. However, this procedure may also have negative effects: it might discourage students from "summarizing what they learn through note taking"[16] an action which is, by some, considered a fundamental step in the learning process[17].

So, in this case as in many others, it is important to remember that PowerPoint is just a tool and that it might be more indicated for some subjects and topics and less for others. For instance, in case of lectures dealing with complicated ideas it could be useful to give the slides in advance so as to make available from the very beginning the entire logical sequence. The appeal and wideness of descriptive lectures, instead, might be diminished if a lecture structure is made available in advance thus depriving students of the possibility to assess by themselves which pieces of information need to be recorded.

<div align="right">Slide 7</div>

Finally, recent studies have pointed out how, during slide presentations, participants missed what was only said but not shown. Indeed, as Wecker points out, "providing a piece of information on a slide is likely to be understood as a conventional signal for highlighting important content, and thereby reduce the audience's attention for listening"[18]. This problem is hypothesized as being caused by a cognition "overload" where the presence of slides made up of both text and illustrations or too much text, make it too difficult for the audience to allocate correctly their attention on the aural channel.

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A good method for avoiding this negative effect could be using concise slides. Sometimes we tend to use slides as a reminder of what we want to say, so the more detailed they are, the better we think. However, slides are for students and not for us and concise slides –

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[13] Craig p. 157.
[14] See Suhagara 399.
[15] Kunkel p. 191.
[16] Suhagara p. 400.
[17] See Daniels p. 45.
[18] Wecker p. 263.

containing only very limited information on each slide (e. g. the "skeleton" of the exposition) - [19]force students to re-focus attention on the speaker and on what is said. Also the trick to show one item at a time is good to focus the listeners' attention on one topic after the other.

Compare slides 8-9

Slide 10

The other distractive factor, incongruent images[20], is proved to be detrimental to learning in many studies and so it must be eliminated without hesitation. What are incongruent images? Not only illustrations or animations added "for fun" but also illustrations which, even if they are related to the general topic of the lecture, they are not accurately connected to the theme corresponding to the slide.

Compare slides 11-12-13

Slide 14

Finally, I'd like to conclude with two last, but not least, considerations.

First of all, I'd like to repeat again the piece of advice about the need to consider with care if PowerPoint is the best tool for the lecture you have in mind. As Savoy explains: "If students are expected to retain complex graphics, animation, and figures, PowerPoint presentations may have an advantage. If students are expected to retain alphanumeric information, the lecturer could use either of the presentation styles (blackboard or ppt). If students are expected to retain information and/or concepts that are best conveyed through dialogue or verbal explanation, traditional presentations appear to be best."[21]

The second is consideration is that, as Daniels points out[22], in addition to addressing learning styles, the use of slide presentations may also address the needs of certain groups of students. For example, students who speak English as a second language may find the slides particularly useful since a lot of material is visually available. Similarly, students with learning differences that require more time to take notes may also appreciate them."

To conclude, at the present moment we cannot know if PowerPoint is the teaching and learning tool of the future. But we know, for sure, that it is a valid and appreciated tool and we must only learn to use it with awareness of both its benefits and drawbacks.

Aosta, 27/02/2013

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[19] Ibid.
[20] See Tangen p. 870.
[21] Savoy p. 866.
[22] Daniels p. 46.

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