

**Against the tyranny of PowerPoint:
new avenues for passionate learning?**

Yiannis Gabriel and Dorothy S. Griffiths
Tanaka Business School, Imperial College

One of the technologies that have established themselves in our lives as academics and as teachers is the PowerPoint presentation. Like e-mail about ten years earlier, PowerPoint initially deceived by creating the appearance of accomplishing what earlier technologies did (overhead transparencies, chalk and blackboard) only more efficiently, more stylishly. Yet, just as e-mail redefined the nature of organizational communication, PowerPoint has had far-reaching consequences on classroom (as well as boardroom) presentations, making itself the indispensable medium for a wide range of applications. Within postgraduate business education, PowerPoint is now a sine-qua-non of a lecture. Correspondingly, the nature of 'the lecture' and possibly of 'learning' itself has been irreversibly altered, some indeed may say 'reinvented'. Outside academic establishments, PowerPoint has become the undisputed medium of business presentations and, increasingly, reports. This paper examines whether the increasing hegemony of PowerPoint is allowing room for discovery learning, if indeed it is compatible with a thirst for knowledge that goes beyond a mere instrumental approach to learning and understanding.

The rapid incursion of PowerPoint in education can be viewed as symptomatic of long-term changes in teaching and learning technologies. These coincide with a changing range of skills of teachers and increasingly consumerist attitudes of many learners. At its worst, PowerPoint can be viewed as part of the deskilling of teachers and the dumbing down of students. Teachers, under great time pressures to deliver on research and administration, under constant email bombardment, and faced with endless deadlines and obligations, rationalize and simplify their teaching by becoming commentators on slide shows, often considerably provided by the publishers and authors of textbooks. To caricature it a bit, teachers become slide jockeys on auto-pilot, not a million miles removed from the Fordist model. To their delight, they discover that their teaching scores and customer satisfaction improve with the use of PowerPoint. Students, for their part, become comfortable passive learners, engaging in one of the favourite pass-times of our age, watching pictures and absorbing largely subliminal messages. As consumers of educational packages, they extend their experience of being consumers of shows and spectacles, on a and off TV. This can all be seen as part of the widely debated commercialization of higher education which turns students into customers and universities into McUniversities. Education becomes a form of entertainment (some call it 'infotainment') with bite-size morsels of information that do not strain or test their powers of reasoning or comprehension beyond supplying enough material for some largely ritual testing to take place.

In the last couple of years, a lively debate has grown around the use of PowerPoint in education as well as in business. This debate (mostly conducted on web-sites) was prompted by a stinging critique by Edward Tufte, a Yale professor of information design (Tufte, 2003a, c), who charged PowerPoint with degrading the quality of communication, stupefying and boring audiences, debasing everything it touches. Critics have held PowerPoint responsible not only for spiritual and cognitive debasement but for material disasters too (Felder & Brent, 2005). Tufte(2003b), for instance, argued that the Columbia disaster might have been averted

had the crucial information regarding the foam which critically damaged the shuttle's tiles not been contained in a confusing PowerPoint slide with 10 bullet points at six levels. Tufte's argument is that the vital piece of information that would have alerted NASA to the damage sustained by the shuttle was drowned by noise and absence of context which were the result of a PowerPoint mindset.

Tufte's lampooning of PowerPoint ("Power corrupts, PowerPoint corrupts absolutely) has earned him some notoriety and fame. Yet, his critique has more than the whiff of a grumpy old man looking nostalgically at old times. Similar charges can after all be raised against virtually any form of information technology. Typewriters destroyed the skills of calligraphy, word-processors destroyed the skill of producing well-turned phrases, and the internet has allowed every type of uncensored and unauthorized text to claim an audience.

PowerPoint has its defenders too who point out that many of the shortcomings of PowerPoint result from poor usage rather than the technology itself and claim that one cannot blame PowerPoint for every problem of our educational systems (Abernathy, 1999) (Griffin, 2003). Some educationists have produced evidence from schools indicating that PowerPoint helps students absorb information and that it enhances their concentration and motivation to learn (Bartsch & Cobern, 2003; Boylan, 2004; Doumont, 2005; Hu, Clark, & Ma, 2003; Susskind, 2005). Such defenses are essentially utilitarian – PowerPoint, may not excite the students or stimulate their thirst for knowledge, but it makes the job of teachers in the classroom easier in keeping the attention of the children, helping maintain their interest and assimilate the material. Our question is whether PowerPoint can be consistent with an approach that emphasises love for knowledge and active learning.

Our own experience of PowerPoint

One of the most obvious, yet striking, things about PowerPoint in our experience has been the precipitous increase of its use in classrooms well as in conferences. For many courses today, its use is indispensable. Yet, a mere five years ago its use in universities was fairly limited. This increase is due to both 'pull' and 'push' factors – audiences, especially students, demand it and lecturers find that it makes their lives easier. It is probably true to say that students making classroom presentations adopted it before their lecturers and that they have consistently employed more sophisticated and imaginative graphics and animations than lecturers do. Its use to students can be absolutely vital. When the system malfunctions, a great deal of anxiety is unleashed.

The second thing to say is that the competence of PowerPoint users varies widely. We all have experience of presenters going ritually through their slides, determined to exhaust their stock in spite of the exasperation and tedium of their audiences. We also have experience of presenters who dazzle us with impressive graphics, leaving us in doubt as to whether it was all froth and no argument.

If competence varies widely across users, so too do the repertoires of uses to which PowerPoint is put. Some users rely on helpful or stimulating illustrations to liven up their argument, others may use bullet points to suggest an argument's basic structure, yet others may employ slides as a kind of hyper-text offering a commentary on their oral presentation. Styles in the use of PowerPoint vary – the number of slides and the speed at which they succeed each other, the nature and extent of the animations etc. Above all, the content of the slides and its relation to the oral presentation vary, reflecting the user's style and competence and the nature of the communication. Some of the dominant types of slides are a. bullet points lists, b. visual illustrations (schematic illustrations or photographic and other images), and c. statistical data, often in pie charts or other such forms (or a combination thereof).

Lists

Lists of bullet points have been the target of much criticism (Feynman, 2001). Lists imply certain assumptions that are not always met. For instance, many people (and most students) confronting a list will assume that it is exhaustive, that the items on it are co-equivalent (no list can be made of apples, dinosaurs and average rainfall in London) and that they are mutually exclusive (you can't have in a list Manhattan, Queens, Brooklyn and Lower East Side). In reality, few lists meet these requirements, and yet they block thinking into precisely areas of overlap or items that are absent from the list. Furthermore, lists obscure contexts and assume an unquestioned authority that conceals weaknesses in analysis, argument and structure.

Still, bad lists and bad use of lists is not necessarily a criticism of all lists. Feyerabend (1987) argued that (properly constructed) lists are 'basic ingredients of common sense' or indeed early forms of theory. Aristotle made extensive use of them and some of his well-known works amount to little more than highly detailed (and carefully constructed) lists. Lists have their uses. One of these is to help us structure our thinking, even though at times they assume the form of a dog's breakfast, i.e. a substitute for structure. Like a definition, a list would ideally assume a provisional or working quality, inviting refinement, criticism and discarding when exhausted or fatally flawed. Besides enhancing structure and representing first steps towards theorising, lists have mnemonic and aesthetic qualities too. A well-defined list, in its economy, completeness and originality, can afford much pleasure. A list that assumes a convenient acronymic quality (7 s's or whatever) installs itself easily in the memory.

Images

Image is the true blessing and maybe the curse too of PowerPoint. By projecting pictures, the presenter can transport his or her audience to distant places, replacing the orderly setting of the lecture theatre with visions of exotic lands and unusual sights. Ours is truly a society of

spectacle and PowerPoint can turn the modest, old-fashioned lecture into a real show, stimulating to the eye, entertaining and exciting. Our minds remain restlessly alert, seeking to establish the relation between son et lumiere, presented with countless instantaneous puzzles to prevent boredom from setting in. But, of course, as all of us who lecture know, image comes to the rescue of poor argument, dodgy structure and unreliable analysis. It also wrecks style, obliterating the finer nuances of language for the immediate bombardment of the senses.

While image can distract from the beauty or truth of an argument, for certain types of presentations, it is indispensable. Imagine trying to understand anatomy, geography or physics without the aid of images. In many such cases, PowerPoint does immeasurably enhance the use of drawings, graphs and posters, by offering the possibility of three dimensional graphics and infinite variation and nuance in the use of pictures.

Another type of image that features in PowerPoint presentations is the diagram – the schematic representation of material in 2x2 matrices, Venn diagrams and the like. These can relate large amounts of information in a relatively economical way, although as in the case of lists, they may conceal many of the simplifying assumptions upon which they rest. Yet, like lists, diagrams can help both structure our thinking process and simplify mind-numbing complexity into something that we can understand and relate to. Diagrams can also afford some aesthetic pleasure in conveying information economically, wittily and maybe elegantly.

Statistics

Statistics in PowerPoint often feature as graphs, pie charts and the like. These have been branded ‘chartjunk’ by Tufte (2003c) and admittedly they lack the rich informative detail, the precise beauty of numbers. Yet, they can reveal relative proportions in a quick manner and maybe avert some of the misunderstandings that arise from miscounting the number of zeroes at the end of numbers. As with the use of images, so too in the presentation of statistics, PowerPoint can present information in an economical, evocative and even aesthetic manner, although, of course it does not always do so. It does not seem to us that PowerPoint by itself and when properly used substantially degrades the quality of statistical information conveyed.

All in all, it seems to us that some of the criticisms leveled at PowerPoint may be missing the point. It is true that PowerPoint offers some easy solutions to problems of presentation, which may not always be the optimal solutions. It is also true that the technology encourages a certain linear form of reasoning that dislikes digression and has limited flexibility. Complex arguments can become simplified into bullet points and lists and fancy illustrations can conceal inadequate analysis or can create misleading impressions. Pictures and images can easily turn a learning process into one of entertainment. Yet, many of these limitations may be seen as deriving from incompetent use of the technology rather than the technology itself.

When skillfully used, PowerPoint confers certain advantages to teacher and learner, including a useful tool for summarizing key points with mnemonic cues and lively visual supports that can embed learning. Three important ways in which PowerPoint can enhance the

learning process involve structure, simplification and support. Where an old-fashioned lecture may have employed a drawing on a blackboard to draw the relations between certain concepts, PowerPoint offers a colour diagram; where a traditional lecture may have used an anecdote or a joke to support an argument, a PowerPoint lecture may use a picture or a graph to liven things up. Where a traditional lecturer may have turned his/her back to the audience in order to produce a more or less successful circle on a blackboard, today's lecturer can produce perfect circles, without ever sacrificing eye-contact.

Critics may argue that certain technologies by themselves create bad habits. PowerPoint can then be seen as creating linear, sequential, lazy thinking and providing a security blanket for both incompetent presenters and insecure learners. It helps the former camouflage shortcomings of analysis, thinking and critique through fancy graphics and compelling images. As a machine for packaging learning in standardised, digestible parcels, it helps the latter by confirming the view that knowledge is 'stuff'. In this way, PowerPoint makes sensical discourse far easier – it smoothes out all the dangerous possibilities of misunderstanding, miscommunication etc.

Yet, like all security blankets, PowerPoint creates anxieties of its own. Paramount among them is the question of whether the technology will function. Secondly, whether the inexperienced or insecure instructor will be able to extemporise around a particular slide. For the student too, PowerPoint comes with the anxiety as to whether what seemed so clear and obvious during a presentation, will remain so in the cold light of day when the slides are inspected on a piece of paper unaccompanied by the re-assuring voice of the instructor. All in all then, PowerPoint, like all technologies would seem to be full of risks and certain possibilities. In line with the aim of the conference organizers, we now turn to explore creative and transgressive possibilities of using PowerPoint that stimulate a passion for learning and generate passionate knowledge.

Our starting point is that passionate learning today is not a marginal activity but assumes many different forms. Passion and emotion can be discovered in numerous activities which are driven by curiosity, including internet explorations, museum visits, some forms of tourism, personal growth, and all kinds of reading. The success of museums, like the Tate Modern or the Science Museum, testify to the passion of people of all ages for exploration and learning. While some adult education is driven by enhanced career prospects, most of us in Higher Education continue to enjoy discovery learners, students who are genuinely elated at discovering ideas from first principles, at being able to make sense of opaque earlier experiences or realizing that what appeared common-sensical and obvious may not be so obvious after all. And many students at all levels report about inspirational teachers who are able to awaken a thirst for knowledge, for learning and for discovery.

A vignette

Most lecturers have experience of PowerPoint equipment malfunctioning. On this occasion, one of the authors was facilitating a series of three presentations by PhD students in front of an audience of half a dozen of their peers. It was due to be held in a small seminar room and, as it happened, nobody had thought of ordering a laptop. A rash of activity ensued seeking to fix the problem, but the lecturer announced that this would be a fine opportunity to try out some old fashioned skills of presenting, debating and above all thinking. The result was one of the most creative, enjoyable and fecund seminars any of the participants had attended. Several of the participants reported later that they had learned more from that session than most earlier ones. Yet, when the lecturer suggested that the following week's seminar should take place without PowerPoint, he was roundly out-argued by nearly all the participants. It was good to be able to pull it off once, but students did not like the idea of performing routinely without the safety net of the machine. From the following week, we were back to PowerPoint. It made us think of making the most of technological adversity, as when a car, a television set or computer fails – we enjoy being able to acquit ourselves but would not like to do without these conveniences on which we readily become dependent.

Where does this leave PowerPoint as a part in passionate learning? Must it be consigned with the forces of reaction and performativity or can we think of ways it can enhance creativity, stimulate curiosity and awaken a thirst for learning? It seems to us that most of the adverse consequences of PowerPoint stem from its routine, comfortable and safe applications. An alternative range of uses for PowerPoint would be to introduce the unexpected in the communication creating discontinuity. Discontinuity is a crucial element in many types of learning. Its importance for stimulating curiosity cannot be overestimated. Discontinuity between knowledge and experience, between different types of sensory stimuli, between emotion and cognition, between what is known and what is desired – all of these fuel a desire to learn and to explore. Discontinuity represents a boundary that invites transgression, a journey to be made, an unknown to be experienced. It also implies an anxiety to be conquered.

How then can PowerPoint be used to create disruption in the comfortable communication? We would contend that like many other technologies, this one too may be subverted, twisted and turned to enhance discovery learning. The very predictability and linearity of PowerPoint makes it a fascinating instrument to subvert by taking a variety of risks. There are different performance risks that can be taken (e.g. risqué slides, collages, discontinuities, omissions and disruptions); there are fascinating and troubling juxtapositions of language and imagery; there are startling possibilities of irony and self-parody. In short, we feel that PowerPoint does offer some possibilities of stimulating a creative imagination, or opening up arid academic discourses to wider audiences. PowerPoint does not have to kill narratives, storytelling or creative thinking, although it often does. It can, if used in a passionate, imaginative way, become a source of creativity, imagination and discovery learning.

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