

How to avoid “death” by PowerPoint

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SUMMARY

The goal of this paper is to report the indifference towards the differences on how to deliver a PowerPoint presentation.

The “indigestions” due to PowerPoint presentations are the consequence of the lack of respect of the neuropsychological concepts of how the Homo sapiens perceives, recalls, understands and is motivated and moved by information.

Avoid entire text block of CAPITAL LETTERS, italic text or bold text which make text difficult to read. When deciding what font size to use in your presentation, make sure it is big enough so that the audience can read it.

Remove unnecessary text from bullet points as NO audience enjoys bullet points followed by long runs of text.

The background color on the slide should not swallow the letters!

The use of laser pointer is a forbidden activity for an audio visual presenter.

An image is worth a thousand bullet points. Slides have not been created to become a book to be read. Slides have been created to be understood, and nothing is better than an image that represents the concept to teach in a metaphorical, analogical or symbolic fashion.

Use images to evoke specific emotions. Remember that images create emotional responses that do not rely on the intellectual ability to be appreciated.

Using images your audience will be more likely to remember your message.

Good images, as fragrances, remain in the audience for a long time after the presentation has finished.

Do not turn off the lights during the presentation unless you are a spy who wants to keep your identity secret!

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Key words > Education - Didactics - PowerPoint - Neuropsychology

BACKGROUND

“When we have the freedom to do what we want,
we usually imitate us.”

ERIC HOFFER

The aim of this paper is to report the indifference towards differences on how to do a PowerPoint presentation (a).

In the classrooms and conference rooms there is a ‘authoritarianism’ of PowerPoint, as it has become almost the only channel of transmission of teaching. (1)

A problem of this systematic use is the pedagogical inertia with which this software is implemented and resentful sense that leaves in their receivers. Its use is a symptom of the way in which teachers (digital immigrants) are adapting? to new information technologies. (2)

PowerPoint is a digital instrument and the

symbolic ‘battlefield’ among its users (teachers), who are analogical hopeless beings, (3) and we used it as a computer board for receiver who, when they are undergraduate students, are digital natives. (4)

This software should be used to present images and sounds to be interpreted as supporting the message sent by the teacher. Because of this each presentation should be a different experience. Therefore, a physician throughout his history should undergo a ‘Babel’ slide. However, in reality, PowerPoint (or its users?) has the tendency to standardize presentations on a single slide format of style of corporate culture. (5)

We have all had the experience of a presenter standing in the dark back to the audience (inevitably attacked by a symphony of yawns) relentlessly reading with a staccato voice:

- each
- word
- in

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- each
- bullet
- of
- each
- slide
- without
- exception

The 'indigestions' due to PowerPoint presentations occur because the neuropsychological principles are not respected of how Homo sapiens perceives, remembers, understands, is motivated and excited by information.

The easiest way to give its worst display is packed massive amounts of text on each slide is riddled by bullets which are populated by forests of words, using a 'Lilliputian' font size, impossible to discriminate, which you will read textually (without pity or mercy!) in a monotonous, unchanging, uniform, single-string and low tone.

Even those suffering from insomnia drug, they may not resist and quickly fall into a coma. Those without drowsiness, do not resist and will commit suicide or die by poisoning PowerPoint. (6)

READABLE TEXT

"The less is read, more damage does what is read."

MIGUEL DE UNAMUNO

The easiest way to fail is to ensure that the audience cannot read because they only see spots instead of words or they have to strain the sight to decode their text.

1. Avoid that all letters are in CAPITAL LETTERS, italic **or bold!** (**Principle of discrimination** ^(b)). (7)

The fonts in which letters share many characteristics are difficult to read because it is not easy to separate one letter from the following one.

2. **Do not underline!** (**Principle of discrimination**)

The underlining 'saws' the foot of letters that have descending lines (such as p and g), making it more difficult to identify them. If you want to emphasize a word, put it in italics, bold or use a more outgoing colour.

3. Use different colours **for emphasis only, or to specify different kinds of information** (**Principle of informative changes** ^(c)). (8)

4. Use different types of font **only for emphasis or to specify different kinds of information** (**Principle of informative changes**).

5. Use fonts **that are easy to read** (**Principle of discrimination**). (9)

There are certain types of extravagant fonts that require more time and energy to be read because the reader must seek the relevant lines and try to 'prune' the 'frills'.

6. Use preferably **fonts without serif**, but if you use serif fonts **do NOT mix them in an arbitrary manner** (**Principle of discrimination**). (10)

Use the same font in a consistent way, otherwise **the text may seem very strange** and more difficult to read.

The letters are like the roads! How much more curve they have, more slowly they are read. It is estimated than for audience can read the slides without losing touch with what the presenter says, he has to do it in 6 seconds. Therefore, all that delays his reading is counterproductive.

Therefore, we recommended fonts are those without serif (no curves): Arial, Arial Black, Tahoma, Verdana, and so on.

7. Use **standard fonts** (**Principle of appropriate knowledge** ^(d)). (11)

Not all computers have the same fonts! To be safe use fonts like Arial, Verdana or Tahoma.

8. Make sure the words **are large enough to be easily readable** ("**al estilo del diario Cronica**") (**Principle of discrimination**).

(12)

The text should be easily discernible, even for audience members sitting at the back of the room. To get a sensation from their point of view, stand about a meter from the computer screen.

If you can read the text without effort, it is big enough for your presentation.

Moreover, these size letters are useful for 'public protection' against the 'compulsive writers' because they do not allow them to turn slide into a book.

9. Make sure that the audience **can easily discriminate the text from the background** (**Principle of discrimination**). (13)

From time to time appears in a film such talented actor who despite having a secondary role 'steals the movie'.

Do not let this happen to your presentation where the background is so interesting that steals the show!

PowerPoint allows multiple dramatic and interesting backgrounds. But before you fall in love with these heavenly scenes or those creepy splashes of colour, check if the background is not too outgoing, which will make difficult the reading.

Your audience knows you are in trouble when one of the old standard PowerPoint template is displayed on the screen.

Researches carried out by the author have shown a high correlation between these templates and the experiences of death by PowerPoint. It is not uncommon to hear in these circumstances cries of horror, anguish, dread, terror, panic, disgust, rejection, fear and disgust from the audience.

10. '**Spelling Horrors**': 'There is nothing better' than a spelling error at the beginning of a presentation to stigmatize him as an incompetent.

Moral: **Never, never, ever** trust in the correctness of program errors.

Review your ad nauseam slide! Apply evidence-based spelling and NOT in the 'blind'.

Stop your presentation before it kills again!

Perform the 'test': **Do my slides stink?**

1. Do they only have bullets?
2. Do they have more than 6 words per slide?
3. Do they have any information beyond what you can say orally?
4. Are your slides memorable?
5. Are your slides emotionally empty?
6. Do your slides help to understand the subject?
7. Do they distort the data?

A YES to any of these questions is a **huge red flag** that something is **very wrong** in your presentation.

Recommendation: Place each slide in a trial whose penalty is death. No mercy! Make it to beg, which claims in its defense.

If it does not convince you, kill it!

Do you have the 'Gollum Syndrome' ('Oh, my precious slides') and you cannot kill them?

Then you should be shortened and turn them into visual objects.

If you do not simplify your slide, your audience will be looking to a 'wall of text'. If you abbreviate it you will avoid that the audience members suffer the terrible and irreversible 'death by PowerPoint'.

Step 1: Put yourself in the place of your audience. Be honest with yourself! **NONE audience enjoys kilometric lengths of bullets!** (15)

- Resistance is inversely proportional to the fourth power of vessel radius (r to 4).
- VERY powerful relationship !
- If the radius of the vessel decreases by a factor of 2 then R will increase a factor of 16

Fig. 1. 'extra large' bullets

Step 2: Highlight key points in the bullets.

Check them and try to underline ONLY key points of each topic. Stick to the fewest words possible.

- Resistance is inversely proportional to the fourth power of vessel radius (r to 4)
- VERY powerful relationship !
- If the radius of the vessel decreases by a factor of 2 then R will increase a factor of 16

Fig. 2. underline only the basic concepts of bullets

Step 3: Remove all superfluous text of the bullets.

Focus on key phrases instead of everything you want to say on the subject. If not, you will be reading

the slide to your audience. Boring, boring, boring ...

- Resistance
- It is inversely proportional
- To the fourth power
- Of vessel radius

Fig. 3. Prune all needless text of bullets

Step 4: Replace the bullets with images to increase the "attractiveness" of the slide.



Fig. 4. replace bullets by images that represent symbolically, analogically, or metaphorically their content.

COLOURING SLIDES

"The poorest colour ink is better than the best memory."

CHINESE PROVERB

1. Use colours **that are well separated in the spectrum (Principle of discrimination)**. (16) Use the chromatic apartheid policy! To increase discrimination, colours that you include in your projection must be separated in the spectrum for at least one colour (e) significantly different.
2. Avoid placing **red and blue, or red and green in adjacent regions (Principle of discrimination)**. (16)

Despite the requirement that colours should be well separated, and therefore easily discriminate, you should NOT use colours that come from very different wavelengths to define limits.

The crystalline lens **cannot put properly into focus two wavelengths very different from each other at the same time.**

This is the reason why it will appear that red (long wavelength) and blue (short wavelength) flicker when they are juxtaposed.

This effect will distract the viewer and should be

avoided.

3. Make that adjacent colours **have different brightness (Principle of discrimination)**. (16)
Our visual system has difficulties in registering a limit that is defined by two colours that have the same luminosity.
4. Make sure that the **foreground and background are discriminated (Principle of discrimination)**. (17)

The background of the slide must not 'cannibalize' the letters!

Avoid conjunctivitis because of white background in the members of your audience! Clear backgrounds are prohibited because they tire the retina of your audience (and the last thing you want is for your audience that gets tired of your 'precious' slides).

Therefore, you should use dark backgrounds. If you also use dark letters (red background with black letters), these will not be seen (the background will 'eat' the letters!).

Dark blue background, yellow title and white text. If you do not want to lose 25% of your audience XY (rate of daltonism in the adult male population), do NOT use the red-green combination.

WARNINGS

1. The animations and transitions are potentially harmful to the health of your audience (addendum suggested by the author to Article 1 of Law 23.344 (f)).
2. If you suffer from impulse control disorder (defined as the inability to resist an impulse that is dangerous to others or to oneself), DO NOT use animations and transitions!

Beware of distractions! (18)

'Flashing' slides with multiple different transitions, **flash!** dazzling sound effects and tricks of various kinds can **flash!** distract the audience from the topic is **flash!** being explained or the evidence that **flash!** is being presented. The best presentation is the most convincing, not the **flash!** more dazzling.

Images in agraphic slides to leave the audience without words

"The world as text has been replaced by the world as image."

N. MIRZOEFF

1. **Take care with the beauty of the useless! (Principle of Relevance (g))**. (19)

In occasions, I have seen a presentation on a medical subject that uses as background of every slides, photos of natural beauties of the presenter's place of origin. Beautiful but useless!

The backgrounds of the slides must have symbolic images that represent, metaphorically or

analogically the concept you want to teach.

2. **Do not force viewers to pay attention to more than four perceptual units on a slide I (Principle of limitations of abilities (h))**. (20)

It is frequently to observe presentations that have slides with diagrams in which are stacked dozens of words, arrows and crosses.

How to avoid this kind of slides? Recalling the first commandment of visual supports: **K.I.S.S** (Keep it simple stupid).

The fewer words, arrows and crosses have the slide, your audience will perform better. Understand that sometimes it is necessary to lose to win, for this, give a laxative to your slide and let it lean, without fat.

Diet yes, anorexia NO! To reduce the number of words on your slide (and thus the KISS principle) **do NOT** write in Apache dialect ('Malignant Protuberance Tumor').

Respect the rules of language so that Cervantes does not suffer convulsions in his grave!

Epidemic of 'initials': Be stingy with the use of acronyms and if you decide to work them into your slide, be sure that your audience knows them, otherwise it will seem that you talk alien dialect ('The CIA accompanied by DAVP to undergo CEC to avoid episodes of TIA').

3. **How to control ocular movement of your audience**

It is not so simple to guide the eyes of your audience by laser to the place you want in the slide.

Question: Do you have the aim of a sniper? If you do not, you can NOT use laser.

To those who, despite having no aim, still using laser can be divided into:

1. The 'dancer': who 'dances' with his laser through the walls and ceilings of the auditorium.
2. The 'trembling': who painfully traces an electrocardiogram (if he is a cardiologist) on the screen trying to underline a phrase from his slide.
3. The 'blinding': who with his laser destroys the retinas of his audience.
4. The 'circulator': who, while saying 'Arrhythmia', draws on the slide frantic circles around the word arrhythmia as having an audience of aphasic, blind or deaf people. Additionally, if he uses laser, the presenter turns his back on his audience and it seems that the conference is giving to the screen. Many wonder how to guide the eyes of his audience. Very easy, at home you should analyze in which slides you want to guide the audience's retinas toward certain specific points (and do not expect the conference to realize this) and mark them with arrows, colours and keywords. In this way you should NOT use laser and will NOT give back to the audience. (21)

4. **PowerPoint slides should be interpreted.**

NEVER read! (22)

The slides have not been created to become a book that should be studied or read. The slides have been created to be interpreted, analyzed and observed, and for all this there is nothing better than an image that represents metaphorical, analogical or symbolically the message I want my audience to receive.

Use images to introduce an abstract idea (Principle of compatibility (i)). An image is worth a thousand bullets! (23)

Therefore I propose again the strategy of apartheid: 'Segregate' images and words. Slides should have a virtual poster that says 'images only' and the words should come only from the lips of the speaker.

5. Use images to evoke specific emotions (Principle of compatibility).

Remember that the images **do not pay intellectual toll** to cause emotions. (24)

6. Use images to enhance the memory of your message.

Good images, such as fragrances, persist in the listener long after the presentation has finished. (25) Good images stick as a glue in the minds of your audience members.

Are you a spy whose identity has to be kept in secret?

Do not turn off the light during performances! For three very important reasons:

I. You, the most important three-dimensional 'audiovisual' disappears. Brad Pitt and Charlize Theron disappear! (26)

II. Listen to a voice in off in the dark is the best treatment for insomnia.

III. It favors the disappearance of the body of the Other (his listeners), with whom he will lose eye contact (with attendant side effects). The fact that 'delete the physical' in the pedagogical relationship is one of the characteristics of cyberculture.

CONCLUSIONS

PowerPoint is NOT a "saving table", but an interesting didactic 'orthosis'. But to achieve this we must change the philosophy with which we approach the preparation of our presentations.

The challenge is not to learn more functions of PowerPoint, but, instead, to stop thinking in terms of technology and start thinking didactically.

RESUMEN

Cómo evitar la "muerte" por PowerPoint

El objetivo de este artículo es denunciar la indiferencia hacia las diferencias que existen en cómo hacer una presentación con PowerPoint.

Las "indigestiones" por presentaciones con PowerPoint ocurren porque no se respetan los principios neuropsicológicos de cómo Homo sapiens percibe, recuerda, comprende, se

motiva y emociona con la información.

Para que los textos sean legibles evite que todas las letras estén en MAYÚSCULA, *italica* o **negrita**. Utilice fuentes que sean fáciles de leer y asegúrese de que las palabras sean lo suficientemente grandes para que sean claramente legibles.

Elimine todo el texto superfluo de las viñetas porque NINGUNA audiencia disfruta de viñetas de longitudes kilométricas.

¡El color del fondo de la diapositiva no debe "deglutirse" las letras!

El láser está prohibido en la actividad de un presentador audiovisual.

Una imagen vale mil viñetas. Las diapositivas no han sido creadas para convertirse en un libro que debe ser leído. Las diapositivas han sido creadas para ser interpretadas y para esto no hay nada mejor que una imagen que represente metafórica, analógica o simbólicamente el concepto que se quiere enseñar.

Utilice imágenes para evocar emociones específicas. Recuerde que las imágenes no pagan peaje intelectual para causar emociones.

Utilice imágenes para aumentar el recuerdo de su mensaje. Las buenas imágenes, como las fragancias, persisten en el oyente por mucho tiempo después de que la presentación ha terminado.

Salvo que usted sea un espía que desee mantener su identidad en secreto, ¡no apague la luz durante sus presentaciones!

Palabras clave > Educación - Didáctica - PowerPoint - Neuropsicología

BIBLIOGRAPHY

1. LaPorte RE, Linkov F, Villaseñor T, Sauer F, Gamboa C, Lovalekar M, et al. Papyrus to PowerPoint (P 2 P): metamorphosis of scientific communication. *BMJ* 2002;325:1478-81.
2. Bacher S. Tatuados por los medios. Dilemas de la educación en la era digital. Buenos Aires: Paidós; 2009.
3. Ottobre S. ¿Dónde quedó mi tamagochi? Paradojas de las nuevas tecnologías de la educación. Buenos Aires: La Crujía Ediciones; 2005.
4. Piscitelli A. Nativos digitales. Buenos Aires: Santillana; 2009.
5. Kjeldsen JE. The Rhetoric of PowerPoint. *International Journal of Media, Technology and Lifelong Learning* 2006;2:1-17.
6. Winn J. Avoiding Death by PowerPoint. *Journal of Professional Issues in Engineering Education & Practice* 2003;3:129.
7. Duarte N. Slideology. The art and science of creating great presentations. O'Reilly: Los Angeles; 2008.
8. Acaso M. El lenguaje visual. Barcelona: Paidós; 2006.
9. Collins J. Education techniques for lifelong learning: giving a PowerPoint presentation: the art of communicating effectively. *Radiographics* 2004;24:1185-92.
10. Oulton NB. Killer Presentations. Power the imagination to visualize your Point with PowerPoint. Oxford: How To Books; 2007.
11. Collins J. Education techniques for lifelong learning: making a PowerPoint presentation. *Radiographics* 2004;24:1177-83.
12. Bourcier T, Laroche L. Communicating effectively with PowerPoint. *J Fr Ophtalmol* 2005;28:775-80.
13. Reynolds G. Presentation Zen. Simple ideas on presentation design and delivery. Berkeley: New Riders; 2008.
14. Clark R. Some thoughts on writing slide presentations: Avoiding 'death by PowerPoint'. *Journal of the European Medical Writers Association* 2009;2:78-81.
15. Adams CA. PowerPoint's Pedagogy. *Phenomenology & Practice* 2008;2:63-79.
16. Kosslyn SM. Clear and to the point. New York: Oxford University Press; 2007.
17. Thede LQ. Getting the most from your software: PowerPoint tips. *Computers, Informatics, Nursing* 2005;23:245-9.
18. Lanius C. PowerPoint, Not Your Grandmother's Presentations, but Is it Evil? *Cell Biology Education* 2004;3:158-60.
19. Mirzoeff N. Una introducción a la cultura visual. Barcelona: Paidós; 2003.

20. Bain K. Lo que hacen los mejores profesores universitarios. 2ª ed. Valencia: Publicaciones de la Universidad de Valencia; 2007.
21. Rosler R. Los Siete Pecados Capitales del PowerPoint. Cómo ser un presentador visual y no morir en el intento. Revista Argentina de Neurocirugía 2006;20:110-7.
22. PowerPoint in the Classroom, Is it Really Necessary? Cell Biology Education 2004;3:155-61.
23. Pró M. Aprender con imágenes. Barcelona: Paidós; 2003.
24. Ferrés I, Prats J. La educación como industria del deseo. Un nuevo estilo comunicativo. Barcelona: Gedisa; 2008.
25. Asher A, Chambers W. Cómo hacer presentaciones exitosas. México: Prentice Hall; 1998.
26. Antelo E. Instrucciones para ser profesor. Buenos Aires: Santillana; 1999.

FOOTNOTES

^(a) In this article we will analyze the didactic aspects of a PowerPoint presentation that can be applied to undergraduate or postgraduate classes, as well as lectures at conferences.

^(b) Principle of Discrimination: Two properties must differ by a large proportion or will not be distinguished. We need to differentiate contrasting shapes, colours or positions between different objects or

with the background.

^(c) Principle of informative changes: Homo sapiens expects that changes in properties transport information. We hope that each piece of information is indicated by a change in a perceptible property.

^(d) Principle of appropriate knowledge: Communication requires prior knowledge of the concepts, jargon and relevant symbols. We more easily understand and remember a message if it is connected with what we already know.

^(e) Represented on the chromatic wheel.

^(f) ARTICLE 1 .- The containers in which cigarettes are commercialized will have, in letters and sufficiently visible place, the caption: 'Smoking is harmful to health'.

^(g) Principle of Relevance: Communication is most effective when it does not show too much or too little information. We more easily understand and remember a message when it is used a fair amount of details to explain it.

^(h) Principle of limitations of abilities: Homo sapiens has a limited capacity to process information and, therefore, will not understand a message if he needs to process or remember too much information. From the standpoint of communication, less can be more!

⁽ⁱ⁾ Principle of compatibility: A message is easier to understand if it is compatible with its meaning. The brain tends to judge a book by its cover!