

CHALK AND TALK OR POWERPOINT PRESENTATION? – REFLECTIONS ON THIS DILEMMA

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As a teacher I am often faced with the dilemma as to whether I should use the traditional chalk and talk (C&T) method or the modern Powerpoint (PPT) projection for presenting my lectures. I am a professor of Chemistry and therefore my reflections are necessarily based on my experience in Chemistry teaching and learning processes. I started my carrier as a teacher at IIT Madras in 1991. Computers had not entered the classrooms then. Chalk and board was the only option available in those days. After a few years, transparency projectors crept in and one could see teachers carrying box full of prewritten or preprinted transparency sheets. Somewhere around the turn of the new millennium personal computers and projectors entered the classrooms. Therefore I am experienced on all three modes of delivering classroom lectures. I must admit that I never liked the transparency projector method because I found it tedious to prepare the transparency sheets and often clumsy in operations. Therefore I shall not discuss it here. Personally I feel more comfortable writing on the board with a chalk than on a slippery plastic sheet with pen!

I find that in C&T mode the lecture is generally slow paced in comparison to the PPT mode and that allows the students to follow the lecture more closely. But it also keeps them busy taking notes and thus may not allow them to pay full attention to the lecture. Chemistry lectures typically include lots of chemical structure drawing, often representing three dimensional structures on a two dimensional board. The C&T method helps in showing the students how to draw simple chemical structures neatly, a skill they need to acquire. However, I must admit that the PPT mode provides the possibility to show graphics and 3D animations much more effectively. For example, let us consider a teacher giving a lecture on the structure of proteins and DNA. With the PPT mode the teacher can show 3D models and animation which are not possible in the C&T mode. In this context the PPT mode becomes a very effective tool for presentation of complex molecular structures which are otherwise difficult to draw on the board. One can also use a combination of molecular models made of wood or plastic materials and C&T mode for effective presentation. I believe that is how complicated structures of these biomolecules were taught prior to the PPT era.

For the sake of experimentation, I have taught the same course to two different batches of students, one batch using C&T mode and another batch using PPT mode. I also taught 50% of the course material using C&T mode and another 50% using PPT mode to the same batch of students. In both these experiments students admitted that it was easy to follow and understand in the C&T mode compared to the PPT mode. The students of PPT group complained that the lectures were fast paced and slides were packed with lots of information that was difficult to follow. The only solace they found in the PPT mode was that the lecture notes were available to them. It was easy enough to share the PPT file and they did not have to take notes in a hurry during the class!

It is generally true that instructors using PPT mode unintentionally tend to pack slides with lots of information, graphics and animations and also present too many slides in the given time period. The rapid flipping of innumerable slides in a given duration adds another dimension to the misery of the

students. Often the instructor tends to ignore the fact that it takes time to assimilate the information on the slides. When a restriction was put on the number of slides it was easily overcome by putting a number of slides in a slide, keeping the information content same and large. It is my opinion that the teacher's understanding of the subject is better reflected in the C&T mode than in the PPT mode. The reason being that in the PPT mode one could simply read the slides without understanding its contents.

It is clear from the forgoing discussions both the tools, C&T and PPT, have certain strengths and limitations. Personally I have decided to use C&T method for courses that do not require extensive use of graphics, animations etc. and use PPT method for courses that require their extensive use, but with a resolve that I shall not use more than 15-20 slides in a 50 minutes lecture. There are also situations that demand the use of both these tools. In such situations a judicious mix of the two techniques can prevail. In fact a recent study^[1] concludes that an integrated approach using both the tools is more effective than either of the tools.

Reference:

[1] S. A. Meo et. al., Journal of the College of Physicians and Surgeons Pakistan 2013, Vol. 23 (1): 47-50.