

## COMPARATIVE STUDY ON THE TEACHING EFFECTIVENESS OF CHALK & TALK AND MICROSOFT POWERPOINT PRESENTATION FROM THE STUDENT PERSPECTIVE

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### ABSTRACT

The objective of this study was to determine the extent to which students enrolled in B.Pharm course benefit from the use of modern technology based teaching tools such as Microsoft PowerPoint. We found more support and encouragement for the traditional teaching tool chalk and talk as compared to the Power Point which is nowadays extensively used in many of our Pharmacy colleges. The findings of our study supported the view that technology intensive teaching tools like PowerPoint do not necessarily imply enhanced student active participation or create more interest in the subject in undergraduate classes. On the contrary, both of these goals appear to be better served by chalk and talk which is clearly evident from our study where more than 80% of our study respondents (B.Pharm students) emphasized the value of chalk and talk and declared it as the more effective and useful teaching tool in their learning experience compared to PowerPoint and recommended it for teaching.

### INTRODUCTION

Lectures can be traced as far back as the Greeks of the fifth century BC, and in medieval times lectures were the most common form of teaching (Brown and Atkins, 1988). Therefore, the lecture has its merits, otherwise this form of teaching would have ceased. Cannon (1988) noted that research comparing lecturing with other teaching methods provides insufficient evidence to favour one method over another. However, he also notes that discussion methods in small groups appear to be a superior method of attaining higher-level intellectual learning.

Once students enter University, it is almost inevitable that they will experience lectures, irrespective of the chosen subject. It is often impossible, given the limited number of academics in any University department, to provide small group classes to cover a particular course or module when the number of students attending is so large. In some countries limited resources, e.g. where perhaps only the lecturer has a textbook, force the wholesale use of lectures as the medium for education. Hence, as Walton (1972) notes, the lecture is here to stay, so it is imperative that it should be as an effective teaching method as possible.

In recent times the use of electronic media has become commonplace in Universities, as well as secondary and primary schools. Recent studies have sought to determine whether using PowerPoint or other such media are superior forms of delivery for lecturing over the traditional 'chalk and talk' or the use of transparencies and an overhead projector (TOHP).

The study of Bartsch and Cobern (2003) noted that students preferred PowerPoint over those of TOHP, but that in some instances the content of the PowerPoint presentation distracted students and they performed less well on tests compared with a control group. Szabo and Hastings (2000) carried out an extensive study comparing PowerPoint and TOHP and observed no difference in student performance in tests; the most important factor was lecture subject difficulty in determining the students' performance in these tests. They concluded that the efficacy of using PowerPoint was case specific rather than universal. The study of Lowry (1999) saw a marked improvement in examination results when PowerPoint replaced the use of TOHP. Therefore, there is a mixture of views based on recent studies<sup>5</sup>.

In this study we investigate student's opinions of the impact of electronic presentations (PowerPoint) in lectures in undergraduate level compared to chalk and talk which is a traditional and non-electronic approach.

### METHODS

Manipal College of Pharmaceutical Sciences under Manipal University at Manipal is one of the largest under graduate and post graduate teaching institutes for Pharmacy in India. This work is based on data collected from B.Pharm final year students of this college during 2011-12 academic year.

The Pharmaceutics faculty at Manipal College of Pharmaceutical Sciences is comprised of ten full-time members, some of whom employ chalk and talk instruction only and others who heavily use computer generated slides like PowerPoint technology. Thus, our students experience technology intensive lectures as well as lectures in which traditional chalk and talk pedagogy is exclusively used. Initially, we planned to survey all classes in the department as well as those in sister disciplines such as Pharmacology, Pharmacognosy and Pharmaceutical Chemistry. However, we decided that there was no compelling need to do so since a substantial number of students in the class we surveyed will also attend classes in other disciplines using similar pedagogies. No doubt, differential impacts of technology based approaches exist across disciplines. However, such impacts are not the focus of this investigation.

We first circulated a questionnaire which was based on the effectiveness of teaching tools like chalk & talk and PowerPoint. Since our objective is to compare the effectiveness of chalk & talk and PowerPoint, we intentionally removed the option having both the teaching tools in the questionnaire and the student is asked and allowed to select only one option either chalk & talk or PowerPoint.

We instructed them to answer it based on their experience without revealing their identity. The students were invited to include specific comments or suggestions if any. The strength of this class was 108 but we could get back only 100 questionnaire forms properly and duly filled according to our specifications. So we proceeded further in our study with those 100 feedback questionnaire forms.

### RESULTS & DISCUSSION

The following ten questions were framed in the questionnaire.

**Question1-** Is Power point presentation (PPT) a better & effective tool to explain the subject efficiently when compared to chalk and talk?

**Question2-** Does power point presentation create more interest in the subject?

**Question3-** Do you feel that power point presentation improves public speaking & presentation skills when compared to chalk and talk?

**Question4-** Do you feel that power point presentation should replace chalk and talk?

**Question5-** Which teaching tool do you feel is more appropriate and useful for teaching?

**Question6-** Which teaching tool according to you has the components "Inspire, influence and inform" in a better way with respect to the subject matter?

**Question7-** Which teaching tool is relatively boring?

**Question8-** Which teaching tool makes you actively participate and involve in the class?

**Question9-** Which one of the following teaching tools provides most of the necessary features of teaching?

**Question10-** Which teaching tool do you recommend for teaching?

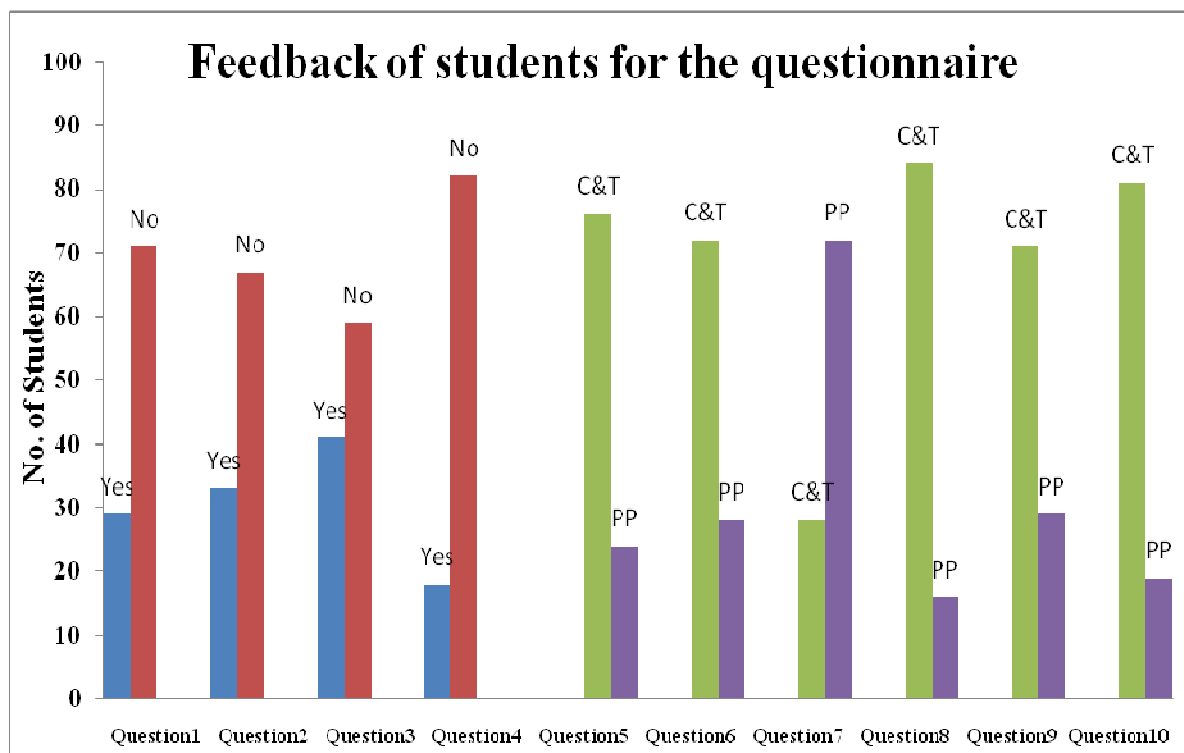


Fig. 1: shows the response of the students towards the various questions of the questionnaire.

PP- PowerPoint; C&T- Chalk and Talk

Based on this survey some shocking and unexpected results were revealed. Some of them were mentioned in the following:

Out of 100 B.Pharm IV students,

- ❖ 71 voted chalk and talk as better and effective tool to explain the subject efficiently.
- ❖ 67 chose chalk and talk as more creative than PowerPoint to create interest in the subject.
- ❖ 59 chose chalk and talk as a better teaching tool to improve public speaking and presentation skills than PowerPoint.
- ❖ 82 wanted to retain chalk and talk for teaching their subject instead of replacing it with PowerPoint.
- ❖ 76 felt chalk and talk as more useful and appropriate tool for teaching than PowerPoint.
- ❖ 72 agreed and accepted chalk and talk has the basic teaching components like "Inspire, influence and inform" in a better way than PowerPoint.
- ❖ Only 28 felt chalk and talk relatively more boring than PowerPoint.
- ❖ 84 experienced more involvement and active participation in the class when chalk and talk is used as the teaching tool.
- ❖ 71 stated that chalk and talk has most of the features needed for teaching.

- ❖ 81 recommended chalk and talk to be continued as the teaching tool.

One of the limitations of our study is that our sample is drawn from one institution only and deals with the experience of one particular group of individuals, namely, undergraduate students. We also recognize that there is no way to determine if our Pharmaceutics faculty is representative of the average.

Generalizations of our study results are justifiable to the extent to which we can assume that the selected sample of students is representative of the broader population. Other student groups could differ with regard to academic environment, subject matter, seniority (in college), ethnic and family background and socioeconomic circumstances. These could alter survey findings and the scope of our study is restricted in this sense.

#### CONCLUSION

Based on this survey, we can say that technology can interfere with the learning process, and therefore, great care must be taken when adopting it. Technology can limit spontaneous interaction between instructor and student (as noted by students in our survey); it can disengage students and thus, negatively impact student achievement. Most troubling is that the focus on technology-intensive instruction appears to be taking priority over efforts to improve and enrich lecturing skills. Perhaps students would be better served if a portion of the time spent learning technology intensive approaches was reallocated to workshops devoted to lecturing skills such as generating instructor-student rapport,

questioning and feedback techniques. Lectures can engage students with or without technology

This survey also support the view that technology intensive instructional innovations like Microsoft PowerPoint do not necessarily imply increased student engagement or achievement in under-graduate classes. On the contrary, both goals appear to be better served by traditional pedagogies like chalk and talk at this point. According to our results, there is no correlation between the chalk and talk method and passive learning and student disengagement, a correlation that is widely assumed. Moreover, students place greater value on lecturing skills in their learning experience than on whether or not technology is intensively used in the classroom.

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