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Experiences of using Prezi in psychiatry teaching

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Abstract

Context:

Prezi is an exciting alternative to PowerPoint. It is a presentation software allowing lecturers to develop ideas and produce mind maps as they might do on an old-style blackboard. This study examines students' experience of lectures presented using Prezi. We aimed to identify the strengths and weaknesses of this new teaching medium.

Methods:

Prezi was used to present mental health lectures to final year medical and physiotherapy students. These lectures were also available online. This cross-sectional study used a questionnaire to assess student's experience of the software.

Results:

Of students approached, 75.5% (74/98) took part in the study. A majority, 98.6% (73/74), found Prezi to be a more engaging experience compared to other styles of lecture delivery. The overview or 'mind-map' provided by Prezi was found to be helpful by 89.2% (66/74). Problems arose when students used Prezi in their personal study with 31.1% (23/74) reporting some difficulties, mostly of a technical nature.

Conclusion:

This study highlights the potential of Prezi for providing students with an engaging and stimulating educational experience. For Prezi to be effective, however, the lecturer has to understand and be familiar with the software and its appropriate use.

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Introduction

 "The lecture" is in decline; not only has "death by PowerPoint" entered our communal lexicon [1-3] but many different styles of teaching are currently being used which shift education away from large group teaching. Examples include problem-based learning [4-7], use of standardized (simulated) patients [8-11], computer assisted learning [12-14] and portfolios [15]. These innovations have made the medical education process much more diverse and interactive. A wealth of research has examined these models; both qualitative and quantitative research have shown that active forms of learning have advantages over passive forms [16, 17]. For this reason efforts have been made to either remove lectures or make them more interactive [18].

Eradicating lectures from the educator's repertoire may, however, prove overly hasty and impractical. Strategically timed lectures can act in synergy with other forms of medical education [19]. In some contexts lectures are necessary due to resource limitations created by financial restraints, teaching infrastructure or staffing levels. Where teaching is delivered through lectures every effort must be made create a stimulating learning environment. Current students are highly computer-literate and where possible this should be harnessed to meet their educational needs.

Prezi is presentation software that was launched in 2009; it currently has over 35 million users. The software is free and straight forward to use. Multiple online video tutorials instructing people on the use Prezi can be accessed at the Prezi website (www.prezi.com). Prezi potentially offers a number of pedagogic advantages over other presentation styles. McLeod et al indentified [20] thirty key pedagogical concepts for clinical teachers. Prezi may aid educators in more fully realising some of these concepts. Prezi may help identify "key concepts for assessments" which was the third most important concept in the list devised by McLeod et al [20]. Size and positioning can be used to highlight in a lecture to discriminate key concepts from medical minutiae, and this can help students to focus their study and form appropriate differential diagnoses and management plans.

Prezi has several other key strengths too. A visual representation of how to think about a disease or a drug, such as that offered by Prezi, may well prove transferable between disciplines and help significantly with the integration and organization of knowledge. Prezi may also help to structure thinking in medical students owing to its strong emphasis on visual style compared to standard presentation software. If used correctly, Prezi may also aid the communication skills of teachers, further enhancing learning.

In comparative terms, it is notable that a classic PowerPoint presentation all slides follow in a linear sequence and each slide is the same size, and while overview slides can communicate the overall structure of the lecture, the lecture still essentially progresses in a linear format. Prezi allows the generation of a 'mind-map' as one might do on a chalkboard or whiteboard [21]. Students have demonstrated a preference to receiving teaching on chalkboards over PowerPoint [22] and lectures delivered using chalkboards combined with PowerPoint resulted in higher grades compared to lectures delivered using PowerPoint or chalkboards alone [23]. Prezi may deliver the best of both worlds as the information can be presented in the style of a PowerPoint but with the context provided by a chalkboard presentation. As such, the interrelatedness of ideas can be represented visually. The relative importance of topics can be represented by size and position. This potentially aids memory and provides a helpful overview of a topic. Prezi also allows the easy incorporation of video clips into lectures, and video clips significantly enhance retention of information [24-26].

Prezi may also have significant drawbacks. Firstly, as with any form of change, there may be problems adapting to the new style of presentation. Secondly, the largest potential drawback of Prezi is that form may be elevated over content [3]. Classroom based teaching is only one part of the learning process. Students often use lecture notes to review the presented information outside the lecture and as such it is important that lectures are easily accessible to them outside of the classroom [27, 28].

The need to assess the pros and cons of new technologies has been highlighted [29]. Some of the advantages of Prezi have already been highlighted [30] but no study of student's opinions has been conducted. We aimed to evaluate student's experience of receiving lectures delivered using Prezi and to identify the potential benefits and pitfalls of using Prezi. We also aimed to evaluate student's experience of using Prezi-based

lectures in their personal study. The importance of identifying these is increasingly relevant as 35 million Prezi-users have now created 500 million presentations [20].

Methods

A cross-sectional study was carried out following the delivery of lectures using Prezi. Exemption from ethical approval was granted by University College Dublin research ethics committee.

1. Instruments

We developed a nine item questionnaire to assess student's experience of lectures delivered using Prezi (Box 1). Six of the questions were closed and were scored on five point Likert scales [31]. These covered both the classroom experience and the experience of using Prezi for personal study.. In addition, three open questions were asked relating to the strengths, weaknesses and overall experience of having lectures delivered using Prezi. Hard copies of the questionnaires were given to students in lectures to be completed anonymously. The questionnaire used in this study is available from the authors on request.

2. Participants

Two separate rotations of final year medical students and final year physiotherapy students from University College Dublinparticipated in this study. All received lectures in mental health delivered using Prezi. Medical and physiotherapy students were both selected for pragmatic reasons as the lecturer using Prezi was responsible involved in the education of both groups.

3. Lecture delivery

Lectures were delivered using Prezi. Online links to the lecture material were provided. Students were encouraged to access these lectures outside of the classroom. All students received education on how to use Prezi and this was increased for the physiotherapy students following student feedback. This education involved ten minutes teaching in how to use Prezi, comprising five minutes teaching in the first lecture and brief reminders on how to use Prezi in subsequent lectures.

4. Data Analysis

Data from the closed questions were analyzed using SPSS version 19.0 (SPSS, Inc., Chicago, IL, USA). Frequency distributions were produced for each question. Answers to closed questions were treated as ordinal variables. All the responses from the open questions were entered into a document. This was analysed for recurrent themes and unique ideas.

Results

All students in the relevant classes were invited to participate and 33 of 46 (71.7%) final year medical students and 41 of 52 (78.8%) final year physiotherapy students agreed to participate. In total, 74 of 98 (75.5%) eligible students participated.

1. **Closed questions**

The vast majority of students found Prezi engaging and helpful (Table 1). A minority of students found Prezi confusing or distracting, In relation to personal study, a majority were unsure if there were positive benefits or experienced problems in using Prezi for this purpose.

2. **Open questions**

Two main benefits of Prezi were identified. First, forty (54.1%) students stated that the presentation style held their attention for longer or was more engaging than standard lectures. Lectures with Prezi were described as "interesting" and "not boring".

Second, nineteen students (25.7%) commented positively on the overview or "mind-map" provided by Prezi. Students benefitted from the "organized" and "logical" layout of the lecture and claimed that the presentation helped to "break up the topics" and "show how topics were interrelated". Two students (2.7%) commented the presentation style aided their memorization of the information.

The main negative comments concerned technical problems in student's personal study. Eighteen students (24.3%) had problems printing the lecture notes and eleven students (14.9%) had problems downloading the lectures. Students commented on their need to "familiarize" themselves with the software and "learn how to navigate though a lecture".

Other problems expressed by three (4.1%) students or fewer included: "Prezi takes longer to study from"; "it can be hard to know where to start from"; "it is hard to follow"; editing lectures and cutting and pasting from Prezi proved problematic for a small minority; and some disliked the moving and zooming pattern of Prezi.

Discussion

This study highlights two of the major strengths of Prezi. First, a majority of students found Prezi engaging, reporting that it held their attention more than standard lectures. The second strength stems from the overview provided by Prezi. Many students commented on how this overview helped them see the interrelatedness of different topics and some suggested that this aided retention of information.

These results need to be interpreted with caution however, because, as other medical educators have commented, "while technology brings revolution in education, it often needs careful application" [30]. Despite the generally positive findings, a number of students found Prezi distracting and hard to follow. Steps can be taken to reduce this potential problem and Box 1 presents useful considerations specific to the use of Prezi. In addition to these suggestions, lectures need to obey the established rules of good presentation (e.g. e.g., the font should always be clearly readable and there should never be too much text on the screen) [32].

Prezi performed less positively when it came to personal study. While the majority of students did not report having problems with Prezi in their personal study, a significant minority did. Both the open and closed questions demonstrated that the majority problems were of a technical nature and can be easily resolved. The main technical problems were with printing, downloading and editing the presentations.

The most important step in dealing with these technical problems is carefully introducing the software to students. If a substantial proportion of lectures are provided through Prezi it may useful to spend five minutes before the lecture series begins showing how to create an online Prezi account as this is necessary if students wish to save, edit or print a presentation. It would also be of benefit to provide students with a traditional slide version of the presentation as many students will want to print the lecture notes themselves prior to the lecture. This can be easily done and the traditional version can be uploaded with any teaching tools provided to the students. If slides have been imported into Prezi from PowerPoint it could also be useful to provide students with the PowerPoint slides if that is what they are more familiar with. Some students wish to edit the

lectures and create their own composite notes; in order to facilitate this it may be useful to refer students to Prezi's online video tutorials [20].

There are occasions when Prezi may not be the presentation software of choice. The basic version allows lectures to be viewed freely online and so it is important to not include patient information in Prezi lectures unless you had an upgraded Prezi account. It is possible to upgrade for free with an e-mail account from an educational institution or by paying a monthly subscription. It is also important that someone intending to use Prezi ensures that the computer they plan to use has the necessary software; while this is standard for most computers, some institutions block this software form being used. If multimedia clips are included in a presentation it is important that these are either saved in the Prezi or that the computer which will be used has working internet access.

Prezi has features that make it especially useful in the delivery of lectures in psychiatry. Mind-maps generated in Prezi can visually represent complex interrelated ideas. For example, Prezi can provide visual representations of how specific symptoms can be present in different conditions or how different classes of medication in psychopharmacology are related. Mind-maps may also help structure thinking for complex processes such as the generation of differential diagnoses. The easy inclusion of video clips can also greatly improve the teaching of many components of mental state examination in psychiatry, utilizing clear examples from simulated patients. These videos can make lectures more interesting and demonstrate rare psychopathology to students. Prezi also has the potential to create online video lectures with accompanying notes, to further enhance teaching and learning.

There were a number of limitations to this study. The lack of a control group prevents conclusions being reached about whether or not Prezi is a superior method of presentation compared to other forms. Longer-term outcomes and outcomes other than attitudes were not assessed. All the lectures done using Prezi were delivered by the same lecturer; further studies with different lecturers would help remove this potential bias.

Overall, Prezi has the potential to provide students and colleagues with an engaging and stimulating educational experience. For teachers, it provides an intuitive tool that can quickly produce impressive teaching material. It combines the ability of the chalkboard to provide an overview, with the convenience of modern presentation software. Many of Prezi's weaknesses stem from unfamiliarity with the software. Many

pitfalls can also be avoided by taking time to educate students about the software. Prezi also has a lot of potential uses in medical education outside the classroom; e.g. it can be used to create online lectures with embedded video clips to guide students through the topic, or to enhance educational resources for patients and families.

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Table 1 Frequency distribution from closed questions

	Yes, Definitely (%)	Yes, A little (%)	Unsure (%)	No, not really (%)	No, Definitely not (%)
Do you find lectures delivered with Prezi more engaging then other lectures?	49 (66.2)	24 (32.4)	0 (0)	1 (1.4)	0 (0)
Do you find the non linear style of Prezi hard to follow or confusing?	1 (1.4)	13 (17.6)	2 (2.7)	37 (50.0)	21 (28.4)
Do you find the over view provided by Prezi helpful?	40 (54.1)	26 (35.1)	6 (8.1)	2 (2.7)	0 (0)
Do you find lectures delivered with Prezi distracting due the frequent moving?	2 (2.7)	12 (16.2	2 (2.7)	40 (54.1)	18 (24.3)
In your personal study at home to you find Perzi more helpful than standard lecture notes?	17 (23.0)	15 (20.3)	22 (29.7)	18 (24.3)	2 (2.7)
In your personal study have you found problems using Prezi?	2 (2.7)	21 (28.4)	10 (13.5)	27 (36.5)	14 (18.9)

Box 1: Useful tips

Creating a Prezi

- Watch the online tutorials on how to create a Prezi

- Spent time in planning the visual lay out and make it logical

- Keep movement to a minimum to avoid distraction and confusion

- Use multimedia clips

- Save hard copies of presentations in the event of problems with internet connection

- Check the privacy settings to prevent patient information being freely available

For use in personal study

- Spend time familiarizing students with the software

- Provide students with a link to the printable versions

- Advise students to create a Prezi account

- Ensure students can create their own copy of lectures so they can edit them.

  Students will need to have flash player on their computers

Compiled by authors from their experience of using Prezi

Implications for Educators

- Prezi is an engaging medium which holds students attention

- The mind-maps which can be created using Prezi create an overview of the learning material which may aid learning

- As Prezi is a new software students need to be assisted in using it, this may minimize encountered problems