Medical students’ preferences regarding Psychiatry teaching: a comparison of different lecture delivery methods

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Abstract

Background: Integration of e-learning and digital resources into university medical education is growing. However, there is a lack of systematic evaluation and comparison of different teaching methods. This study examined medical student feedback regarding Psychiatry lectures using routinely collected administrative data, comparing different lecture delivery methods.

Method: A quasi-experimental study involving undergraduate medical students undertaking their Psychiatry term at UNSW Sydney was conducted over a three year period. Lectures were delivered in class face-to-face, or via video recording. Data on student ratings of perceived usefulness of the lecture was collated. Differences in students’ ratings between lecture delivery methods were examined with independent sample students’ t-test in SPSS.

Results: Across the three years, four lectures on identical topics with the same pre-prepared content were delivered using different delivery methods, two face-to-face and two via video recording, to 102 medical students. Medical students rated face-to-face lectures to be significantly more useful than video lectures (t (86.9) = 4.902 (p<0.001)).

Conclusion: Psychiatry lectures delivered in class were perceived by medical students as more useful than video recordings of the same content. This suggests traditional teaching methods are still valued by students and supports their continued use in clinical Psychiatry education.

Keywords: medical education; teaching; psychiatry; student evaluation; lecture.
Introduction

The use of technology in various forms to support learning and education, referred to as e-learning, has been embraced by universities in recent decades (Means, 2009) with increased use of online delivery and digital resources in teaching. The World Federation for Medical Education global guidelines endorse technology as a key component of best practice medical education (WFME, 2012) and further use of technology in psychiatry teaching has been promoted by the RANZCP (Selzer and Ellen, 2010). The adoption of technology-assisted learning by Australian medical schools (Evans et al., 2004) has seen different forms of e-learning used across all stages of psychiatry teaching (Burke, 2001; Chur-Hansen et al., 2012).

New technologies have multiple advantages for both students and universities in terms of accessibility and cost-effectiveness. E-learning can assist institutions to deal with challenges such as rising enrolments, funding cuts and increasing demands on staff and resources (Lambert, 1991; Lambert, Kirkby and Dunn, 1997; Hickie, Nash and Kelly, 2013). Simple easily-deliverable resources, such as video lectures, can allow for standardised teaching across geographically diverse sites and assist with course delivery and importantly, allow greater flexibility of access for students. A cross-disciplinary meta-analysis of online learning in a range of higher education settings, including medical teaching (Means, 2009) found that on average, students in online learning performed better on objective learning outcomes than those receiving face-to-face teaching. However, there are also a range of potential disadvantages with the use of technology in teaching subjects such as psychiatry. Perhaps most prominent amongst these is the reduced ability to engage with students in a face-to-face dialogue about complex issues. Even when face-to-face teaching is used, there are ongoing debates about the role of lectures which have come under some criticism due to the limited ability to provide personalised feedback to students when compared to other smaller group teaching formats (Winstone and Millward, 2012). In spite of these concerns, many support traditional methods and argue there is still a role for large-group face-to-face formats like plenary lectures in early medical education (Lau and Bates, 2004). However, formal research in this area remains limited. There has been little systematic evaluation of different teaching modalities in medical education and very little by way of direct comparisons (Ruiz, Mintzer and Leipzig, 2006; Lampe et al., 2010; Mullins et al., 2014).

Looking at the evidence available from other healthcare disciplines shows similar academic performance between on-campus and off-campus paramedic students, viewing the same lecture either face-to-face or in pre-recorded video format (Hubble and Richards, 2006). Similarly, no significant differences were seen in academic performance of nursing students undertaking a course delivered either by Internet, or face-to-face lectures (Woo and Kimmick, 2000) or between those enrolled in an online or on-campus nursing course (Leasure, Davis and Thievon, 2000). A review of 76 studies (including nursing, dentistry and medicine) found that e-learning appeared to be just as effective as teacher-led education in terms of student learning outcomes in medical education (Chumley-Jones, Dobbie and Alford, 2002).

Medical students tend to support the use of digital technologies in addition to, rather than in replacement of traditional face-to-face instruction, an approach known as ‘blended learning’ (Ruiz, Mintzer and Leipzig, 2006). Regarding psychiatry specifically, the available evidence suggests students favour traditional face-to-face education (Fitzmaurice et al., 2007) even when offered an e-learning environment including video lectures (Guri-Rosenblit, 2006) and report a greater preference for live psychiatry teaching rather than video lectures (Mullins et al., 2014). A previous study of Australian medical students on psychiatry rotation found face-to-face teaching with academic psychiatrists was the most highly valued and preferred teaching activity (Lampe et al., 2010), however value ratings for online and in-class resources did not differ significantly.

Given that the training provided at medical school is often the only formal instruction in clinical psychiatry medical practitioners receive, it is essential that psychiatry teaching is both effective, evidence-based and valued by students.
(Nash, 2015). This study aims to examine undergraduate medical student evaluations of Psychiatry lectures, comparing ratings of lecture utility across two delivery methods, face-to-face or video recording.

**Methods**

**Participants**
Participants comprised Phase 3 medical students (years 5 or 6 of a 6 year degree) in the undergraduate Medicine program at the University of New South Wales Sydney campus who were enrolled in and currently attending lectures for the 8-week clinical course in Psychiatry (MFAC 3503) in 2015, 2016 or 2017. Course content covered basic psychiatric assessment, diagnosis, treatment and management.

**Study design**
This was a quasi-experimental study utilising routinely collected administrative data collected over three years from successive cohorts of medical students studying Psychiatry.

**Procedure**
While lecture content for this psychiatry term is delivered primarily by face-to-face lectures, each lecturer also produced a video lecture of the same content to be substituted for live lectures when the lecturer was unavailable to be viewed in the lecture room on campus. All students were invited to anonymously complete a brief hardcopy feedback form immediately following each lecture, regardless of the delivery format. A single question was used to assess student's perceptions of lecture utility: "It would be appreciated if you could rate the lecture" on a 5-point Likert scale where higher scores indicate greater perceived usefulness (1 = ‘needs major improvement’ to 5 = ‘very useful’). Participants were not aware of the research question when completing these assessments. The study received University of New South Wales Ethical approval (HREC Reference #: HC180073).

**Statistical analysis**
Data from those instances where the same lecture content was delivered face-to-face and by video recording over the three years were collated and analyses undertaken in IBM SPSS Statistics (v22). As noted above, pre-recorded video lectures were only used in the case of lecturer unavailability at short notice, creating a quasi-random natural experiment. Basic descriptive statistics and independent sample Student’s t-test were used to compare students’ ratings by method of lecture delivery (face-to-face or video).

**Results/Analysis**
A total of four lectures (two face-to-face and two video lectures) were included in this study, attended by 102 medical students in total over the three year period, all of whom provided valid responses. No information was available on non-respondents. On average, lectures comprised 26 students, although the number of students attending ranged from 9 to 41. Almost one third of the overall sample attended a face-to-face lecture (n = 36; 35.3%) whilst two-thirds were exposed to video delivery (n = 66; 64.7%).

Lectures were most frequently rated as "moderately useful" by 38.2% (n = 39) of the sample, followed by "neutral" (25.5%; n = 26). Rating scores differed significantly according to delivery method, with face-to-face lectures rated as significantly more useful (M = 3.86, SD = 0.80) than video lectures (M = 2.97, SD =1.01; t (86.9) = 4.902 (p<0.001). Figure 1 shows frequency of lecture usefulness ratings for each delivery method.

**Figure 1.** Frequency of usefulness ratings for each method of lecture delivery (video or face-to-face) (N = 102).
Discussion

This study found medical students perceived face-to-face psychiatry lectures to be significantly more useful than when identical content was delivered in a video format. These results may appear somewhat surprising given the enthusiastic adoption of technology by both tertiary education and society in general, although they are in line with findings among other medical student cohorts (Lampe et al., 2010; Mullins et al., 2014) and suggest that students still value face-to-face psychiatry teaching where possible. An alternative explanation from the findings could also be that students did not value the way in which technology was used in this study. Providing a video lecture for them to watch on campus rather than an online module with more flexible access is likely to have diminished many of the potential advantages of e-learning. Nevertheless, what is clear is that the way in which new technology is incorporated into psychiatry undergraduate teaching needs to be carefully considered and evaluated.

These results should not be taken to mean that video lectures and new technology should not have any role in teaching medical students psychiatry but do highlight the need to test new styles of teaching and to ensure that they fit the subject matter and the stage of learning for students. The sample of students in this study were relatively senior, but they had experienced little mental health education at the time of this study. At an early stage of learning, students may require opportunities for clarification, asking questions, or more detailed instruction that are more readily available in a face-to-face setting, although Lampe et al. (2010) did not detect any differences in lecture style preferences amongst early and senior medical students.

Personal learning styles may also influence individual students’ preference for certain learning modalities (Leasure, Davis and Thievon, 2000; Kolb, 2005), for example auditory learners considered audio lectures as most beneficial (Mullins et al., 2014) whilst self-directed learners prefer web-based content (Leasure, Davis and Thievon, 2000). More broadly, preference for face-to-face rather than video format has also been suggested to stem from a human need for social interaction (Guri-Rosenblit, 2006) and an attention economy perspective (Davenport and Beck, 2000; Davenport and Beck, 2001; Geri and Gefen, 2007). The context within which the video lectures were used is an important variable influencing student appraisals, and in this study, two features could have contributed to a more
negative appraisal of video lectures. The video lectures were used in the case of lecture unavailability or illness, which may have created a mismatch between expectation and delivery mode. Students viewed the video lecture in a lecture room on campus, allowing direct comparison of delivery methods whilst removing potential benefit of more flexible online access. Therefore, more broadly, video lectures were not associated with the usual positive benefits of e-lectures in terms of accessibility and convenience.

Elements of the educational experience and process may also shape student evaluation. The comparison of particular formats may highlight certain advantages of one method or favour a particular educational context. Previous research in education has identified features of instruction methods that are highly valued by students and enhance knowledge gain and may influence student perceptions of lecture utility. Traditional face-to-face teaching features include being in real-time and the opportunity for interactivity and clarification between student and teacher (Leasure, Davis and Thievon, 2000). Receipt of immediate feedback is an often neglected element of teaching in psychiatry (McIlwrick, Nair and Montgomery, 2006) yet has been shown to lead to greater knowledge gains and student confidence in their own understanding. In-person instruction is considered a key element required to foster the ‘directed learning’ approach commonly adopted in medical education (Schmidt, 1983; McGuckin, Burke and McGuckin, 2002). This approach emphasises the importance of teacher-driven knowledge and the need for ‘elaboration’ of content to facilitate deeper understanding. This opportunity for in-person elaboration by discussion, questioning and teacher-student exchange is provided in in-class lectures. This may generate a more positive learning experience (McIlwrick, Nair and Montgomery, 2006) and could be reflected in our results where students rated face-to-face lectures as more useful. This type of interaction is possible with e-learning, but was not a feature of the video lectured used in this study. Our research used only a global assessment of overall utility, so further research is required to isolate the exact features of each delivery method that students believe provide a better learning experience. Support for the importance of interactivity in medical education has been demonstrated, for example medical students rated a real-time interactive e-learning tutorials as more beneficial than links to a pre-recorded video of the tutorial (Mullins et al., 2014). Emerging methods of e-learning using enhanced digital delivery are worth further evaluation, for example live online learning sessions with real-time interaction between students and teachers or linking a recorded lecture with online discussion forums to ensure interactivity and active enquiry is preserved.

An emerging area of research in medical education is ‘blended learning’ where traditional and innovative teaching methods are used in a complementary fashion (Ruiz, Mintzer and Leipzig, 2006). For example, a large Australian university is formally evaluating a ‘blended learning’ unit in the Master of Medicine (Psychiatry) course as compared to a lecture-based course (Kumar et al., 2017). A 2013 review concluded a range of pedagogical methods would be most useful to include in psychiatry education, as both methods are valuable (Verduin, Boland and Guthrie, 2013). Previous studies report healthcare students prefer access to both in-person and e-learning materials (Bissell et al., 2003; Maag, 2004; Seabra et al., 2004) and that medical students preferred the addition of onsite teaching along with provision of online digital resources (King, 1989; Seabra et al., 2004; Mullins et al., 2014).

There are a number of limitations of this study, including small sample size, use of observational data to compare two groups without random assignment, and reliance on students’ subjective evaluation only. Future studies could use more standardised evaluation questionnaires (Zelenikova et al., 2015) and qualitative responses to elucidate the reasons underlying these perceptions and isolate the most valued aspects of each delivery format. As feedback was anonymous, results could not be linked to measures of student knowledge or academic performance, yet this warrants further investigation. As mentioned earlier, more direct comparison of different aspects of the learning experience, face-to-face versus a variety of combinations of formats (video not online, video online, live video etc) is necessary to isolate the specific elements that students’ value the most. Finally, results are applicable only to one undergraduate Psychiatry course and may not represent student perceptions in other areas of medicine, training stages, or other healthcare disciplines like nursing.
This study suggests student prefer in-class lecture delivery that is face-to-face rather than via video recording in third-phase Psychiatry education, potentially highlighting the continued utility of traditional teaching methods in this context. Face-to-face lectures remain an effective and efficient method for imparting a large volume of factual information (Kumar et al., 2017) and our findings suggest such traditional delivery methods are still highly valued by students. Further evaluation of how best to deliver up-to-date psychiatry content in a manner that is both engaging and evidence-based will be needed to continue to ensure high-quality medical education into the future.

Conclusion

This study suggests student prefer in-class lecture delivery that is face-to-face rather than via video recording in third-phase Psychiatry education, potentially highlighting the continued utility of traditional teaching methods in this context. Face-to-face lectures remain an effective and efficient method for imparting a large volume of factual information (Kumar et al., 2017) and our findings suggest such traditional delivery methods are still highly valued by students. Further evaluation of how best to deliver up-to-date psychiatry content in a manner that is both engaging and evidence-based will be needed to continue to ensure high-quality medical education into the future.

Take Home Messages

- Despite the widespread uptake of a range of e-learning and digital resources into tertiary medical education, there is a lack of systematic evaluation and comparison of different teaching methods.
- A comparison of two delivery methods for Psychiatry lectures found, on average, undergraduate medical students valued face-to-face delivery in class as more useful than video lectures.
- Research demonstrates that traditional and e-learning methods produce similar outcomes in student engagement, knowledge acquisition and performance, with a combination approach of ‘blended learning’ as a promising strategy for further research.
- These findings suggest traditional learning methods are still valued by students and could be used in conjunction with, and to enhance, e-learning in medical education.

Notes On Contributors

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Figure 1. Source: the author.

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**Appendices**

None.

**Declarations**

*The author has declared that there are no conflicts of interest.*

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