COMMITTEE FOR THE ADVANCEMENT OF LEARNING AND TEACHING

FINAL REPORT ON UNIVERSITY TEACHING DEVELOPMENT GRANT

Web-based report

Title: Developing reflective practitioners through online video-based self reflection

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Case snapshot

This grant allowed us to pilot an online video review system with 20 4th year medical students and 6 Postgraduate Dentistry students. Students accessed a private website (https://vbr.siliconcoach.com), reviewed, and commented on interviews with actors and patients. In medicine, tutors reviewed and commented on the videos and later gave feedback face-to-face. Our objectives were to establish the acceptability of this online-enhanced process and compare it with immediate face-to-face (F2F-only) review. In both settings, students reported high levels of satisfaction with the approach. In medicine, 69% indicated a preference for online-enhanced reviews. The mean satisfaction rating for online-enhanced on a 5-point scale was 2, where 1 indicated "very happy". The system has now been rolled out to all 4th year students at the Dunedin School of Medicine, and being introduced at the University of Otago, Wellington this year.

Introduction

4th Year students at the Dunedin School of Medicine have for many years used a system of recording and reviewing interviews with simulated patients to develop skills in communicating in difficult situations. Students have traditionally filmed the interview, and then watched their interview with a tutor who provides feedback, coaching, and completes a formative assessment. This often happens immediately after filming.

In this situation, and in others, students and tutors have limited opportunity to review and reflect on the video before giving or receiving feedback. Developing skills in self-reflection is seen as an increasingly important part of health professional education, but this requires time in order to allow both reflection-in-action and reflection-on action (e.g., Mann, Gordon and MacLeod, 2009[1])

Online systems that allow asynchronous review and feedback, whereby video files can be shared privately between students and their tutors, provide an opportunity to increase the opportunities for

[1] Mann, K., Gordon, J. & MacLeod, A. (2009). Reflection and reflective practice in health professions education: a systematic review. Advances in Health Sciences Education , 14(4):595-621. DOI 10.1007/s10459-007-9090-2.

self-reflection. This can be achieved by allowing students to watch and reflect on their filmed interaction before meeting with their tutor, by allowing students to reflect on the video when they are ready to, rather than when it suits their tutor, and by allowing tutors to review the videos before meeting with their student for face-to-face feedback. Previous attempts to do this by asking students to watch DVDs in their own time have not been successful. Online systems have an advantage in that evidence of the student's reflection is recorded in the system and visible to tutors, which may increase motivation for students to engage in the reflective process.

Methods

We evaluated a number of online tools and eventually settled on using Siliconcoach, a locally developed software platform. This platform offered both the video analysis and annotation features we desired, but also the necessary privacy and security, as well as tools for granular sharing between students and their tutors.

We piloted this tool with 20 4th year medical students in Dunedin in 2013. The students accessed a private website (https://vbr.siliconcoach.com), reviewed, and commented on their filmed interaction. Tutors reviewed and commented on the video and later gave feedback face-to-face. Our objectives were to establish the acceptability of this online-enhanced process and compare it with immediate face-to-face (F2F-only) review. The system was also used in the Faculty of Dentistry to pilot the use of a video-based review of an actual patient consultation for 6 students completing the Post Graduate Diploma in Paediatric Dentistry.

Key findings

Medical students evaluated both methods and indicated a preference for either the online-enhanced review or F2F-only methods. 65% of medical students completed the evaluation. The majority (69%) indicated a preference for online-enhanced reviews. The mean satisfaction rating for online-enhanced on a 5-point scale was 2, where 1 indicated "very happy".

Medical students were positive about the online-enhanced system. They identified increased chances to reflect, more flexibility about when the review was completed, and a more useful feedback session with tutors. Some less favourable comments included a perceived increase in time required and a lack of immediacy in review with tutors.

Dental students completed a group-based feedback session after completing their personal review of their filmed consultations and were informally surveyed about their experience. Students reported that they felt it to be a useful method for gaining feedback on both clinical skills and on their interaction with patients in a complex environment. The student's tutor identified opportunities for feedback on communication but also on practical aspects of this real consultation, including opportunities for better time use and improved cross-infection control.

Due to the initial reflective review occurring online, the evidence of how students approached this is captured in the student comments. We have completed some initial analysis of these comments to determine the number of comments indicating different levels of critical reflectivity, and intent to continue this with future students in order to determine the development of reflective ability over time.

Outcomes and Dissemination

This approach is innovative in the use of an asynchronous online-mediated process to encourage self-reflection. It makes use of technology in order to overcome logistical challenges that have

traditionally made the review and feedback process more hasty and less reflective that we would like. To our knowledge this approach has not previously been used at the Dunedin School of Medicine.

As a consequence of dissemination of these activities, we have been able to secure funding from the Faculty of Medicine to run a full trial of the system with 80 4th year students in Dunedin, with a further 100 students in Wellington being introduced to the system in 2014 in their General Practice attachment. This funding is in place for 2014 only at this stage.

Other Outputs

Papers on the use of the system has been presented at three conferences:

Rountree, J., Gallagher, S., Drummond, B., Millichamp, J., & Stubbe, M. (2013). Demonstration: Online video-based reflection for clinical practice. Presented at the 14th Annual Conference of the New Zealand Chapter of the ACM Special Interest Group on Computer-Human Interaction, 15th – 16th November 2013, Chirstchurch New Zealand.

Gallagher, S., Rountree, J., Drummond, B., Millichamp, J., & Stubbe, M. (2013). Experience using an online video annotation tool for reflective practice. In J. McDonald, S.-K. Loke, A. McLean, & M. Rajoo (Eds.), *Proceedings of the Spotlight on Teaching and Learning Colloquium*, (pp. 53). Dunedin, New Zealand: HEDC, University of Otago.

Gallagher, S., Stubbe, M., Flett, J., Drummond, B., Rountree, J., & Millichamp, J. (2014). Using online video annotation to develop communication and self-reflection skills in medical students: A pilot study. *Proceedings of the Australian & New Zealand Association for Health Professional Educators (ANZAHPE) Conference: Connecting Science and Theory with Learning for Clinical Practice*, (pp. 77). Adelaide, Australia: ANZAHPE.

Futhermore, the project was recognized with a first-place teaching Innovation award from CALT in 2014. A story about this was recently published in the Otago Bulletin: http://www.otago.ac.nz/otagobulletin/news/otago075991.html

A paper on the project is being prepared for publication.

Summary of Spending

See attached report.