STUDENT AS PARTNERS: SUPPORTING WORK READY GRADUATES THROUGH CO-CREATION

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Abstract

Diminishing resources and expectations for higher teaching loads are among the challenges in higher education today, requiring innovative solutions to deliver quality education. The 3-year Bachelor of Oral Health (BOH) program at the University of Adelaide in Australia has undergone significant changes in its delivery format, including an extended clinical year to support the development of work-ready graduates. Consequently, the traditional 3-week pre-clinical induction period was reduced to one week, necessitating a creative approach to delivering content. This major change was facilitated by newly co-created e-learning modules and resources, which were accompanied by ‘hands on’ workshops and practical activities conducted over a one week period at the commencement of third year.

The project aimed to engage current final year students in co-creating the induction modules’ design, content and development. Involving students in co-creation and peer instruction has been shown to develop their employability skills, through a deeper and more reflective engagement with the content. Additionally, peers share a similar discourse, allowing for greater understanding.

Another aim of the project was to improve student engagement, knowledge and clinical skills using blended learning – the students worked through interactive e-learning modules (ILM) and additional resources prior to practical application in workshop, simulation and clinical activities. Transferring much of the didactic material to these on-line learning modules allowed additional valuable simulation and clinical experience for students. Furthermore, students have ongoing access to these e-learning resources for remedial and revisionary purposes across the entire year.

The modules were piloted at the start of the 2017 academic year with the current cohort of third year students. At the time, a brief qualitative and quantitative evaluation was conducted using Survey Monkey. Student feedback was sought on the effectiveness, relevance and value of the modules. Students reported a high level of engagement with 94.4% (n=34) completing the modules either ‘mostly’ or ‘completely’. Students also reported a preference for ILMs over lectures, they liked being able to pause and replay videos when desired to make their own notes. The majority (76%) rated the images and videos with peers demonstrating the techniques as ‘most helpful and interesting’, with many commenting on the value of ‘tips and tricks’ provided in a video by their peers. A follow up evaluation will be conducted mid-year to assess how well the online modules prepare students for not only the simulation activities, but for longer term subsequent clinical placements. In addition, the number of times the modules are accessed across the year by students will be a useful metric to evaluate their ongoing value to student learning.

Although the initial impetus for this co-creation initiative was in response to external factors, early outcomes demonstrate tangible educational benefits. It is anticipated that students will demonstrate increased knowledge, skills and confidence prior to practical activities and this will translate to improved clinical performance. Outcomes of the evaluation approach will inform the further refinement of these co-created resources.

Keywords: Co-creation, student engagement.

1 INTRODUCTION

Increasing costs, shifting funding and diminishing resources, and consequent expectations for higher teaching loads are among the challenges in higher education today, requiring innovative solutions to deliver quality education and support the development of work-ready graduates. Additionally, there is an increasing emphasis on the importance of students’ active engagement in their learning, and the benefits gained when students play an active role in shaping and enhancing their learning experiences.[1] Involving students in co-creation and peer instruction has been shown to develop their employability skills, through a deeper and more reflective engagement with the content. Additionally,
peers share a similar discourse, allowing for greater understanding.[2] The 3-year Bachelor of Oral Health (BOH) program at the University of Adelaide in Australia has undergone a significant change to the timetable due to a new partnership agreement with the local government health department. This major change included an extension of the final clinical year from 40 weeks to 48 weeks. The traditional 3-week pre-clinical period was restructured so students would undertake a transition program at the end of second year. This was facilitated by newly developed e-learning modules supported by on-line resources, face-to-face workshops and practical activities conducted over just one week at the commencement of third year.

The aim of the research project was firstly to engage current final year students in co-creating the induction modules’ design, content and development. The project also aimed to improve student engagement, knowledge and clinical skills through the use of blended learning – the students worked through interactive e-learning modules and additional resources prior to practical application in workshop, simulation and clinical activities.[3] Transferring much of the didactic material to these online learning modules allowed additional valuable simulation and clinical experience for students. Furthermore, students will have ongoing access to these e-learning resources for remedial and revisionary purpose across the entire year.

This paper reports on the production of two specific modules, namely Stainless Steel Crowns (SSCs) and Exodontia. (SSCs are a metal fabricated crowns which are placed over the crowns of teeth in children when traditional filling materials are not suitable and Exodontia is tooth extraction). These topics were selected due to the level of difficulty and higher risk if the skill is not carried out safely.

2 METHODOLOGY

Final year BOH students were invited to submit an expression of interest to assist in the development of a SSC module and an Exodontia module. Six selected students participated in a workshop to design the format and content for each topic. The online modules were developed using Articulate 360 Storyline. Both the SSC and Exodontia modules included a narration of underpinning theory and an embedded video demonstration of the technique for SSC application and tooth extraction.

Specialist practitioners provided content advice and narration for each module topic, and two final year BOH students provided the demonstrations for videos and images, conducted in a dental simulation clinic. Each module included formative assessment components such as quizzes and procedural checklists to provide valuable feedback to enhance knowledge and understanding prior to pre-clinical simulation and clinical activities.

The modules were piloted at the start of the 2017 academic year with the current cohort of third year students. At the time, a brief qualitative and quantitative evaluation was conducted using Survey Monkey. Student feedback was sought on the effectiveness, relevance and value of the modules six weeks after their completion. A student focus group will be conducted in July 2017 to assess how well the online modules prepared students for not only the simulation activities, but for longer term subsequent clinical placements.

3 RESULTS

The Survey Monkey questionnaire, undertaken during allocated class time, had a 100% completion rate (36 students) and assessed completion rates of the online activities, average time spent on each module, how helpful the students found the modules and whether they have had the opportunity to apply the knowledge and skills clinically yet. A summary of the initial evaluation based on quantitative and qualitative data is presented in Table 1, and the emerging themes from this evaluation are discussed further below.

Students showed high level engagement – the majority of students completed ‘most’ (5.5%) or ‘all’ (88.9%) of both modules, with only one student reporting ‘having a brief look’ but not completing the module and another reporting ‘not looking’ at the modules at all.

Five (13.8%) students reported spending less than one hour working on the modules, two-thirds (66.7%) reported spending one to two hours on each module, and 6 students (16.7%) spent 2-3 hours on each.

Over two thirds of students accessed the modules once or more after the practical workshops (69.4-72.2%), with 6 students reviewing the SSC module and 10 students reviewing the Exodontia module.
more than once in that time. The majority also reported they were ‘quite likely’ or ‘highly likely’ to review the modules again during the year.

Three quarters (77.7%) of students described the modules as being ‘very helpful’ or ‘extremely helpful’, two students found the modules ‘somewhat helpful’ while six students (16.7%) were ‘unsure’ about the helpfulness of the modules in preparing them for the practical workshops and clinical experiences. Information as to whether the student had applied the procedures clinically since the workshop was also sought from students.

Students were asked to identify which aspects of the modules helped their learning or made the process more enjoyable, and comment on any aspects that could be improved in future modules. The images and videos with students demonstrating the techniques were highly valued, these were identified by 80% of students as positive features of the modules.

<table>
<thead>
<tr>
<th>Table 1. Summary of student evaluation of Extraction and SSC modules.</th>
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<tbody>
<tr>
<td>N= 36</td>
</tr>
<tr>
<td><strong>Completion</strong></td>
</tr>
<tr>
<td>Completed most or all of each module</td>
</tr>
<tr>
<td>Did not review at all or only briefly</td>
</tr>
<tr>
<td><strong>Time spent</strong></td>
</tr>
<tr>
<td>Up to 2 hours on each module</td>
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<tr>
<td>Over two hours on each</td>
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<tr>
<td><strong>Helpful</strong></td>
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<tr>
<td>Very or extremely helpful</td>
</tr>
<tr>
<td>Somewhat helpful or unsure</td>
</tr>
<tr>
<td><strong>Clinical application</strong></td>
</tr>
<tr>
<td>Extraction undertaken</td>
</tr>
<tr>
<td>SSC placement</td>
</tr>
<tr>
<td><strong>Module review - once or more</strong></td>
</tr>
<tr>
<td>Extraction</td>
</tr>
<tr>
<td>SSC</td>
</tr>
<tr>
<td><strong>Future review</strong></td>
</tr>
<tr>
<td>Quite likely or highly likely</td>
</tr>
<tr>
<td>Maybe – somewhat likely</td>
</tr>
</tbody>
</table>

3.1 Effectiveness and engagement

The SSC and Exodontia topics were traditionally covered in two three-hour didactic sessions so the module format could be promoted as a more efficient option for students. The students varied in the amount of time spent viewing each module although two thirds reported between one and two hours. Students commented they found the content and format clear, relevant and interesting, and in particular liked being able to pause and replay videos when desired in order to make their own notes. Some students used this feature to produce reminder notes and checklists for use in the clinic.

Clinical educators will review student knowledge and clinical skills at the end of each semester to assess effectiveness of the new initiative. In addition, the number of times the modules are accessed across the year by students will be a useful metric to evaluate their ongoing value to student learning.

3.2 Relevance and application

The majority of students described the modules as being very to extremely helpful. Nearly a quarter found them somewhat helpful or were unsure. This may be explained by the fact that only six students had completed a SSC placement since the workshop, whereas half the students had extracted one or more teeth in that time.

Students that had completed a clinical procedure at the time of the evaluation rated the modules more highly. All students that had placed a SSC rated the modules as ‘very helpful’ or ‘extremely helpful’. All but one of the 18 students that had undertaken an extraction rated the modules as ‘very helpful’ or ‘extremely helpful’. This would suggest the students that had the opportunity to apply the particular technique in a clinical setting and could critically evaluate the usefulness and relevance, rated the modules more highly.
3.3 Value and outcomes

Students clearly valued the images and videos used in the modules. The images and videos with students demonstrating the techniques were highly valued, these were identified by 80% of students as positive features of the modules. There were numerous comments such as “I liked the use of BOH students in the videos, the outcomes seem realistic and achievable.” In particular, the students favoured the ‘practical tips and tricks’ videos in each module where two students nearing graduation discussed their clinical experience and what they had learned to assist with each technique. The positive feedback for this video recognizes the social nature of learning, the role of more knowledgeable others and the importance of reflective practice, all of which are consistent with what is expected in professional practice.

The ability to pause and replay the videos, the images and diagrams throughout the modules, the clear relevance and clinical application of the content, summary slides for each section, and the use of quizzes to test knowledge and provide feedback were frequently commented on. Some students also cited having the expert narration and being able to click on direct links to additional resources such as journal articles as positive attributes of the modules.

Project partners also benefitted from the co-creation project. For staff, working in partnership with students also helped transform thinking about learning and teaching practices, and gain additional practical skills in video production and e-learning module development. Student engagement through partnership enables and empowers students to engage deeply in their learning and enhancement.[4] Students commented involvement helped reinforce their own learning and learn content more deeply through teaching to others, promoting active learning and a sense of leadership. The following quote reflects the consensus of those involved:

“I really appreciate the opportunity to be involved and really enjoyed the experience! It has also helped me revise the underpinning theory and understand the practical application better. I also enjoyed passing on tips that I wish I had known at the start of the year!”

4 CONCLUSIONS

The project provided an opportunity for co-creation, collaborating with final year BOH students on module design, content and development. Although the initial impetus for this co-creation initiative was in response to external factors, early outcomes demonstrate tangible educational benefits. Partnership in this project supported development of both student and staff knowledge and capabilities. Collaboration to create interactive e-learning modules and videos produced engaging learning resources, and current students particularly value the involvement of peers in developing authentic demonstrations, enhancing motivation and learning. It is anticipated that students will demonstrate increased knowledge, skills and confidence prior to practical activities and this will translate to improved clinical performance. Outcomes of the evaluation approach will inform the further refinement of these co-created resources.

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REFERENCES


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