

Teaching health promotion competencies in undergraduate dentistry training: A unique pedagogical approach

Tammy Allen¹  | Mary O'Loughlin¹  | Felicity Croker² 

¹College of Public Health, Medical and Veterinary Sciences, James Cook University, Cairns, QLD, Australia

²College Medicine & Dentistry, James Cook University, Cairns, QLD, Australia

Correspondence

Tammy Allen, College of Public Health, Medical and Veterinary Sciences, James Cook University, Cairns, QLD, Australia.
Email: tammy.allen1@jcu.edu.au

Abstract

Issue Addressed: Using appropriate pedagogical approaches in undergraduate dentistry training is important to develop student's health promotion knowledge, and to shape their attitude towards using these competencies in future dentistry practice. This brief report documents the signature pedagogical approach developed for an undergraduate health science subject at James Cook University, to teach dentistry students health promotion competencies.

Pedagogical Approach: The signature pedagogy involves three key approaches – experiential learning, cooperative learning and inquiry-based learning. Experiential learning “beyond the classroom” enables students to develop and deliver a school-based oral health promotion program. “Inside the classroom,” role-plays encourage students to apply their health promotion skills to real-world dentistry scenarios. Cooperative learning techniques such as “think, pair, share” create a supportive environment for students to confidently exchange ideas; and inquiry-based learning engages students in thinking critically about health promotion strategies to address contemporary oral health challenges. These pedagogical approaches have developed student's understanding of the health promotion competencies required of a newly qualified dentist.

Conclusion: Pedagogical approaches that engage dentistry students in experiential, cooperative and inquiry-based learning are important considerations for undergraduate teaching, to strengthen understanding of health promotion and to help shape student's attitude towards using these competencies in future dentistry practice.

KEYWORDS

competency, dental education, dental public health, dentistry, health promotion, pedagogical approaches

1 | INTRODUCTION

Dentists play a critical role in disease prevention, particularly in addressing the oral health disparities experienced by regional and remote communities throughout Australia.¹ To assist in addressing these disparities, newly qualified dentists in Australia are expected to have attained the following Australian Dental Council (ADC) health promotion competencies²:

- Competency 1: Understand the determinants of health, risk factors and behaviours that influence health
- Competency 2: Understand health promotion theories and principles
- Competency 3: Understand health promotion strategies to promote oral and general health
- Competency 4: Understand the design, implementation and evaluation of evidence-based health promotion²

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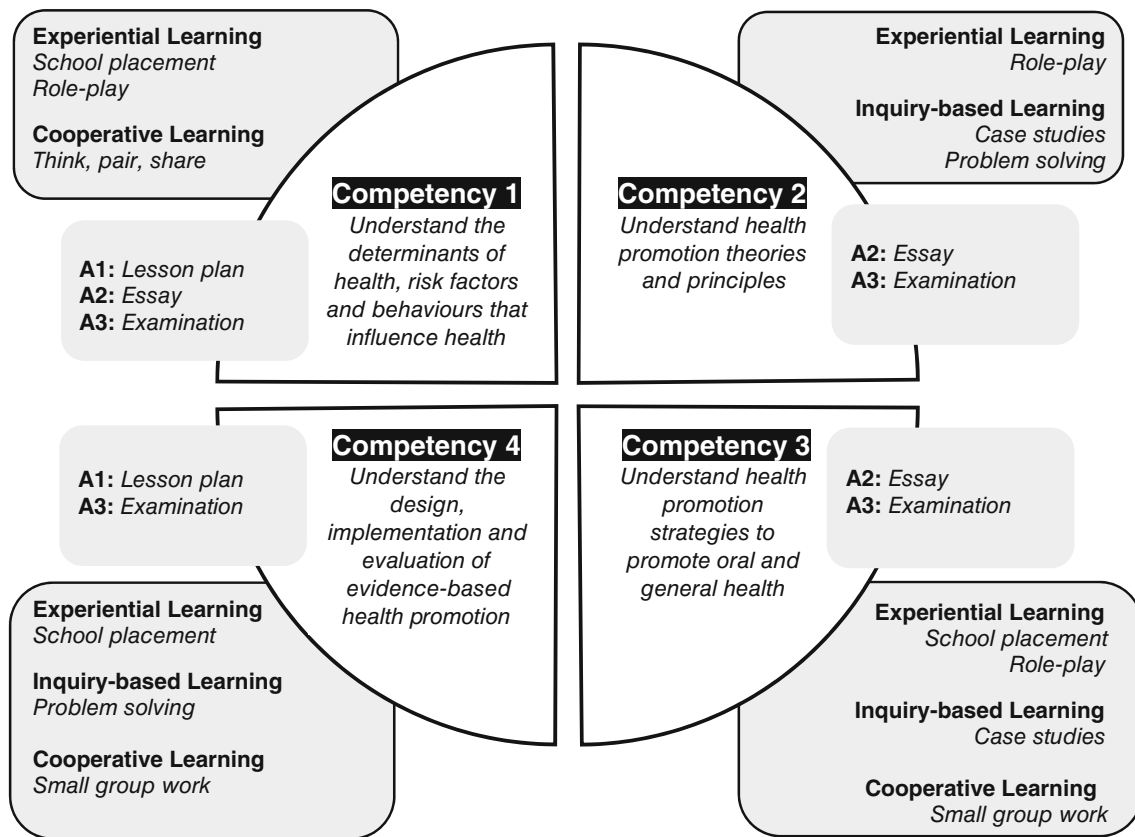


FIGURE 1 Pedagogical approaches and assessment items linked to health promotion competencies for a newly qualified Australian dentist²⁸⁻¹¹

Using appropriate pedagogical approaches in undergraduate dentistry training is crucial for students to develop health promotion competency.³ This is particularly pertinent given the often “clinically” focused undergraduate dental education curriculum.^{3,4} The way health promotion competencies are taught can shape dentistry students’ attitude and intention towards applying these competencies in their future practice.⁴ There is a dearth of literature on the pedagogical approaches used to teach health promotion competencies to dentistry students. To date, research has concentrated on describing and critiquing the types of health promotion strategies taught in dentistry education, with limited reflection on the learning approaches used to teach these strategies.⁵

This report describes the key pedagogical approaches used in a second-year health science subject called “*Health Promotion in Dentistry*”, to teach dentistry students at James Cook University. Experiential, cooperative and inquiry-based learning approaches are explored in the context of how they develop the health promotion competencies expected of a newly qualified dentist in Australia.

2 | SIGNATURE PEDAGOGICAL APPROACH

A signature pedagogical approach to teaching health promotion to second-year dentistry students was developed in 2016.⁶ This

approach was specifically designed to meet the learning needs of a traditionally “clinically focused” dentistry student cohort.³ The subject’s curriculum is guided by the ADC’s health promotion competencies,² dental education pedagogy³ and local, student-led research focussing on contemporary health promotion topics such as “*factors influencing the incorporation of health promotion into dentistry practice*” and “*attitudes towards water fluoridation*.”

The overarching signature pedagogical approach to teaching dentistry students’ health promotion competencies encompasses:

1. the development of student’s knowledge and skills through authentic, oral health promotion experience⁷;
2. using a shared, cooperative approach to learning⁸;
3. encouraging reflective practice⁹; and
4. developing critical thinking skills, using dental-specific real-world case studies.¹⁰

The signature pedagogy includes three key approaches – experiential learning,⁷ cooperative learning⁸ and inquiry-based learning.¹⁰ Although these approaches are discussed separately in this report, in practice they are often collectively used to support student learning. Figure 1 displays a conceptual framework that aligns the pedagogical approaches and assessment items with the health promotion competencies required of a newly qualified Australian dentist.²

2.1 | Pedagogical approach: Experiential learning

Experiential learning draws on the application of Kolb's model for medical and dental education.^{7,9} Kolb conceptualises experiential learning as a cyclical process whereby knowledge is created through transformative experiences that include reflective observation and abstract conceptualization.⁷ This learning approach encourages critical appraisal of situations, reflection and implementation of novel concepts to help students understand health promotion competencies 1, 2, 3 and 4.⁹

Experiential learning is embedded in a unique practicum, where students plan and deliver a series of oral health education sessions to children at three local schools. Annually, around 600 children are engaged in these sessions, with most being of Aboriginal and/or Torres Strait Islander descent, or from migrant families. Learning occurs within this social, cultural and environmental context. This “beyond the classroom” approach stimulates consciousness of social determinants of health and challenges assumptions.^{11,12} Authentic interactions with school children builds on theoretical health promotion concepts, creating the opportunity for dentistry students to expand their understanding of oral health challenges, particularly in priority groups.^{9,12}

An experiential learning approach is also used in the classroom, where students engage in role-play. This active learning technique can help motivate students, supports deeper understanding and assists students to retain health promotion knowledge.^{13,14} Role-play activities involve students taking on both dental professional and client roles, to develop brief intervention and motivational interviewing skills. This learning approach enables the application of behavioural theory, and builds student's self-efficacy in communicating with clients. These are essential skills for dental professionals to utilise when addressing client behaviours that impact oral health, particularly smoking cessation and poor oral hygiene.¹⁵

2.2 | Pedagogical approach: Cooperative learning

Cooperative learning is an overarching pedagogical approach that encourages critical thinking, sharing ideas and exploring different perspectives, often through small group activities.⁸ This technique helps students develop their interpersonal and negotiation skills and gain confidence to share ideas without fear of “losing face” in a larger group.¹⁶ Johnson and Johnson (2002) postulate that promoting this type of interaction between students can also enhance academic achievement. Cooperative learning is used in conjunction with experiential learning during the school-based practicum to help students achieve health promotion competencies 3 and 4. In small groups, students develop lesson plans, deliver oral health education sessions and critically reflect on their practicum experience.

In the classroom, cooperative learning approaches such as “think, pair, share” and small group discussions are used in conjunction with inquiry-based learning approaches to enable a safe environment for students to discuss and collaboratively explore oral health issues and

critically analyse information to address oral health problems, which is an integral part of meeting health promotion competencies 1 and 3.¹⁷

2.3 | Pedagogical approach: Inquiry-based learning

With a focus on investigating “real-world” problems, inquiry-based learning encompasses a range of approaches that include problem-based and case-based learning.¹⁰ Problem-based learning is used to develop an understanding of health promotion competencies 1 and 3.¹⁸ Students acquire new knowledge through the process of defining and proposing solutions to contemporary oral health issues.¹⁰ For example, students investigate the problem of access to fluoridated water in Queensland communities. This involves researching the arguments used by community members opposed to water fluoridation; synthesising this knowledge; planning ways to engage with the community to dispel myths and formulating strategies to lobby key stakeholders for policy change.

Case-based learning enables students to explore real-world scenarios commonly found in dentistry practice, to enhance their understanding of health promotion competencies 2 and 3.¹⁰ Students draw on their knowledge of health promotion theory and strategies to make decisions on how to best address these scenarios. For example, students examine the scenario of a clinical setting involving parental beliefs about early childhood caries, a common oral health condition in young children.¹⁹ Students apply behavioural theory to this scenario to expand their understanding of ways to facilitate change. They also use the scenario to explore solutions to address potential barriers to promoting healthy behaviours.

2.4 | Aligning assessment with pedagogical approaches and health promotion competencies

Assessment forms a core part of this subject's signature learning pedagogy as it appraises student understanding of the health promotion competencies. Subject assessment comprises of:

1. Assessment One (A1): Oral health education lesson plans (group)
2. Assessment Two (A2): Essay (individual)
3. Assessment Three (A3): Examination (individual)

Assessment One utilises both experiential and cooperative learning approaches to assess health promotion competencies 1 and 4. Using specific marking criteria, students are collectively assessed on five oral health education lesson plans and on post-lesson critical reflection and review. Assessment Two (Essay) assesses health promotion competencies 1, 2 and 3, with students marked on describing health promotion strategies and articulating the perceived role of a dentist in health promotion practice. Informed by the inquiry-based learning approach, Assessment Three (Examination) uses a series of case-based scenarios for students to demonstrate their understanding of health promotion competencies 1, 2, 3 and 4. Collectively these assessments have demonstrated student's understanding of the health promotion competencies required of a newly qualified dentist, and

have consequently led to students successfully completing this subject.

3 | LIMITATIONS

Pedagogical approaches that are used to teach health promotion competencies to dentistry students have been described, however further research is required. This includes evaluating the rigour of the assessment processes; measuring the impact of the learning approaches on student retention of health promotion knowledge; and appraising the application of these competencies beyond undergraduate dental training.

4 | CONCLUSION

This report outlines a unique, signature pedagogical approach used in an undergraduate health science subject to develop the health promotion competencies required of a newly qualified dentist in Australia. Experiential learning both within and outside of the classroom, along with cooperative and inquiry-based learning approaches have enabled students to understand these health promotion competencies.

ACKNOWLEDGEMENTS

We would like to acknowledge Mrs Sheila Kempton from the College Medicine & Dentistry, James Cook University. Sheila's contribution in preparing for and supporting the dentistry students throughout the school oral health promotion program, has notably enhanced their learning journey. We would also like to thank the staff and students from each of the participating schools who have supported the oral health promotion program. Open access publishing facilitated by James Cook University, as part of the Wiley-James Cook University agreement via the Council of Australian University Librarians.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

ORCID

Tammy Allen  <https://orcid.org/0000-0001-7335-1897>

Mary O'Loughlin  <https://orcid.org/0000-0003-2711-2814>

Felicity Croker  <https://orcid.org/0000-0002-2255-8991>

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How to cite this article: Allen T, O'Loughlin M, Croker F. Teaching health promotion competencies in undergraduate dentistry training: A unique pedagogical approach. *Health Promot J Austral*. 2022;33(S1):35–8. <https://doi.org/10.1002/hpja.660>