

Dental Education Research

Programme leader: Dr Lee Adam

Research in dental education focuses on enhancing theoretical and evidence-based policies and practices in teaching and learning. Researchers in the Dental Education Research Programme typically examine educational experiences in the Faculty and other dental education environments in order to foster a positive impact on education in both the clinical and traditional teaching and learning environments. We seek to use research to identify strategies and practices that can improve experiences and support for students and educators, both within the University of Otago Faculty of Dentistry, and in other education environments.

Research Projects

Do multifaceted admission processes predict performance of students in two Australasian dental programmes?

Investigators: Professor. A. Rich, Dr J. Rountree, Professor. G. Seymour (University of Otago), Dr D. Lekkas, Associate Professor T. Winning & Professor G. Townsend (University of Adelaide). Funded by the UMAT Consortium (\$100,000)

The overall aim of this study is to investigate the relationship between the various components of multifaceted admission processes and academic and clinical performance of dental students (2005 – 2012) in two Australasian dental programmes. In addition, the study aims to identify what combination of admission components best predicts success of dental students. The long-term objective is to ensure that admission of dental students at the Universities of Otago and Adelaide continues to be undertaken using reliable, valid and efficient methods, that the skills of successful applicants are matched with our respective curricula requirements, and that the process is socially accountable.

Stress and mood states of New Zealand dental students

Investigators: Professor P. Brunton, Dr J. Broadbent, Dr L. Adam, Professor A. Rich, Mrs A. Meldrum (University of Otago) & Dr L. Jones (Massey University).

The aim of this study is to identify the stress, mood states and resilience of University of Otago Faculty of Dentistry undergraduate dental students. Information is being collected twice yearly using the Perceived Stress Scale Questionnaire (PSS), the Profile of Mood States Questionnaire (POMS-Bi), and a brief resilience scale. The research results will provide important information that can be used, where appropriate, to create a healthier learning environment for students, and to help inform appropriate support interventions, if necessary.

Feedback processes in the clinical dental learning environment

Investigators: Dr L. Adam, Ms S. Ebbeling, Mrs A. Meldrum, Professor A. Rich & Dr A. McLean.

The aim of this project is to identify characteristics of effective feedback in the clinical dental education setting and to develop a set of resources for supporting and improving the approach to feedback by clinical teaching staff in the Bachelor of Oral Health (BOH) and Bachelor of Dental Surgery (BDS) programmes.

Professionalism for the undergraduate oral health professional

Investigators: Mrs R. Ahmadi, Dr L. Smith, Dr L. Adam, Mrs A. Meldrum & Dr S. Moffat.

This project is an investigation of Bachelor of Oral health (BOH) students' development of professionalism through their degree course. Data for the study comprises a review of the first year BOH curriculum in which the fundamentals of professionalism are taught, alongside interviews with staff and students from all years of the BOH programme. The results of the research will help inform the development of the BOH curriculum in regards to teaching professionalism.

Perceptions of stressors of undergraduate students

Investigators: Mrs H Olson, Dr L. Adam, Dr A. Tawse-Smith & Dr S. Moffat.

The aim of this study is to identify University of Otago Faculty of Dentistry undergraduate students' perceived stressors. Data collection is via the Dental Environment Stress Survey (DES). The research results will provide important information that can be used, where appropriate, to create a healthier learning environment for students, and assist students to develop strategies for managing stress in the future.



Hanna Olson presenting her research at the 2016 College of Oral Health Academics (COHA) conference in Adelaide.

Measuring the attitudes of dental students towards social accountability

Investigators: Associate Professor L. Foster Page, Professor J. McMilian, Professor K. Lyons, Professor B. Gibson, V. Chen & C. Fisher

The aim of this project is to develop a social accountability measure for the dental environment. Data was gathered using a modified version of the Medical Students' Attitudes Towards Underserved (MSATU) questionnaire. The instrument's validity was assessed by an expert panel of eight academics and face validity was conducted with six students prior to a pilot study of BDS students. The instrument was consequently revised and further testing is required to ensure its robustness for measuring the concept of social accountability in New Zealand dental students.



BDS Honours student Calum Fisher was awarded Best Oral Presentation in the Dental Education session at the 2016 SJWRI Research Symposium.

Grants and funding

Mrs R. Ahmadi, Dr L. Adam, Dr L. Smith, Mrs A. Meldrum. *Professionalism for the Undergraduate Professional*. University of Otago Teaching Development Grant \$19,087

Dr L. Adam, Ms A. Meldrum, Prof. A. Rich, Dr A. McLean. *Guidelines for providing feedback in the clinical dental setting*. University of Otago Teaching Development Grant, \$10,075

Key personnel

Lee Adam
Jonathan Broadbent
Paul Brunton
Peter Cathro
Nick Chandler
Lyndie Foster-Page
Suzanne Hanlin
Wendy-Ann Jansen van Vuuren
Karl Lyons
Alison Meldrum
Colleen Murray
Kate Newsham-West
Hanna Olsen
Alison Rich
Janet Rountree
Lee Smith
Andrew Tawse-Smith
Murray Thomson



Lee Smith presents her research in the Dental Education session of 2016 SJWRI Research Symposium, chaired by Lee Adam.

Key Publications

Adam, L. (2015). Student perspectives on plagiarism. In T. Bretag (Ed.), *Springer handbook of academic integrity*. Singapore: Springer. doi: 10.1007/978-981-287-079-7_67-1.

Adam, L. Anderson, V. & Spronken-Smith, R. (2016). "It's not fair": Policy discourses and students' understandings of plagiarism in a New Zealand university. *Higher Education* DOI: 10.1007/s10734-016-0025-9.

Chen, V., Foster Page L.A., McMillan J., Lyons K.M. & Gibson B.J. (2015). Measuring the attitudes of dental students towards social accountability following dental education – Qualitative findings. *Medical Teacher* DOI:10.3109/0142159X.2015.1060303.

Cox, S., Pollock, D., Rountree, J., & Murray, C.M. (2016). Use of information and communication technology amongst New Zealand dental students. *European Journal of Dental Education* 20: 135-141.

Ding, C., Foster Page, L.A. & Rangnekar, S.. (2015). Interprofessional Education, Dentistry, and the NZ Experience: A Commentary. *New Zealand Dental Journal*, 111(3):109-12.

Foster Page, L.A., Chen, V., Gibson B. & McMillan, J. (2016). Overcoming structural inequalities in oral health: The role of dental curricula. *Community Dental Health* 33:1-5.

Foster Page, L.A., Gray, L., Gallagher, P., McKinlay, E., & Rich, A.M. (2015). Untangling the web of influences on interprofessional education for dental students. *Journal of Dental Education* 80:677-685.

Golding, C., & Adam, L. (2016). Evaluate to improve: Useful approaches to student evaluation. *Assessment & Evaluation in Higher Education*, 41(1), 1-14.

Harris, R.C.L., Millichamp, C.J. & Thomson W.M. (2015). Stress and coping in fourth-year medical and dental students. *New Zealand Dental Journal* 111: 102-108

Kang, I., Foster Page, L.A., Anderson, V., Thomson W.M. & Broadbent, J.M. (2015). Changes in students' perceptions of their dental education environment. *European Journal of Dental Education* 19: 122-130

Lai, K.W. & Smith, L. Tertiary students' understandings and practices of informal learning. In press, *Australasian Journal of Educational Technology*.

Murray, C., Gray, A. & Chandler N.P. (2016). Eyesight: A study of dental surgery students during their clinical training. *Optometry in Practice* 17:113-120.

Murray, C. & Chandler, N.P. Final year dental students in New Zealand: Self-reported confidence levels prior to BDS graduation. In press, *New Zealand Dental Journal*.

Murray, C.M. & Chandler, N.P. (2015). Operative aspects of the undergraduate endodontic learning experience in New Zealand. *New Zealand Endodontic Journal* 49: 5-12.

Smith L., Adam, L., Meldrum, A., Moffatt, S. & Ahmadi, R. Undergraduate Bachelor of Oral Health student and educators' understandings of professionalism. In press, *New Zealand Dental Journal*.

Subramanian, J. & Thomson, W.M. The learning environment in professional doctorate and postgraduate dental education: A qualitative study. In press, *European Journal of Dental Education*.

Conference presentations and abstracts

Adam, L., Spronken-Smith, R., & Anderson, V. (2015). Re-conceptualising plagiarism: Engaging students in quality scholarship. *Proceedings of the 12th Annual International Society for the Scholarship of Teaching and Learning (ISSOTL) Conference*. (pp. 58).

Adam, L., Anderson, V., & Spronken-Smith, R. (2015). Re-thinking plagiarism in light of a bigger question: What is the purpose of university education? *Proceedings of the Higher Education Research and Development Society of Australasia (HERDSA) Conference: Higher Education in a Globalized World*, Melbourne, Australia.

Ahmadi, R., Smith, L. & Adam, L. (2016). Undergraduate oral health students' and teachers' understandings of professionalism. *Proceedings of the College of Oral Health Academics 15th Annual Meeting*, Adelaide, South Australia.

Brunton, P.A., Ghazali, A., Tarif, Z.H. & Loch, C. (2016). Repair vs. replacement of direct composite restorations: a survey of teaching programs in Oceania. *IADR/AADR/CADR General Session & Exhibition*, San Francisco, USA.

Foster Page, L.A., Chen, V., Gibson, B. & McMillan J. (2016). Overcoming structural inequalities in oral health: the role of dental curricula. *General Assembly Session International Association of Dental Research*. Symposia presentation Seoul, Korea.

Friedlander, L.T., Chandler, N.P. & Daniel, B. (2016) Five year analysis of undergraduate education using tapered hand and rotary canal instrumentation techniques. *International Endodontic Journal* 49:85.

Chandler, N.P., Gray, A. & Murray C.M. (2015) Vision: a study of clinical dental teachers. *Journal of Dental Research* 94: Spec Iss C abstract 2315487

Murray, C.M., Gray A. & Chandler, N.P. (2015) Eyesight: a study of dental students during their clinical training. *Journal of Dental Research* 94: Spec Iss C abstract 2315463

Murray, C.M. & Chandler, N.P. (2015) Eyesight status of students commencing clinical practice: A survey. *Journal of Dental Research* 94: Spec Iss A abstract 2094008

Olson, H., Adam, L., Moffat, S., & Tawse-Smith, A. (2016). Perceived Stressors of Bachelor of Oral Health Students. *Proceedings of the College of Oral Health Academics 15th Annual Meeting*, Adelaide, South Australia.

Student research

Ebbeling S, Adam, L, Meldrum A, Rich A. Barriers to Learning in the Clinical Environment: A Dental Students' Perspective (SJWRI Summer Studentship, 2015/16)

Fisher, C., Foster Page, L.A., Zeng, J., McMillan, J. & Lyons, K. Appraisal of a measure of social accountability in the dental educational environment (Honours project, 2016).

Garde, S., Tawse-Smith A. & Adam, L. Perceived stressors of undergraduate dental students at the University of Otago Faculty of Dentistry (Final year elective, 2015).

Ghazali, A., Tarif, Z., Brunton, P.A., & Loch, C. Repair vs. replacement of direct composite restorations: A survey of teaching and operative techniques in Oceania (Final year elective, 2016)

Koonne, T., Moru, P., Foster Page, L.A. Knowledge, attitudes and practices towards preventive dentistry among dental students (Final year elective, 2016).