

The changing face of a dental school: a Leeds perspective

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Key points

The School of Dentistry at the University of Leeds is defined by the community of students and staff who collectively strive to deliver the School's vision.

Innovation is at the centre of advances in research and research-informed teaching, with the need to be sustainable.

Emphasis on social justice reflects the need to attract the most talented people to the School who are committed to addressing the inequalities that characterise access to a career in oral health and healthcare, as well as ensuring the vulnerable members of our society receive the care they need.

Abstract

Time spent as a student at a dental school leaves a legacy that shapes how each of us develops professionally and more generally as our lives progress. Personal reminiscences relate to our own time as a student. Comments years later that 'things are not the same' are true. The reality is that dental schools are constantly reinventing themselves and can never afford to stand still.

The aim of this opinion piece is to highlight the priorities and direction of the School of Dentistry at the University of Leeds and how these are informed by the past. Innovation in education and research are at the centre of the changes that are being driven forwards within a framework where equality, diversity and inclusion are increasingly incorporated as business as usual. COVID-19 disruption has driven change and brought a new confidence in our ability to deliver this. It is an exciting time to be part of the School.

An unexpected event and the purpose of the School

Recently, I was unexpectedly invited to visit the home of a former member of staff who graduated from the University of Leeds over 50 years ago. A large volume of dental paraphernalia highlighted the importance of the profession of dentistry to their identity and life. I gratefully accepted the offer of several items for the School's museum collection. A medal commemorated the achievement of best student of the year on graduation. Their portable wooden instrument cabinet was striking (Fig. 1). The craftsmanship of its construction remarkable; the weight prohibitive to moving it too far. An itemised bill set out the original contents and totalled £40. At today's prices, this would be over £750. It was indicative of the student's investment in



Fig. 1 The wooden instrument cabinet was the norm for dental students and reflects how different dental education was within living memory. Image courtesy of University of Leeds

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Submitted 20 June 2022
Accepted 7 July 2022
<https://doi.org/10.1038/s41415-022-5027-7>

their future. And this is what dental school is about; it is about investing in the future of our society in the broadest sense.

The School of Dentistry at the University of Leeds sets out each day to deliver our collective vision (Box 1). The University is values-driven, with collaboration, compassion, inclusivity and integrity underpinning the School's priorities. For many of our students, this is the transition from lay person to registered healthcare professional for the first time. Experiences as a student define us more than perhaps we care to recognise. Everyone in the School has a responsibility, irrespective of our role or where we are in our career, to keep developing the skills and attributes that strengthen oral health and healthcare in the future. The School has the privilege of being part of a dynamic university where colleagues with amazing skills want to work collaboratively with us. Innovation is central to university life and takes many forms across the business of the School.

Our undergraduates are the first stage of workforce development. Students are at the sharp end, delivering patient care and contributing to the oral and general health of the public years before they receive their first pay packet as a dental professional. The School's relationship with each student is short compared to the time that they are our colleagues in oral health and healthcare. Our current undergraduates can expect to be working way beyond the middle of this century and dental school has to provide the foundation for a world that is going to change in unpredictable and disruptive ways, while being sustainable.

Building on the past – innovation at the centre of change

Formal education of the dental team in Leeds started over 120 years ago. The history of the first 100 years was summarised by Professor John J. Murray in 2004.¹ The current Dental School in the Worsley Building physically connects the University of Leeds campus to Leeds General Infirmary. Murray's piece includes photographs of His Royal Highness the Duke of Kent in the phantom head room of the new School as it opened in 1979. Forty years on, the Duke returned to the same room. It still included phantom heads but the educational experience was very different.

Natural teeth set in plaster models for phantom head exercises were long gone. Our students today learn and are assessed through

much more sophisticated use of simulation. Teeth are 3D-printed to include simulated caries. The teeth are solid and the disease has to be followed by the feel of the bur and hand instruments. This is chasing the disease and not cutting ideal shapes. Individual teeth are placed in the context of real dental arches that can be as simple or complex as the educational need requires. The slightly lingually tilted lower first molar tooth requires a different crown preparation from one in a perfectly aligned arch. Full upper and lower arch prints based on real cases brings a new reality to clinical decision-making in simulation.

Haptic trainers – based on flight simulation technology – provide a new and different educational angle that cannot be provided in other ways (Fig. 2). We have moved on from the era of success in phantom head exercises being a one-way gateway to clinical practice. The future of clinical simulation is an iterative process where simulation and clinical practice run in parallel and include rehearsal for actual patient procedures. These approaches are not restricted to use by those in the School and have already started to translate across to dental foundation training (DFT) and beyond.

Simulation is simulation, even with the added value that is evidently possible, deliverable and will develop further. There is no substitute for delivery of actual patient care. Opportunities for innovation abound here too. Concerns about the spread of COVID-19

Box 1 Vision

To inspire oral healthcare professionals and scientists to innovate and transform global health and quality of life via world leading clinical, educational and research excellence.

infection via dental aerosols prompted a pressing need for a stronger evidence base. In Leeds, interdisciplinary investigation of the spread of a harmless virus in dental aerosols demonstrated mitigation strategies to keep everyone in dental clinics safe.² Rapid implementation followed, with further impact via the general press. Innovative, impactful research solves real-life problems and helps inform educational scholarship and educational developments. It should be of no surprise that great ideas come forwards from across the breadth of our School community, including undergraduate students and early careers staff.

Social justice

The data on how poor oral health links to deprivation are stark.³ Leeds and the surrounding areas include those of profound deprivation where there are high burdens of dental treatment need. Outreach teaching clinics in Leeds, Bradford and Hull expose the students to a richness of opportunities that

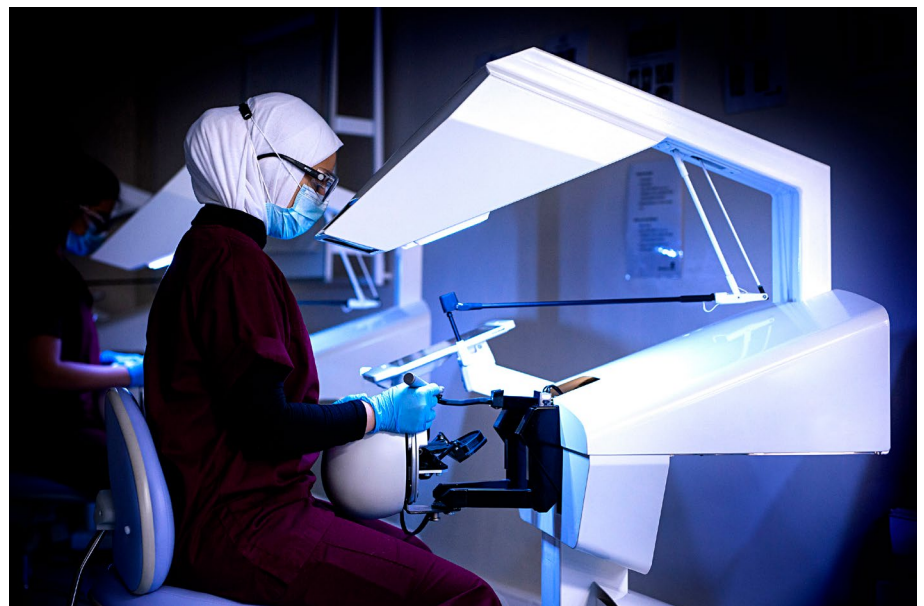


Fig. 2 Innovation is driving clinical simulation development across a breadth of approaches, including mixed reality haptic trainers (as shown here), that are adding value to dental education of relevance to all stages of workforce development. Image courtesy of University of Leeds

complement those in the Worsley Building clinics. The approach takes patient care to where it is particularly needed. It also helps to prepare students for the transition to the world of work. Increasingly close working between the School and regional DFT scheme benefits all involved.

The hardest thing about dental school can be getting in; competition for places in Leeds is fierce. That doesn't mean it is easy to complete a university degree programme, especially in the last few years. Sustained investment in widening access initiatives has seen a more diverse student population over time. Almost half of the 'home' undergraduate students who started in the School in September 2021 met at least one of the six 'Access to Leeds' criteria.⁴ More students than ever live in the family home. International students are a key part of the School's identity and reflect the global nature of the University of Leeds. The multi-faith prayer room in the School is always busy. Walking around the School today reveals a rich diversity that contrasts starkly with the historic photographs in the alumni corridor that are dominated by white men.

Despite the shift, more effort than ever before is being invested to ensure that the dental workforce of the future reflects our diverse and global society. Our Athena Swan⁵ Silver Award represents external validation of what has been achieved and extends beyond addressing gender inequalities. The importance of a sense of belonging is clear and empowering people to speak-up is essential as we further develop an approach where equality, diversity and inclusion are part of day-to-day school business.

Final thoughts

As the student teaching clinics closed abruptly in March 2020, it was clear that the COVID-19 pandemic was going to be disruptive in a way that none of us had prior personal experience of. Even in those earliest days when uncertainty was at its greatest, it was also apparent that this represented a pivot point for the School with multiple opportunities. This is an especially exciting time to be part of the School of Dentistry at the University of Leeds as we focus on delivering key initiatives that will shape the future identity of our contribution to dentistry.

As I left the home of the former staff member having briefly stepped 50 years back in time, I couldn't help but reflect. So much has changed in dentistry, mostly for the better. Looking back informs what needs to come next. There is an absolute imperative to keep fighting the corner for oral health and dentistry locally, regionally, nationally and beyond. Strong dental schools working together with strategic partners are essential to this.

Ethics declaration

The author declares no conflicts of interest.

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Correction to: Children's hospices: an opportunity to put the mouth back in the body

The original article can be found online at <https://doi.org/10.1038/s41415-022-4926-y>

Journal's correction note:

Research article *Br Dent J* 2022; DOI: 10.1038/s41415-022-4926-y.

When this article was originally published, DCBO was used throughout to denote 'Dental Check by One' but should have read DCBy1. This has since been corrected.

In addition, an incorrect version of Figure 3 was displayed. The correct figure is presented here, in which the x-axis has been updated.

The journal apologises for any inconvenience caused.

Fig. 3 A graph showing staff-reported confidence levels in providing aspects of mouth care

