Current controversies in training and/or education of dentists in the UK

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IN BRIEF

- Argues that training is imperative in dentistry.
- Outlines Edward de Bono's *Six thinking hats* theory.
- Suggests dental students do not gain enough real practical clinical experience as undergraduates.

OPINION

This opinion paper responds to Professor Kay's piece *Dental education – shaping the future* (*Br Dent J* 2014; **216:** 447–448), arguing that education is not the sole key to an innovative future and challenges her view that training discourages free thinking. A combination of appropriate training AND education is the sensible foundation upon which the future of dentistry can be built.

I was prompted to write this piece after reading Professor Kay's opinion piece, *Dental education -shaping the future*[1] and I do so to challenge some of her views about trainers and training in dentistry.

To begin with Professor Kay's rather provocative statements about training in dentistry, such as 'training positively discourages questions, possibly sees such behaviour as close to insubordination', seem somewhat extreme to me. Most sensible, experienced people believe that dentists need a useful combination of appropriate clinical 'training' as well as an 'education' and not simply one or the other, as her article implied.

Predictably enough, all the virtues were attributed to the supposedly brilliant university-based educationalists and all the vices were attributed to trainers, or rather to her personal version of what 'training' involves.

However, if, for example, I needed to have a really serious operation and was forced to choose between the training or the education of the surgeon to do it, I would probably choose a highly trained, high volume, competent surgeon rather than a smoothly educated one to do it for me. Many years ago, the head of our intensive care unit at King's College remarked to me that '*the swiftest way for a patient to end up as an unscheduled visitor to intensive care was to have a tricky operation done by an occasionally-operating academic professor of surgery*'. The fact is that multiple audits in most branches of healthcare consistently show that high volume, well-trained, experienced operators get much better results, are safer and have much fewer complications than inexperienced, poorly trained or low volume operators.

I would contest Liz Kay's assertions that 'dental educationalists' will be the intellectual giants leading us to where dentistry should go in the future, while those of us merely involved with 'training' in dentistry are some sort of intellectual pygmies or leprechauns, allegedly content with endless repetition and incapable of change, or of challenging traditional concepts, or of utilising creative thinking to improve clinical decision making or to develop better techniques for more effective patient care.

Many postgraduate dental trainers, including myself, are longstanding fans of the well-known psychologist Edward de Bono who, as the inventor as long ago as 1985 of the concepts of lateral thinking and parallel thinking, wrote in his book *Six thinking hats,* that people need to be **trained** in how to think sensibly in order to solve problems. He illustrated this metaphorically by using different coloured thinking hats. De Bono's contention is that people need to be **trained** in how to go about thinking about problems in an ordered fashion (he called this initial phase 'blue hat' thinking).

The next thing to do was to collect and check the relevant facts, without any emotion, and to ascertain what information was missing and how it could be obtained and preferably verified ('white hat' thinking). In this model, people need to be **trained** to observe, understand and appreciate emotions and feelings but without seeking to judge or justify them ('red hat' thinking).

People also need to be **trained** in how to use their imagination to visualise various possible scenarios and to explore tentative solutions (using a metaphorical 'green hat' for this). They need to be **trained** to refine those ideas further in order to deliver better benefits ('yellow hat thinking) and they also need to be **trained** to be aware of various ethical considerations, legal issues, constraints, limitations, potential problems and dangers in the future ('black hat' thinking).

All of those thinking skills are a function of disciplined focused intellectual training and not purely ones of 'education'. **Training** often does indeed require practice, repetition and checking in order to improve and maintain that expertise and like most skills they can be lost if not practised for long periods of time (de-skilling).

I find it worrying that many of the highly intelligent and personable vocational trainees, those in DF2/career development posts, or even some specialist registrars that I have had the privilege of meeting over many years appear to me not to have been trained to think in that de Bono *Six thinking hats* way, or at least in some equivalent way. These are not fluffy, optional, 'soft skills' that might be 'nice to have'. In my view, that sort of **intellectual training** in problem solving is essential for any long-term successful practice of dentistry and for dentists' interaction with their patients and with a rapidly changing society.

Training in clinical dentistry, however, still requires the acquisition and honing of 'hard' manual, technical and surgical skills. These skills are not just in the old, traditional, dentally destructive skills such as extractions and drilling for decay removal, although

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these are still very important basic skills that need to be taught properly and practiced frequently for dentists to be proficient in using them when it is appropriate to do so.

Training is also required to develop a dentist's artistic, constructive skills such as those involved in additive composite sculpting skills where this is more appropriate, such as in the modern management of tooth surface loss or in changing the shapes of damaged or malformed teeth without destroying them.

Liz Kay refers to great steps forward in dentistry as though these have mainly come from educationalists. Really? That's news to me. How about adhesive bridgework? Sandblasted adhesive onlays? What about composite bonding at an increased vertical dimension for managing wear problems? Bleaching and bonding to change appearance in a minimally destructive way? These developments came from **trained and educated** clinicians continually looking for better solutions for their patients. Titanium implants for osseointegration came from a trained orthopaedic surgeon. None of these developments in dentistry came from pure dental educationalists.

As the stranglehold of educationalists appears to get ever tighter one gets the sinking feeling that training in basic hard skills in the undergraduate curriculum is being undermined if not actually relegated to the category of 'nice skills to have but someone else can teach them that in VT or sometime thereafter'. Clinical training is, indeed, partly about 'always and every time'. For instance, before you do something non-urgent to a patient, always and every time you should check their history properly and record it. Always and every time you need to check that you have considered the patient's perspectives on their problems, their real issues and their values before doing irreversible treatment to them. Every time you should check that the right bur is being held firmly within the hand piece before pressing the foot control. You always need to check you have the right tooth in the forceps before applying pressure and so on. The list is extensive but not endless and if airlines can train people to do things properly and safely in less than 5 years then so can universities. Unless, of course, you would not mind the plane being flown by someone educated about where the controls are and what they do, but with just some casual training in the practicalities of using them properly under pressure.

Faced with a patient with a fat face or an acute apical abscess many old fashioned, conscientious dentists, repetitively skilled in the art of extraction or endodontics would just get on with getting drainage quickly and effectively. Old dentists like me are astonished that some graduates even after a year of expensive foundation training (costing about £100,000) claim that they have not had enough experience in managing routine problems, or seem afraid of them, or want to refer the patient, rather than getting involved in doing the appropriate treatment themselves. Increasingly, many unfortunate patients in the UK cannot access decent endodontic therapy or skilled extraction rapidly even if they have been waiting in pain for days. Referrals to hospitals for what should be routine treatments in general practice are an increasing problem and many hospital departments are awash with these inappropriate referrals. Could this increasing problem be partly because of the NHS remuneration system, or partly because some university bright sparks have been quietly telling government funding agencies or regulators that the 'mere training' in dental or surgical skills can be acquired as an optional extra in vocational training or later in practice or career development posts? I accept that this view might well be of only some dental educationalists, possibly those with limited clinical dental interests or experience. Adopting such a position might well be partly due to funding issues, or of other real university pressures, or maybe it could be because some dental school academics are doing clinically useless obscure research in order to advance their own careers, or in order to improve their university's research ratings, but are possibly doing so at the expense of training undergraduates properly.

Many postgraduate trainers in various locations then have to spend considerable time and effort in training some graduates to acquire basic skills that most of us remember having had on qualifying. We now often have to train them to think sensibly and independently. Many young dentists need to be trained to resist getting caught in systems that are not in patients' long-term best interests and to be wary about '**state sponsored dental terrorism**' (also known as the NHS UDA system) or corporate bottom line business pressures. We also have to train them in how to read the dental literature, to be ethical, caring and principled as well as being manually adept, imaginative, self-critical, honest and vigilant. We also get to train them in how not to be conned by the blandishments and bluster of charlatans, 'gurus' and salesmen on courses trying to sell them treatment options that they would not have done to themselves or to their family. So just what have these brilliant educationalists been doing for 5 years with them?

Sadly, it appears to me, as I blow gently on the embers of my career, that effective **training** to impart relevant modern clinical skills now seems to take a back seat to research and 'education' in many dental schools with the suggestion apparently being that these clinical skills can be casually picked up later on in the younger dentist's career.

If the implication in Liz Kay's article is that most trainers have a mechanistic and mindless approach to solving problems, I disagree strongly. Most interested trainers, in various fields, have the intellectual capacity as well as appropriate clinical skills, experience, interest and adaptability to deal with changes within society, for example, dealing with the emerging epidemic of tooth surface loss, or the complex problems of an ageing, partially dentate population with semi-preserved but compromised teeth, many of whom are also on multiple medications. Many of these problems are not addressed adequately in some undergraduate programmes but are probably among the most significant issues that dentists now have to be able to manage. Solving these problems requires **training** to improve diagnostic skills, analytic skills, creative thinking skills, communication skills, hand-eye coordination surgical skills, artistic skills, as well as the education to provide the relevant knowledge, for example, of appropriate materials and bio-mechanics. These skills do need to be practised so that people are good at them and can then modify them as circumstances and demands from society inevitably change.

It will be interesting to see if some new graduates will be able to deal with their increasingly huge debts, but without necessarily having gained enough real practical clinical training as undergraduates to be readily employable or to cope with the real problems they will have to face in the big wide world.

I happen to believe that we still need caring, appropriately skilled, ethical dentists who are both **trained and educated** (rather than one or the other) and who are willing to build on these sound foundations in order to address the various complex problems in a rapidly changing society.

1. Kay E. Dental education - shaping the future. *Br Dent J* 2014; **216:** 447–448.