Chapter 13
Constructing Surgical Identities: Becoming a Surgeon Educator

Tamzin Cuming and Jo Horsburgh

Overview The challenge of developing an identity as a surgeon educator stems from the widely differing standpoints of surgery, with its biomedical view of the world, and education in its context as a social science. We argue that a social science lens is necessary for exploring the complex educational problems that surgeons face. Various forms of faculty development exist to unite the disparate traditions of education and surgery, yet the transformation from surgeon to surgeon educator is likely to be fostered best from within a community of surgeons who also identify as educators. A surgeon educator is presented as one who is able to integrate the two world views of surgery and education, which will prove of benefit not only to those they educate but also to surgery as a whole.

13.1 Introduction

This chapter sets out ways in which the burgeoning area of surgical education represents a cross-fertilisation of two different areas of expertise: that of surgery and that of education. We examine how for many surgeons it is fundamental to their professional identity to be involved in educating the next generation, yet the process of forming an identity as an educator is beset by difficulties. We consider these difficulties and how they may be addressed.

Education has always been a vital and central part of surgery. Surgical tradition has a surgeon handing on their insight and skills from a proud inheritance rooted in the very history of the craft. In this model, operative secrets are 'golden nuggets' at the heart of surgical education, with the surgical expert, the possessor of them, sought out by aspiring surgeons.

T. Cuming (✉)
Homerton University Hospital NHS Foundation Trust, London, UK

J. Horsburgh
Educational Development Unit, Imperial College, London, UK
e-mail: j.horsburgh@imperial.ac.uk

© Springer Nature Singapore Pte Ltd. 2019

D. Nestel et al. (eds.), *Advancing Surgical Education*, Innovation and Change in Professional Education 17, https://doi.org/10.1007/978-981-13-3128-2_13

Changes in society and in medicine have had an impact on the process of learning surgery across the world. Consequently some of the surgical expertise we value risks being lost in subsequent generations. Developing expert professional judgement and decision-making in young surgeons, a process that had been implicit within the traditional time-serving method of training, is particularly vulnerable as hours and continuity of training have dropped. Surgical postgraduate education has expanded in response to such a perceived gap, with courses and training programmes finding their place. There is resistance, however, from both surgeons and their trainees to changes that appear to have been imposed from an educational establishment outside of surgery, one that seems to have insufficient awareness of the differing nuances in culture between medical specialties and does not speak sufficiently to the needs of surgeons or surgeons in training.

Education as a field incorporates the social sciences, humanities and philosophy, amongst other traditions, and has the potential to influence the surgical profession profoundly and positively. We argue that education may steer surgery through a period in which there is increasing reliance on numeric data as the main representation of complex educational outcomes, a phenomena criticised as superficial by Biesta [1], who terms it 'the age of measurement'. As Carr suggests, we are put in a position of valuing what we can measure, over measuring what we value [2]. Given the vast and qualitatively-oriented traditions on which education draws, it is ironic that a reliance on data-related outcomes has given educational changes in surgery a bad name: instead of encouraging feedback on performance, the number of workplace-based assessments done is simply counted, and trainees are rated on how many they have persuaded a trainer to fill out, not their content, or the process of discussion that is the educational idea at their heart.

We also argue that although there are a variety of ways that a surgeon may develop him/herself as an educator, this professional identity development is best done over time, in a local community of practice where educational issues and problems are situated.

A word on terms: 'training' is used as a term familiar to surgeons progressing along a highly prescribed path to independent operating. 'Education' is used to distinguish between this and a more holistic, wider view of enabling someone to become a surgeon. 'Trainee' is used indiscriminately, for simplicity.

13.2 Motivation to Engage with Surgical Education and the Challenges of Doing So

There is motivation for surgeons to become good trainers and to be known as such. Being a good trainer confers status and recognition in the wider surgical world. It is also a practical validation of one's worth as a surgeon. Trainees gravitate towards famed surgical trainers because excellent surgical skills are highly prized, and these will be assumed in the trainee who has spent time with such a trainer. Another advantage is that trainees will help manage a trainer's patient workload efficiently and are likely in future years to become trusted consultant colleagues. There are in

addition accolades such as the UK annual 'Silver Scalpel' which is awarded by the Association of Surgeons in Training (ASiT) to an elected top trainer [3].

However, there are several challenges to engaging with education in a surgical context that are distinguished by surgeons themselves from the process of training. Practices within surgical training are often mandated and are increasingly regulated. The current accumulation of multiple tick-box assessment forms within this system is a much-maligned aspect of what is considered by most trainers to be coming from the world of 'education'. Many trainers do become involved in managing the trainees' progress through this system without the benefit of sufficient insight into the social science context of education to influence it. Lack of control over the curriculum is an additional cause of disengagement with education by surgeons [4, 5] and can lead to frustration with the education system they are working within. The frustrations are not limited to established surgeons but are shared by their trainees [6].

In the UK, the recent introduction of regulation for trainers, whilst laudable, risks driving an additional wedge between a trainer and his or her interest in being 'involved in education' [7]. Combined with the perception by some that education has lower status than research and clinical expertise itself, the motivation to engage with new approaches may be further diminished.

In order to develop as an educator, a surgeon needs to look beyond the way such concepts have currently been incompletely applied and seek to resist the reductionism that has been a divisive development in the field of surgical education.

13.3 Crossing Paradigms

One of the key challenges of engaging with educational ideas and practices is that they are largely unfamiliar to those who have been raised in a biomedical paradigm. For surgeons in the UK, there has often been no education past age 16 other than in mathematics and science-based subjects. These subjects, along with much of surgical teaching, assume a positivist viewpoint that knowledge is a certain entity existing outside of any individual in an external reality. It is, in this sense, objective. This is appropriate for the anatomical path of the abdominal aorta through the body but is a more contestable approach to thinking about knowledge around breaking bad news to a patient.

Becher and Trowler refer to academic disciplines as 'tribes and territories', distinguished from each other in differing views about the nature and purpose of knowledge [8]. They describe a contrast between 'hard' sciences – and surgery could be considered as such – and 'soft' sciences such as education [9]. The disciplinary traditions in which academics develop professionally exert an influence on their outlook towards knowledge and what makes it valid. How teaching and learning are approached by each 'tribe' is often related to this attitude. For example, teaching styles typical of education include facilitating discussions about an idea rather than pursuing didactic transmission of content, and this reflects the constructivist ethos of the discipline. Tension between what constitutes knowledge within education and surgery can manifest as scepticism in accepting alternative approaches

to teaching (e.g. reflective practice, problem-based learning) and to educational research, particularly qualitative research. Those raised in a scientific tradition find educational literature 'foreign, expressed in a language that is both woolly and obscure', writes Kneebone [10].

Crossing to another paradigm is difficult because surgeons are asked to engage in the concept that previously-assumed certainties are ambiguous and questionable. Of course surgeons do routinely employ differing perspectives in their clinical lives in many ways, for example, in considering how patients interpret medical explanations of disease and the need for a particular operation. It is the failure to acknowledge that there can be multiple perspectives, or multiple views of truth that Kneebone suggests is an 'uncritical adherence to an overly "scientific" mode of thinking' and acts as a limitation to the development of insight and understanding in the training of surgeons.

By negotiating the differing perspectives of surgery and education, a surgeon educator can develop their identity as such, discovering advantages and the potential for personal development by being rooted in both disciplines.

13.4 What Are the Benefits of Engaging with Education?

Given the challenges of engaging with the field of education as a discipline and developing a professional identity as an educator, it is worth considering what education brings to the training and development of surgeons. Education brings to surgery an entirely different standpoint on the production of knowledge and results in an alternative approach for both teachers and learners. In recent years there have been widespread changes in the working hours and the curricula at both undergraduate and postgraduate levels that have limited the hours available for training. This has impacted upon surgical training in particular. Temple's 'Time for Training' report [11] in the UK summarised the difficulties, mentioning reduced time to absorb and develop complex aspects of professional practice compared to apprenticeship-type models of learning. A wider repertoire of educational strategies and insight, Temple argued, may make the most of the time available.

In the digital age, knowledge is less exclusive to professionals than in previous eras. What remains theirs is the interpretation and application of knowledge. This brings surgery closer to the field of education, in that they are both, in essence, professional practices that require their proponents, both surgeons and teachers, to interpret complex and variable systems and individuals.

Attempts to impose educational concepts on surgical education, for example, with mandatory reflective pieces using workplace-based assessments, have suffered due to a lack of understanding of the genuine benefits, in this case, of a purposive reflection that draws on multiple perspectives. It has also failed to produce an attitude towards workplace-based assessments that is formative [12]. Concepts such as reflection in action map well to the surgeon's ongoing decision-making within a challenging operation; however, most surgeons do not use this concept in their operative teaching although it may benefit their trainees' learning about such

decisions [13]. Hence for both surgeons and their trainees, the encouragement to use reflection has not resulted in widespread acceptance of it as a concept. Barriers to adopting an alien concept such as that of reflection are still present, due to its origins in the educational field.

Many opportunities for learning in surgery are ad hoc and unwittingly exclude some learners, for example, by taking place in a changing room or in a social setting like a pub. When these elements of the hidden curriculum are made explicit, with the exposure of complex arenas of practice to debate and analysis by the learning surgeon, the trainer behaves more like an educator. This process is one in which barriers to educational concepts are being broken down by understanding. They may usefully extend to self-awareness, dealing with complexity, and theories around expertise. A surgeon who is making use of an active interest in these concepts starts going beyond their role as a trainer and moving closer to becoming a surgeon educator. Implementing educational concepts will allow the surgeon educator a broader view of difficulties that trainees have and provide a wider range of responses to offer.

13.5 Developing as a Surgical Educator

There are many ways to gain experience and greater understanding in the field of education. Like acquiring a surgical identity, becoming an educator is a long-term process. In this section we consider various routes including educational workshops, postgraduate studies in education and engagement with local communities of practice. In all of these methods, the surgeon is required to assimilate educational theory to underpin the process of integrating educational ideas into surgery.

Faculty development can range from attendance at teaching and learning workshops and completion of online courses to integrated, longitudinal, postgraduate programmes lasting a number of years [14]. Faculty development at an organisational level is becoming increasingly common in line with requirements of professional bodies, such as the UK's General Medical Council's accreditation requirements for postgraduate supervisors [15].

Whilst it may be easy to dismiss short educational courses and workshops for surgeons that provide 'tips and tricks' as lacking in depth, such courses, under the banner of 'training', are normally underpinned by educational theory (albeit not always explicitly referred to) and by certain educational values such as adopting a constructivist approach to learning and being learner-centred. Most courses will also help participants to reflect on, challenge and shape their beliefs about education [16]. Furthermore, they can help pique an individual's interest in education that may lead them to engage more deeply with education in the future.

A Best Evidence Medical Education (BEME) review evaluated the effectiveness of faculty development programmes, recognising that such evidence can be difficult to establish [17]. Elements considered included the development of curriculum, changes in practice at organisational levels and dissemination of learning to colleagues. Most interventions reported and included in the review had had a self-reported or observed positive effect on teaching effectiveness. However, few studies

had established long-term impact, with those programmes of a longer duration, spanning several months or more, showing more profound effects than shorter ones.

In a study by one author (TC) of a 2-day surgical Training the Trainers course [18], the quantitative assessment of the course was able to demonstrate Kirkpatrick Level 4 [19], in that surgeons being trained in a procedure had a shorter learning curve after their trainers had taken the course. The course incorporated a number of key educational concepts around operative learning including feedback, establishing rapport, reflection and modelling a non-judgemental attitude. Six months after taking the course, however, qualitative interviews with course participants demonstrated some dissatisfaction and a resistant attitude, suggesting that such a course could not change anything significant in their teaching. It was interesting that their trainees had nonetheless benefitted. Whilst teaching behaviour can be modified, in the short term, by a course, long-term change may be lacking without engagement of the participant around their beliefs as educators. What the short course lacked was enough transformative power to convince surgeons that these educational concepts had improved their teaching, despite objective evidence that they in fact had.

With rapid changes in surgical education, both at undergraduate and postgraduate level, there has been increased demand for surgeons involved in education to study the discipline at a higher level [20]. The number of Master's- and doctoral-level programmes in medical, clinical or surgical education has increased dramatically worldwide [21]. In their review of graduates of such programmes, Sethi et al. [22] found a self-reported increase in participation in educational research and scholarship, which was underpinned by an enhanced understanding of educational theory. These authors argue that a key feature of a Master's in education is the role that professional identity formation plays in the programme. Many programmes specifically set out to facilitate a shift in identity that reflects the values and goals of the interpretivist, constructivist field of education.

The benefits to undertaking postgraduate study in education are at risk however without a wider community for their graduates to return to. Unpublished research by one of the authors (JH) [23] found that graduates of a Master's in Surgical Education programme valued local education communities to help further develop their professional identity. Where these local networks were not evident, it was more difficult to engage in educational practice. There is a contrast between the process of forming an identity as a surgeon, where socialisation, seen by Biesta [1] as the first step in 'becoming', is provided by surgical peers and colleagues at work and that of becoming a surgeon educator, where the natural community of 'educational' peers in an average working hospital is provided mainly by non-surgical physician colleagues.

Wenger's concept of communities of practice is a useful lens through which to consider this longitudinal development as a surgeon educator. Wenger defines communities of practice as 'groups of people who share a concern or passion for something they do and learn how to do it better as they interact regularly' [24]. They deal with common issues of concern and share practices, language and common goals. The motivation to engage with professional development as an educator is participation in such a community. The network of formal surgical training programmes and

the training programme directors could be this community of practice. However, the integration of educational attitudes and theory is not yet universal within such structures. Alternative networks of surgeon educators outwith this regional structure are in their infancy. The surgical Royal Colleges in the UK are promoting education with day conferences and networks of College representatives. More may be needed however to bring together surgeons and educationalists to carry out research, particularly qualitative research, as well as ongoing cross-disciplinary learning.

We are not advocating that all surgeons need to complete a Master's or doctorate in education in order to become educators, but it may be helpful if such degrees become more widespread within communities of surgeon educators. Leaders and researchers amongst surgeon educators, perhaps with such a degree, need to encourage others into this community, acting as broker between the disciplines of surgery and education. Furthermore, collaboration with education experts has the potential to develop surgical education as a discipline that genuinely blends the expertise of both fields. There may also be engagement with the wider medical and surgical education community such as through the Academy of Medical Educators (AoME).

As educational ideas gain currency with individual surgeons through their experience of them, the boundaries between the worlds of surgery and education are likely to become ever less distinct.

13.6 Conclusion

Combating an over-reliance on educational frameworks that privilege numbers and measurement requires a transformative inclusion of education within surgery. To become a surgeon educator is to be at the forefront of such a revolutionary progression within the discipline of surgery.

In a world in which successful surgical outcomes are so highly prized, the role of teamwork, the subtleties of interactions around operative decisions and the importance of another world view besides the operative surgeon's – be it patient, trainee or allied professional – are being appreciated as the next major stepwise improvement that is possible in developed healthcare systems. Assimilation of the social sciences holds out this possibility for surgery.

Respect for educational expertise and the fostering of a community of surgeon educators within and beyond the settings where they educate may once again make education at the centre of surgical practice and a matter of pride for good surgeons everywhere.

References

1. Biesta, G. J. J. (2010). *Good education in an age of measurement*. London: Paradigm.
2. Carr, D. (1999). Is teaching a skill? Philosophy Ed, pp. 204–211.
3. Association of Surgeons in Training. The Silver Scalpel Award. https://www.asit.org/silver-scalpel-award. Accessed 15th Sept 2017.

4. Beard, J. D., Marriott, J., et al. (2011). Assessing the surgical skills of trainees in the operating theatre: A prospective observational study of the methodology. *Health Technology Assessment, 15*(1), i–xxi 1–162.
5. Pereira, E. A., & Dean, B. J. (2013). British surgeons' experiences of a mandatory online workplace based assessment portfolio resurveyed three years on. *Journal of Surgical Education, 70*(1), 59–67.
6. Shalhoub, J., Marshal, D. C., & Ippolito, K. (2017). Perspectives on procedure-based assessments: A thematic analysis of semi-structured interviews with 10 UK surgical trainees. *BMJ Open, 7*, e013417. https://doi.org/10.1136/bmjopen-2016-013417.
7. GMC's promoting excellence: Standards for medical education and training. www.gmc-uk.org/education/standards.asp. Accessed 15 Sept 2017.
8. Becher, T., & Trowler, P. (2001). *Academic tribes and territories. Intellectual enquiry and the cultures of disciplines* (2nd ed.). Buckingham: Open University Press/SRHE.
9. Neumann, R. (2001). Disciplinary differences and university teaching. *Studies in Higher Education., 26*(2), 135–146.
10. Kneebone, R. (2002). Total internal reflection: An essay on paradigms. *Medical Education, 36*, 514–518.
11. Temple, J. (2010). Time for training. A review of the impact of the European Working Time Directive on the quality of training. Medical Education England.
12. Miller, A., & Archer, J. (2010). Impact of workplace based assessment on doctors' education and performance: A systematic review. *BMJ, 341*, c5064.
13. Schön, D. (1983). *The reflective practitioner: How professionals think in action*. London: Temple Smith.
14. Steinert, Y. (2014). Developing medical educators. A journey not a destination. In T. Swanick (Ed.), *Understanding medical education: Evidence, theory and practice*. London: Wiley.
15. General Medical Council. (2012). *Recognising and approving trainers: A consultation document*. London: GMC.
16. Steinert, Y. (2014). *Faculty development in the health professions*. Dordrecht: Springer.
17. Steinert, Y., Mann, K., Centeno, A., Dolmans, D., Spencer, J., Gelula, M., Prideaux, D. (2006) A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education: BEME Guide No 8. *Medical Teacher, 28*(6), 497–526 updated in: Steinert Y, Mann K et al. A systematic review of faculty development initiatives designed to enhance teaching effectiveness: A 10-year update: BEME Guide No. 40. Med Teach. 2016 Aug;38(8):769–86.
18. Mackenzie, H., Cuming, T., et al. (2015). Design, delivery and validation of a trainer curriculum for the national laparoscopic colorectal training program in England. *Annals of Surgery, 261*(1), 149–156.
19. Kirkpatrick, D. L., & Kirkpatrick, J. D. (1994). Evaluating training programs. Berrett-Koehler Publishers 1994.
20. Tekian, A., & Harris, I. (2012). Preparing health professions education leaders worldwide: A description of masters-level programs. *Medical Teacher, 34*(1), 52–58.
21. Tekian, A., Roberts, T., et al. (2014). Preparing leaders in health professions education. *Medical Teacher, 36*(3), 269–271.
22. Sethi, A., Schofield, S., et al. (2015). How do postgraduate qualifications in medical education impact on health professionals. *Medical Teacher, 38*(2), 162–167.
23. Horsburgh, J. (2015). Surgeons as brokers? Exploring the professional identity development of surgical educators. (Unpublished thesis) King's College London.
24. Wenger-Trayner, E. (2017). Introduction to communities of practice. http://wenger-trayner.com/introduction-to-communities-of-practice/. Accessed 25 Sept 2017.