Remediation? Aligning structures, curricula and attitudes

Abstract *234/250 words*

Background

The focus of this concise article is how best to support students get into and achieve success at medical school. Our aim is not to provide a toolbox of how to remediate under-performance in medical students as this, in our view, implies an approach which fundamentally is about quick fixes for addressing individual student deficits (such as intensive coaching of clinical skills to help a student scrape through a resit examination). Instead, we believe that student success is not solely due to individual factors but rather relies on a complex range of factors, including the provision of a supportive environment.

Methods

We drew on our knowledge of a wide range of literature related to remediation and other medical education structures and functions. Our aim was to dig a little deeper into the different dimensions of "remediation" - the structural, curricular, ideological and individual – to consider how best to provide a supportive environment for all learners to progress towards required outcomes.

Take-home messages

Medical students are becoming increasingly diverse and medical curricula must create learning environments which support all students to thrive. Effective remediation should not be about intensive "teaching to test" after examination failure. Rather both the context and the individual have a role to play in ensuring selection, teaching, assessment and feedback practices support individuals' learning journeys. We provide guidance for faculty development and engaging with students to help achieve this goal.

Background

Medical education is changing. Against a general backdrop of a need for graduating increasing numbers of doctors in many countries, as well as recruiting and training medical students who will go on to deliver healthcare in under-served areas (Frenck et al., 2010), there is increasing interest globally in widening access (WA) to medicine to groups who have not traditionally participated in medical education.

The focus of WA is in part determined by each country's historical and current social issues (e.g., increasing the socio-economic diversity of medical students in the UK (e.g., Cleland et al., 2012), or increasing the representation of certain ethnic groups in other countries (e.g., Lahkan, 2003). However, increases in both numbers and diversity of students have brought with them concerns about whether entrants to medicine are appropriately equipped for the rigour of academic work, the need for active efforts to support students identified as 'at risk' (rather than waiting to intervene after under-performance), and, linked to these concerns, the needs of medical schools to maintain standards and retention rates (e.g., Cleland et al., 2015). On the other hand, questions can be asked about the readiness of contemporary curricula to create learning environments in which all students, no matter their academic or social background, have the potential to thrive. There is much uncertainty about how best to align these needs, raising questions about not just immediate practicalities (e.g., how to support the 20 students who failed their Year 1 MCQ examination, or mentor the individual who is not meeting his/her professional learning objectives because of poor attendance) but also in terms of questioning institutional systems and assumptions, and staff beliefs, about support. In other words, is underperformance an artefact of a system which assumes all medical students are academic high flyers, or is it solely about individual performance?

Many authors take a mainly individualistic approach to remediation (e.g., Kalet et al., 2016). More systems-level responses to differing degrees of learner difficulty and failure have been proposed recently (Ellaway et al., 2017). We take a slightly different stance to these approaches. We propose that, in order to ensure that medical schools give all their students the best possible support to achieve to the best of their abilities, schools need to look at the learning journey of each individual student in terms of the context within which it occurs. This means being aware of the enablers and constraints that are present within the institution, both structurally and culturally (Archer 2000), and how our teaching might reflect this awareness.

Institutional culture

Medical schools are unequal spaces. The dominant mode reproduces hierarchies (Pratto et al., 2006), positioning some students as bright, others as lazy, or in need of remediation. The student experience is framed by this categorisation. Entering students who are negatively positioned for whatever reason (e.g., from a non-traditional background, or under-represented minority, who have a less robust academic record) may start off with, if not a sense of failure, a lack of self-confidence, before they even get going, and this is often perpetuated by othering, stigmatisation and the like (Fahey Palma and Cleland, in press). To date, an instinctive response has been towards remediation – activities that provide students with opportunities for additional tutorials, extra hours in the simulation centre, additional attempts at completing online quizzes, and so forth. These activities, while well-intentioned and indeed often leading to improved outcomes for the individual student at least in the immediate term (see Cleland et al., 2013 for a review of the literature), do not address the inequalities and hierarchy, and can lead to reinforcing normative practices.

Normative practices related to culture and values. Individuals within a community bounded by a specific culture, such as a medical school, typically hold similar beliefs to each other (e.g., students

who need support are deficient in some way, or someone in authority is always right). The norms and values of the surrounding culture inform our discourse, our ways of being and, therefore, our teaching practices – and they also shape students beliefs about (in this case) support and learning (Schraw, 2001). This means that we (as medical teachers and leaders) must critically consider our own epistemological assumptions about support or remediation, our worldviews and how these may impact on our teaching (whether intentionally or not) (e.g., Schraw and Olafson, 2008). What is the hidden curriculum (Hafferty, 1998) of support for learning in your medical school? Is it aligned or counter to the explicitly stated curriculum goals?

Step back and consider your institution or medical school's approach to underperformance and supporting students. The case studies presented in Box 1 give a framework for considering different medical school cultures. How do you think these different approaches reflect the institution's and teachers' beliefs in support for learning? How could they influence (intentionally or not) student beliefs with respect to the institutional culture and hidden curriculum? Do you think that the two institutions may have different expectations of their students, and may have deliberately designed their teaching accordingly?

Moreover, it is critically important to think not just about how more diverse students might need support because they are "under prepared" for the demands of medical school, but to shift this discourse to one of embracing what they can contribute to medical education. There is increasing recognition that a more diverse student cohort may benefit the medical school learning environment by, for example, contributing a better understanding of diverse populations (e.g., Saha et al. 2008).

Box 1: Medical School cultures and beliefs about support for learning

School A has been established for several hundred years. It has very high entry requirements (even in comparison with other medical schools in the country). The student body is predominately school-leavers, many of whom are from more privileged backgrounds in terms of family income and attending good quality, academically-oriented high schools. School A claims to offer a truly research-enriched academic programme and aims to produce the clinical scientists of tomorrow.

School B was founded in the 1990s, one of a new wave of medical schools set up to addressing the priority health concerns of the community, with the specific goal of producing doctors to serve as family doctors in the region. The student body is mixed, encompassing school-leavers from a range of high schools, a fair proportion of graduate entrants (who typically missed getting the grades to get into medicine as school-leavers), and a cadre of students who have come into the medical programme via a Foundation (pre-entry preparation) year. School B prides itself in graduating excellent clinicians.

The entry criteria for the two schools vary a little (see Patterson et al., 2016 for a review of medical school selection processes). School A places most weigh on prior academic attainment, attainment on a science-based pre-entry test and the personal statement. While academic is also weighted heavily at School B, School B does not place any weigh on the personal statement, uses an aptitude-focused pre-entry test, and invites as many applicants as they can manage for a mini-multiple interview. This last is weighted heavily in the selection process.

School B expects at least 20% of its entrants to enrol in generic support for learning courses in the first year (e.g., academic writing, exam revision). School B does not offer this type of support. Both Schools offer mentoring and revision sessions for those students who fail examinations. School B also offers mentoring to those students who achieve the minimal pass mark in examinations. Both Schools offer examination preparation sessions (this is set down by the regulator). School B also timetables whole class review sessions after examinations, to highlight common errors and patterns.

Finally, even the most "high flying" students can suffer set-backs. It is important not to assume that certain types of students will effortlessly sail through medical school. Studies carried out in many different parts of the world show high levels of mental ill-health among medical students (e.g., Dyrbye, 2006). Anyone can suffer from life events such as a bereavement or relationship break-up. A supportive institutional culture should encourage discussions about under-achievement in the same way as a good consultation: by finding out the individual's own view on what contributed their performance. If the reason is wholly individual, so be it and support the student accordingly, ideally in partnership with the student (reflecting the shift in healthcare towards more participative models of working with patients – why should we work any differently with students?). However, if there is an interaction between medical school culture (e.g., fear of admitting weakness) and the individual's circumstances, then this requires reflection and change at the level of institutional culture. This will ultimately shape student responses (Schraw, 2001).

Institutional structures

While the prevailing culture is often opaque for entering students, the institutional structure is usually quite visible. Scheduling, policies and guidelines require adherence and are often inflexible. (This rigidity is only partially justified by regulatory frameworks, which usually provide guidance on outcomes but do not tend to rigidly stipulate how these should be achieved.) Arguably, medical schools are large and complex structures, depending on bureaucracy and control to function (Fumasoli & Stensaker, 2013). However, in contrast, there is a shift towards competency-based medical education (CBME) as a framework for the design and implementation of medical educational programs worldwide approach. CBME is learner-centred, de-emphasizing time-based training, instead advocating that learners progress at different rates in different areas until they reach standards of desired (predetermined) competence (e.g., Franck et al., 2010). This flexible approach supports a shift from thinking about remediation to thinking instead about how to support

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learners on their individual trajectories, particularly as it implies that students also need to take greater responsibility for their own learning.

This raises several issues. First, this shift is educationally laudable, but we struggle to see how medical school structures can cope with the dramatic changes required to shift from time-based models (pass this exam, in this year, then progress to the next year) to more flexible ones. We hope our pessimistic view is proved incorrect!

Secondly, no matter how supportive the culture, and whether following a competency-based or more traditional curriculum, it is important to embed milestones to identify learners who are excelling, meeting, or falling short of expectations. Typically these milestones are assessments, often formal examinations, or concrete, "objective" measurements of progression. These are wholly necessary given that the remit of medical schools is to produce safe and capable doctors. However, what is the explicit purpose of assessment in your medical school? Is it assessment of learning or assessment for learning? This differentiation is important as assessment influences learning (see Box 2).

Box 2

Francois – can you talk here about your studies which relate the qualities of the assessment programme to the outcomes of learning. As a case study

Feedback is also critical to supporting learners. A system where the only feedback is "you've failed" is not a good system (Lefroy et al. 2015).

While feedback is widely considered central to student learning, medical students commonly report dissatisfaction with the feedback they receive. In contrast, teachers often feel they provide quality and informative feedback. Reference to contemporary models of feedback suggests that one of the reasons for this "gap" is neglecting the role of the learner in the feedback process. In contrast, Boud and Molloy (2013) position learners as having a key role in driving learning, and thus generating and soliciting their own feedback. They identify the importance of curriculum design (part of the structures of medical school) in creating opportunities for students to develop the capabilities to operate as judges of their own learning. This framework places students as active learners who interact with the medical school structures in such a way to meet the appropriate standards and criteria. They acknowledge that learners rarely enter medicine prepared for this, so the role of the medical school and clinical teachers, particularly as students transition into medical school, is to help them develop their capacity, and disposition, to effectively seek and utilise feedback.

In short, if students are expected to take greater responsibility for their own learning, this needs to be embedded in the culture and structures of the medical school. We all know of students who arrive at medical school wanting to be "taught" so helping students transition from being passive to proactive, engaged learners is one of the first tasks of the school and teachers. Some students find this transition easier than others, so ensuring the curriculum supports students in developing awareness of what they do and do not know or can and cannot do, so they can plan further learning, is crucial.

What does this mean for the Clinical Teacher?

The interplay between the institutional culture and structure sets up the educational environment within which both students and staff engage as actors (Archer 2000). Often actions focussed on remediation fail to take into account their individual and shared agency, their potential to jointly explore a way forward. Neither students nor teachers should be passive recipients in this context. Rather it is important for medical teachers and students to work dialogically and jointly to open up new understandings and insights into supporting all learners, and for the structures and culture of the medical school to encourage new ways of working which recognise that medical students are inherently diverse and becoming more so.   We provide guidance for faculty development and engaging with students to help achieve this goal in Box x.

Box x

The kind of short exercises that some could use to populate a staff development session.

None of this is easy. However, we argue that there is a need to shift the culture of medicine from thinking about remediating individual failings to a more holistic and proactive model where institutional and structural aspects of a medical programme are aligned and designed to support students from a range of educational and social backgrounds. This will support and graduate safe and capable doctors who have the skills to judge their own performance, know their strengths and weaknesses, and plan their (life-long) learning. Yet even with good structures and systems in place, some students will still run into difficulties and where that is the case, the culture of the medical school and the individual support offered are critical to ensuring these individuals achieve to the best of their ability.

Just about right on the word count!

Points to consider

Being proactive requires resource and planning, but may ultimately be less resource intensive than reacting to underperformance with intensive "teaching to test".

The conceptual models support the educational alliance framework and illustrate the context and complexity of learning culture surrounding the educational relationship, learner, and feedback exchange. The educational alliance approach is underpinned by a mutual understanding of purpose and responsibility.

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