

Creativity and Innovation in Medical Education: It's Time to Let the Trees Grow Freely

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Albert Einstein once said: "All religions, arts, and sciences are branches of the same tree. All these aspirations are directed toward ennobling man's life, lifting it from the sphere of mere physical existence, and leading the individual towards freedom". The essence of this tree is our creativity.

But in the world of medical education, is this tree of creativity really necessary? After all, since medicine sits on solid bedrock of basic science, isn't creativity something we use just to make our academic lives more fun, a bonus or a luxury?

A decade ago, Irby¹ described 5 environmental trends in medical education. Increased clinical productivity resulted in diminished learning environment and necessitating new organisational structures to support teaching. Multidisciplinary approaches to science and education stimulated the growth of multidisciplinary curricular design and oversight along with integrated curricular structures. The science of learning advocates necessitated new active learning methods, learning communities and instructional technology. Shifting views of health and disease encouraged the addition and weaving of new content in the medical curriculum. The calls for accountability led to new forms of performance assessment using objective examinations and comprehensive assessment programmes. These situations are even more pronounced 10 years later. Furthermore, the continual increase of medical student intakes both in our undergraduate and postgraduate medical schools creates tremendous stress to our faculty and resources. In times like this, creativity is an essential fuel for solutions and pivotal in the fruition of innovations.

Creativity is the use of imagination to produce something into existence and innovation being creativity with a purpose. Creativity is the ability to transcend traditional ideas, patterns, rules or relationships and to produce meaningful new concepts, forms, methods and interpretations. It has the hallmarks of originality, progressiveness and imagination. In our society, creativity cannot be recognised until its product

is judged to be of value. As a default, creativity is often met with scepticism. People are sceptical when an initial new idea is introduced. It is rarely accepted at the beginning. In fact, the journey of creativity is one that is often tortuous; as getting an organisation to recognise, support, accept and commit often meets with roadblocks. But deep in the hearts of many, they know that the fundamental ingredient necessary for the future of science and medicine is creativity.

Humans generally have an innate ability to be creative. This desire to innovate stemmed from needing to overcome problems to everyday living and to make our lives better. Every human has this innate tree of creativity from the moment a baby is born. But the modern society plays the role of systemically poisoning this tree. The modern society wants every individual to conform so that he can be a machine of productivity. In fact, it's been said that creativity is the greatest rebellion in existence. Essentially, we get "educated" out of creativity.

So how do we cultivate this tree of creativity in each individual and hopefully see a beautiful forest of creativity trees in our midst? Our current climate of algorithmic and process-driven type of medical system needs to be adjusted to provide the right environment and conditions. The availability of protected time and financial support are crucial ingredients together with organisational and collegial support. As it is, the issues of faculty fatigue and burnout is becoming more prominent.² Can doctors have time and space just to chat, exchange ideas, ponder or even dream? Can doctors and students have protected time and opportunity to do creative activities during working hours? We must also consider the fact that time for fruition and even failure is also necessary for this creativity tree to ultimately sprout and flourish. Institutions have recognised this need and its processes, leading to the formulation of expert instructional courses³ to enhance creativity and innovation. But importantly, creativity is not just notions of individuals but it encompasses all around and should infiltrate into

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the culture of an organisation. Some organisations have already embarked on this and have set up funding to foster creativity.⁴ It takes extreme commitment and foresight to allow this heavy investment, so that a forest of creativity will one day flourish.

The world has too much unpredictability. We do not know for sure what will happen in the future, not even in the next 5 years. In the medical field, one thing for sure is that there will be changes. In this modern age, things happen fast and the pace of change will continually increase. The future for medical education is certainly set for significant challenges. To survive and continue to leap forward, creativity and innovation must be fostered. The message is stark, be creative and innovate or be left behind.

REFERENCES

1. Irby DM, Wilkerson L. Educational innovations in academic medicine and environmental trends. *J Gen Intern Med* 2003;18:370-6.
2. Brian M. Wong, Kevin Imrie. Why resident duty hours regulations must address attending physicians' workload. *Acad Med* 2013;88:1209-11.
3. Ness RB. Teaching creativity and innovative thinking in medicine and the health sciences. *Acad Med* 2011;86:1201-3.
4. Andolsek KM, Murphy G, Nagler A, Moore PR, Schlueter J, Weinerth JL, et al. Fostering creativity: how the Duke Graduate Medical Education Quasi-Endowment encourages innovation in GME. *Acad Med* 2013;88:185-91.