

EDITORIAL VIEW

PROFESSIONAL ENHANCEMENT

Anesthesiologist as a perioperative physician, clinician, administrator, educator, and a researcher

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Abstract

Anesthesia is an acute care specialty with a much wider scope in the current clinical practice. The addition of new clinical subspecialties puts additional pressure on already demanding workload with limited global anesthesia workforce. Doctors' burnout reports and currently exhausted doctors struggling with their clinical duties during COVID-19 pandemic are ample evidence of it. Due to COVID-19 crisis, a lot of subspecialty crossover care is provided by the anesthetists, and they have to work outside their normal clinical comfort zones. Anesthesiologists have been entrusted with the responsibilities of perioperative physicians in the last two decades. An anesthesiologist has to adopt several roles in a healthcare institution, including 'administrative', 'academic', 'clinical' and 'research' attributes. An ideal anesthesiologist is expected to have a fine blend of all of these traits, though the proportion of each will vary according to the work environment and the personal choices and preferences.

Key words: Anesthesia; Anesthesiologist; Administration; Academics; Clinical practice; Research

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Editor's Note: This invited editorial view focuses on anesthesiologists' ability to play a role of a holistic physician, encompassing all the necessary traits, including those of a *clinician, academician, scholar, teacher, and a mentor*, in addition to being an *administrator* of anesthesia services. The authors were invited for their diverse experience in teaching, research and clinical anaesthesia as well as administrative roles in Pakistan, as well as in UK, Singapore, and the Middle East.

The anesthesia discipline has continually expanded from operating rooms to ICU, pain management, and allied medical disciplines.¹ Additional time and a broader focus has been added to the organized residency training programs in USA and many other countries like United Kingdom, France, Germany, and Australia, to enhance the role of the anesthesiologists in the perioperative medicine.² The term perioperative medicine has been introduced in the last two decades and is defined as a multidisciplinary subspecialty, in which the involved clinicians effectively identify and manage complex medical needs of the patients at risk during surgical treatment.³ The anesthesiologists have successfully adopted the role of perioperative physicians. In a way it was considered an acknowledgement of the anesthesiologists' clinical abilities extended to other branches of medicine including trauma, intensive care and pain areas. It is interesting to note that the anesthesiologists' role as perioperative physician carries

primarily a bio-medical model of disease management with hardly any mention of teaching, training, and embedded academic scholarship in the literature. Academic anesthesia systems however maintained in parallel the impetus on knowledge acquisition, training technical and soft skills and developing right attitudes in healthcare professionals.

There are several roles of an anesthesiologist; and what would be an ideal blend, if we group *administrative, academic, clinical* and *research* attributes and responsibilities together in a single anesthetist? What could be an ideal proportion of each attribute in terms of *percentage of each trait*? Perhaps we need to come up with some numbers to express quantitatively. It may require a multi-center study of the stakeholders (anesthesia community) to express their views on the right proportion of each trait required to declare someone a clinically, administratively, scholarly, and academically 'balanced' anesthesia practitioner. We

need to define a *'perfect blend'* and proportions of all traits required to declare a practitioner holistic or *all in one?* We need to set the minimum criteria of each specific trait defined in terms of characteristics or features, and look for its presence or absence amongst the anesthesiologists. Perhaps a thorough look is required to explore this phenomenon through qualitative education research. Currently research in clinical anesthesia mainly focuses on clinical practice issues with clinical trials and testing and comparing treatment options and generate quantitative data to provide best evidence-based road map. However, qualitative educational research has not fully taken off the tarmac and matters of similar interests and concerns are left unexplored. Although there is a clear distinction between the *'clinical'* and the *'educational research'*, but drawing a clear boundary between an *'academic'* and a *'research anesthetist'* separating their roles would be a naïve suggestion since significant overlapping in both scholarly activities and positions are noticeable. A valid assumption is that the role of an *'academic anesthetist'* is to *create research* as a part of their job description. Therefore, it will be an oversimplification to separate the *'academicians'* and the *'researchers'* as both may coexist in a single scholar or academician. However, two major distinctions are traditionally accepted, and the anesthesia daily activities are visibly divided into *academic pursuits* and *clinical service* provision. Not surprisingly, often the most disliked role an anesthetist could assume, is the role of an *'administrator'* and a whip-master for their own colleagues.

An anesthesiologist has to take on some of the four roles described above and is evaluated on these attributes for performance and promotions. In advanced countries, the yearly performance appraisals of anesthesiologists are done on CARE (Clinical, Administrative, Research and Education) model. All the attributes discussed here are considered in research literature as the main features of the *'faculty development'* (FD). Finding a fine *balance* of each attribute instead of fine *blend* is essential for developing teaching faculty to improve teaching effectiveness. Sheets and Schwenk⁴ captured these attributes almost two decades ago by defining faculty development as “any planned activity organized to improve an individual’s knowledge and skills (e.g., teaching skills, administrative skills, research skills, and the clinical skills) is considered essential to the performance of a faculty member in a department or a residency programme”. Formal educational programs increase demands on faculty to be “creative and effective teachers, successful researchers and productive clinicians”.⁵

McLean et al.⁶ described medical faculties to be socially responsible and accountable with strong emphasis on professionalism in the teaching practice by creating

faculty development programs (FDPs). They warned that the faculty development is not an easy task and a strong supportive *'institutional leadership'*, *'judicious resource allocation'* and *'recognition for teaching excellence'* is highly desirable to establish and implement a systematically planned intervention with a system of staff development evaluation embedded within the FDP itself.

Sheets and Henry⁷ showed concerns about implementing formal evaluations of FDP due to lack of time and resources; however, they recommended to look beyond *'satisfaction data'* and collect evidence to develop and implement more *'structured evaluations'* for the staff and FDP.

There could be several outcomes of the FDPs, by using Kirkpatrick’s model of educational outcomes i.e., *learner reaction, acquisition of learning, behavioral change, and changes in organizational practice*.^{8,9} The authors created seven categories in addition to the four mentioned above and provided with the level of evidence for additional benefits like *'modification of attitudes and perceptions'*, and *'the benefits to the students, residents, patient, and the communities'*.

A systematic review by Steinert et al.,¹⁰ also supported the benefits as overall satisfaction and acceptability of the FDPs by the participants, positive changes in attitudes, increased knowledge of educational principles and gains in teaching skills and detectable changes in teaching behavior subsequently verified by the students. Steinert et al.¹⁰ observed that the literature then, did not investigate frequently the *changes in organizational practice and student learning*, the most sought-after aspects, but did report changes of greater educational involvement and establishment of collegiate networks in the FD process. They found that the main features contributing towards effectiveness of FDPs were *'the use of experiential learning'*, *'provision of feedback'*, *'effective peer and colleague relationships'*, *'well-designed interventions following principles of teaching and learning'*, and most importantly the use of a *'diversity of educational methods within single interventions'*.

To implement effective teaching through FDP it is imperative to ensure effective and sympathetic leadership from postgraduate training institutions, hospitals, and health authorities. FDPs offer multiple educational benefits and outcomes to be achieved by training like teaching skills, providing effective feedback, develop supervisory skills, mastering workplace-based assessments, objective setting for teaching sessions, perform learning needs analysis, conduct appraisals, help with careers advice, working with portfolios, management of poor performance of the learner, and show sensitivity towards diversity and equal opportunities. After all the wiser approach would be to

legitimize all educational interventions supported by established educational theories, principles, and methods.¹¹

Many of the faculties are insufficiently prepared to deal with assessments of the traditional competencies of medical knowledge, clinical skills, and professionalism as well as the newer competencies of evidence-based practice, quality improvement, interdisciplinary teamwork, and healthcare systems.¹² It may be cautiously suggested that the situation seems to have changed only slightly in 2021, and the challenges faced by academic medicine and the FDPs still remain.

FDPs develop individual teachers' personal and professional growth, inculcate value of learning and self-improvement, encourage networking with colleagues, establish relevance of topics to learners' needs, and increase involvement due to initial positive experiences through participating in FD courses. Although there are barriers against participation in FDs due to increased volume of clinical work, lack of dedicated time for scholarly activities and other logistical factors, nevertheless all these unhelpful factors don't prevent participation in FDPs by the enthusiasts. Steinert et al. suggested improving participation by introducing a 'buddy system' for junior faculty members, an orientation workshop for the new staff, and increased role-modelling and mentorship.¹³ Ten years on from their reported findings, we see peer support (buddy system) and role modelling and mentorship programs by the trainers have become a part of an organized staff development programs these days.

To verify perceived and actual benefits of staff development programs, research is recommended in educational pursuits to justify interventions in FD domain. Traditionally individual teacher's evaluation is done and research on FD has focused primarily on individual participants, which lacks generalizable knowledge which can guide FDP.¹⁴

Benor recently preempted the issue of FD and predicted the structure of the future medical schools and the profile of a future medical teacher.¹⁵ He suggested in anticipation that due to the fast-changing introduction of technological, sociological, and structural processes, medical education will change significantly and produce several types of medical teachers, namely *specialists*, who will be resource people for the students, evaluators of student performance, and a minority of '*process teachers*'. The 'process teachers' role will be to tutor, facilitate learning, act as a coach, and guide the students in domains which cannot be self-learned by only technological devices, and does require a mentor to introduce soft skills and philosophical and ethical principles like moral issues, empathic interpersonal communication, and crisis management. Each type of teacher requires a different training programme. Benor

predicted that increasing public expectations and societal demands may impose teachers' formal accreditation and licensing in the future. The predicted future by Benor is happening now and need for a formal qualification and medical and health professionals' educational training certification is much needed than ever before. The future of teaching faculties lies in developing a social practice and the application of motivational theories that include expectancy–value constructs to personal and professional development.¹⁵

Boden, in a recent publication described teaching as becoming an atrophied skill among some faculty compared with innovation in research. She is skeptical about finding balance in delivering two critical responsibilities simultaneously, but effectively, by the faculty i.e., teaching and research. Since innovation in teaching is a part of daily life but little research is conducted so far in innovative and intuitive teaching methods, it compels us to adopt a grounded theory approach to explore, discover, and explain the social process of learning to implement newly established approaches in imparting knowledge, skills, and attitudes.^{17, 18}

In post COVID–19 pandemic, where innovation in delivery instructions is finding its way into the daily teaching via online delivery methods like Skype, Zoom and Microsoft Teams, the need for developing e-learning modules is taking momentum and implementing blended-learning and flipped or inverted classroom (IC). These models have become a necessity as part of the FD curriculum, and six modules of e-learning and blended-learning basics, learning management systems, virtual patients, educational videos, the IC model, and other e-learning methods have been introduced.¹⁹

In a policy brief of World Health Organization in 2013, several recommendations were made to ensure teaching had equal stature in recruitment and promotion processes and provide an academic track for teaching staff, who must be equally rewarded. Appropriate orientation and educational training must be ensured to all new teaching staff. Most importantly the need for creating health professional education units and/or teaching and learning academies to produce qualified and learned teachers, trainers, mentors, supervisors, and researchers of the future.²⁰

Conclusions

There is a strong need to link clinical practice, backwards with clinical education and research to enrich the future with the 'best and evidence–based' practice, ensuring measurable patient care outcomes. The clinicians must be provided enough time and money for the purpose of developing research culture. Research literature informs us that the organized faculty development programs are

essential to teach, train and prepare effective teachers *by design* by inculcating all the desired traits discussed above and underscores the need for further research to create new knowledge to improve and innovate teaching methods. The unfortunate disconnects of ‘education’, ‘research’, ‘clinical practice’ and professionally delivered ‘administration’ at the paymaster level occasionally makes the patient care patchy, if not riskier, and at times opinion-based only. The compartmentalization of all four components may result in each component thriving vertically in an insulated manner without offering support to the other or making effective linkages with parallel working aspects or attributes at the operational level. The *success in silos* prevents sharing benefits of each other’s achievements and hence cannot be transferred or translated as the best collaborative patient care for maximized *patient satisfaction* and overall healthcare delivery outcomes.

Conflict of interests

None declared by the authors

Authors’ contribution

Both the authors took equal part in literature search and preparation of this manuscript.

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