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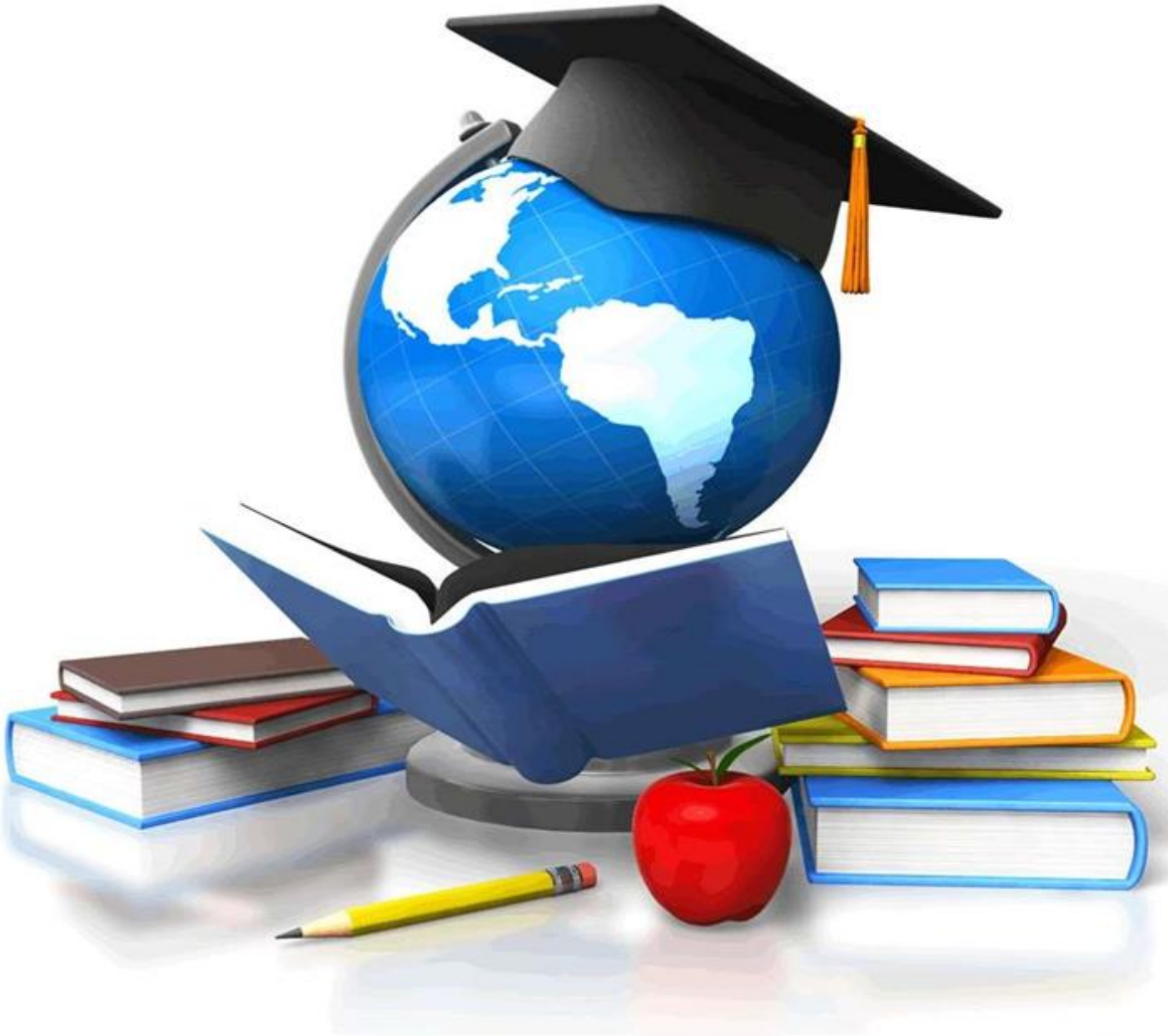

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Delivering Effective Medical Education in the Midst of a Pandemic-A Reflective Narrative

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Abstract

The COVID 19 pandemic was a disruptor in all spheres of activity including education.

This article reflects lessons learnt during the pandemic to ensure uninterrupted delivery of teaching, learning and assessment online. Difficulties with online platforms, faculty development to adopt new methods of teaching as well as ensuring student wellbeing are discussed. The need to ensure reliable and valid assessment is discussed. Finally, the need for good record keeping and ensuring regulatory standards are not breached is emphasized. This is a personal reflection of 3 academics who participated in the implementation of the process in a private medical school and is supported by good practice evidence as reference.

Keywords: *Pandemic; Online Teaching, Learning and Assessment; Student Well Being*

Introduction

2020 was a watershed year, as we rang in the beginning of a new decade, a new viral infection began to sweep the world. In March of that year a health emergency was declared in Malaysia and the rest of the world which disrupted all areas of activity including education.

In the area of undergraduate medical education, the sudden closure of campuses, and the limited access or no access to hospitals for clinical training created widespread disruption in delivery of teaching and learning activities as well as assessment.

Body

For many years medical education has depended on tried and trusted modes of delivery that almost entirely consisted of face-to-face delivery of the curriculum in the form of lectures, tutorials, practical and bedside teaching in the hospital. These innovations are largely attributed. to the work of Sir William Osler and Dr Abraham Flexner who recognized the need to set standards of entry, adhere to science in curriculum development, teaching, and research as well as to recognize the need for learning at the bed side with respect, empathy, and compassion for the patient. (1) (2). This was compromised to a substantial extent by the pandemic because of lack of access.

The essential need for direct interaction to ensure optimal delivery was apparent and rooted in years of practice. The unavailability of the tried and trusted methods of curriculum delivery an assessment resulted in the need to immediately convert to an online delivery and provide for synchronous as well as asynchronous delivery of teaching and learning to meet the needs of students in various parts of the world who were not able to return to campus due to travel restrictions and other issues. Restricted or no access to hospitals meant that clinical teaching also needed to be adapted using simulated patients, actual stable patients as well as mannequins as and when contact was possible.

Certain skills could be taught and learned online while others inevitably needed a space for students and staff to come together to achieve desired outcomes. As such these had to be conducted in a phased manner depending on the situation on the ground, in compliance with the standard operating procedures of the regulatory bodies. Case based discussions could be used to teach history taking skills, clinical reasoning and be used as a basis for discussion on clinical examination and management, but practice of these skills had to be postponed until some form of physical contact was allowed (3). In such situations priority was given to the senior most cohort of students involved who would be beginning internship positions upon graduation.

While the solutions seemed simple and obvious implementation revealed other issues that needed to be tackled. Prior to the pandemic the use of online platforms for instruction and assessment was opportunistic. Learning management systems had long been available but utilization was not uniform due to the reliance of the tried and tested face-to-face delivery that had worked well and was undeniably effective. There were gaps in the skill sets required to utilize IT in education

effectively. Faculty development to meet needs, thus had to consider and fast tracking was needed (3).

We had to ensure student acceptance of these inevitable but difficult changes, they were after all our most important stakeholders. This was easier because many were digital natives.

One crucial element though was to choose and stick to a platform that was acceptable to most students for classes taking into consideration socio economic factors and demographics.

There was also the need to strengthen and, in some cases, develop IT platforms to take on the stresses of increased usage demands. The immediate response was to use what was available in terms of learning resources and learning management systems and prepare for immediate delivery (while exploring and investing in meeting spaces and upgrading IT and human capabilities) to begin classes.

Further down the road the realization that not all meeting spaces were safe dawned and we needed to rapidly learn to ensure the safety and sanctity of these working spaces. Safe in this context is defined as a space where an individual is able to teach and learn without being subjected to harassment, discrimination, undue criticism, and harm (4).

As previously intimated the teaching, learning and practice of medicine has long depended on good and largely face to face communication. This was very evident in the current circumstances and the need to augment formal teaching with activity to ensure interaction and availability to address issues outside class time became particularly important. It quickly dawned on us as providers that voice overs of existing slides, while being a good starting point were not enough, we needed interactive content, incorporation of the instructor's image in the presentation, incorporation of a text to augment presentations as well ensuring that presentations were not too long or heavy (3).

Perhaps the greatest challenge of all was to ensure reliable and valid assessment. This was particularly for high stakes examinations in the program. Conversion to online platforms brought up problems of security and proctoring of examinations. Putting proctoring and security requirements in place required faculty and student development regarding the process as well as sessions to ensure confidence in the system. Mechanisms to address issues with the internet connectivity and ground rules regarding examination conduct and proctoring also had to be established to ensure the examinations could proceed smoothly. (5).

Assessment of clinical skills and the psychomotor domain posed great challenges, some OSCE stations were suited for the online platform; these were mainly clinical reasoning based (3). We had an added challenge of some students who were unable to return to the campus for the examination and had to conduct some stations online with simulated patients available online in the candidate's country. These stations were run parallelly with live stations in the campus to avoid possible compromise to examination security. All stations were also recorded for scrutiny by external examiners and accrediting bodies if needed.

A major drawback of the disruption to face-to-face delivery was the difficulty to gauge student wellbeing. The prolonged period of absence from the physical classroom did influence mental wellbeing, with lots of anxiety and stress due to a labile and ever-changing landscape. The lack of face-to-face interaction has resulted in gaps in social and communication skills which may be brought to the fore at the workplace in the form of inappropriate behavior (6). There are also continuing concerns about skills required of the profession and the effect of long absences from hospital on the acquisition and maintenance of these skills. (7) The changes in the delivery and assessment systems also resulted in concerns about career prospects and progression among students.

A survey involving medical students from 47 countries revealed a prevalence of depression of about 27% and suicide ideation of 11%, prior to the pandemic (8). Most studies since have indicated a rise in these conditions. A Bangladeshi study reported prevalence of 58.6% for the former and 28.6% for the latter during the pandemic (9) A Malaysian study involving university and pre-university students also yielded a prevalence of 40% with moderate to severe social isolation and 14% with suicide ideation which was far above pre pandemic rates. (10)

These are real concerns and their documented effects on mental health and well-being underlined the importance of having good clear communication with the students throughout the pandemic, with the provision of mentoring online and the availability to address concerns online to ensure student wellbeing. (11) Open, frank, and reliable communication channels to ensure information was dispersed to the student body as well as inviting and acting on feedback helped to reassure students during this challenging time as well.

The medical programs in Malaysia are regulated by the Malaysian Medical Council, this is like most other countries where their respective medical councils develop and ensure implementation of standards to ensure quality. An important aspect of academic management during this period was to ensure adherence to the regulatory frameworks of the council to ensure quality of delivery. For future accreditation purposes good records of all teaching, learning and assessment activity needed to be maintained. All high stakes examinations were conducted in the presence of external examiners to ensure the required standards were always adhered to.

The best gauge of quality of delivery is the feedback obtained from stakeholders. In the first stage this is always the students and feedback from them formed the basis for change in delivery during the pandemic. Instructor feedback is also important so that problems from the viewpoint of teachers can be addressed and the necessary faculty development be put in place to ensure continued efficient delivery. Without the confidence of these two important stake holders it would have been difficult to deliver the program satisfactorily. Finally, the major uncertainty is the performance of these young doctors who have graduated under exceedingly difficult circumstances in the workplace. It is important that we understand the problems faced over the last 2 years and give them the space needed to improve skills and develop competencies that may have been lacking. Medical schools can provide learning opportunities during the period prior to

commencement of internship and the training hospitals may need to provide extra support during the duration of internship as well. The exact impact is still unclear as many in this cohort are now in their internship years (7) (11). However initial anecdotal reports indicate there are difficulties in coping with the rigors of internship among this cohort of young doctors.

Conclusion

In conclusion these difficult years have taught us that

- Disruptions force us to move out of our comfort zones and innovate.
- Innovations must be phased in, fit for purpose, and ensure no one is left behind.
- A hybrid delivery of teaching, learning and assessment is here to stay.
- Simulation will play a significant role in training our medical students and junior doctors.
- Gaps in skills may surface in the short-term but resilience and continuous support will ensure these gaps are recognized and addressed in the vast majority, probably over a longer learning curve.
- Adaptability and the willingness to change according to the rapidly changing environment will be the order of the day.

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