



ORIGINAL ARTICLE

Managing Health Education during the COVID-19 Pandemic: The RCSI Bahrain Experience

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Abstract

The pandemic of Coronavirus disease- 2019 (COVID-19) introduced great challenges to the higher education sector and at the same time opened the door for future opportunities. This review aims to present the experience of Royal College of Surgeons in Ireland-Medical University of Bahrain in managing teaching and learning during COVID-19 pandemic. In response to the pandemic, the university implemented several initiatives in ensuring that final year students graduate on time and quality of assessment in a fully digitised environment. The guiding principle for the university as the examination were redesigned, was to ensure that they remained valid to ensure students could demonstrate achievements of the core learning outcomes and be safely assessed as competent graduates. In achieving these goals, the university has well-developed formal and informal mechanisms to ensure the student voice is heard and listened to, and it was of paramount importance to ensure that this was continued and enhanced during these times. While university was successful in managing this unprecedented situation, more work must be done on analysing the author's experience, and that of others, to implement the needed changes to ensure student access to learning, without compromising their safety or that of the staff. The university sees the current impetus to provide education through technology enhanced learning as an opportunity to expand and diversify learning opportunities and resources for students. In universities such as ours, which has only healthy subjects, practice become essential components of the programme, making a blended model of face-to-face and online delivery the ideal fit.

Keywords: COVID-19, Learning, Pandemic, Students, Universities

Introduction

The Royal College of Surgeons in Ireland - Bahrain (RCSI Bahrain) is a constituent university of RCSI which was established in Ireland in 1784. RCSI Bahrain was established in 2004 through an invitation from the Government of Bahrain as a not-for-profit health sciences institution. The university aims to enhance health in Bahrain, the Gulf Cooperation Countries (GCC) region and beyond, through endeavour, innovation and collaboration in education, research, and service. It provides the same qualifications and is under the same quality assurance system of the university in Dublin.¹

The Kingdom of Bahrain is an island state in the Arabian Gulf with a population of 1.5 million of which around half are non-nationals. The country is ranked as the top sixth most densely populated country in the world.² Their first case of Coronavirus disease-2019 (COVID-19) was recorded on 24th February 2020. Their first case of COVID-19 was recorded on 24th February 2020. The country began testing for the virus early and extensively, and in only five weeks, the Bahraini government succeeded in containing the virus. The World health organization's (WHO) regional office for the Eastern Mediterranean has commended the Bahrain's national strategy to combat COVID-19 and to protect public health. Bahrain was the first Arab country to join the WHO's Solidarity trial to find an effective treatment for the virus.³

As a part of the national safety measures protocol, all public and private educational institutions in Bahrain, including schools and universities, were closed and an alternative remote method of learning was pursued. While RCSI Bahrain integrates some online education into its coursework, moving all programmes and teaching online proved to be challenging. The fact that RCSI Bahrain is a health university with programmes which depend heavily on practical/clinical training, added further to the challenges.

The aim of this review is to present the experience of RCSI Bahrain as an international university operating in the Middle East, in managing teaching and learning during these unprecedented circumstances that may guide others in similar

circumstances.

Approaches to Assessment and Examinations

Medical and nursing schools globally have accelerated the graduation of the class of 2020 at a time when the healthcare system needed to provide more physicians and nurses. As stated, "These are unprecedented times" with the need to focus the preparation of future physicians and nurses in the context of the global emergency, and the need to address potential shortages in healthcare workers through a responsive and flexible medical school response.⁴

RCSI Bahrain needed to be responsive to the precipitous closure of the campus two days after the first case of COVID-19 was diagnosed in the country. The campus closure resulted in all clinical placements in our affiliated training hospitals being suspended. At this time the original final medicine examinations were scheduled at 4 weeks (Observed Structured Clinical Examination - OSCE), at 5 weeks (written) and at 6 weeks (long case/direct observed history examinations.) after the closure. At closure of the campus, most of the clinical teaching for the class of 2020 had been completed and any outstanding teaching sessions were moved to an online format. A review of alternate approaches to graduating the class of 2020 was conducted to ensure it occurred on-time and potentially with an early graduation. Delaying graduation was the least favourable option, given the consequences on each individual student's career and the potential impact on the healthcare systems of their respective countries. This resulted in an earlier graduation date two months ahead of the original planned date that was welcomed by the healthcare system and the students alike.

To facilitate an early graduation, a decision was made to expedite the clinical examinations forward and to accommodate this it was redesign from two major clinical examinations to a single hybrid clinical examination with two parts. Hall, *et al.* (2020) wrote "The COVID-19 pandemic has had a major impact, such that our 'normal course of education' is not feasible, and yet our systems of medical education are still valid."⁵ The guiding principle for RCSI, as the examinations were

redesigned, was to ensure that they remained valid to ensure students could demonstrate achievement of the core learning outcomes and be safely assessed as competent interns. As the campus was closed and access to the teaching hospitals was not possible, therefore permission was obtained from the health and education ministries to hold the examinations on campus.

To ensure compliance with national guidelines and to protect both students and staff, several precautions were introduced. All students and examiners had temperature checks on arrival, all students were instructed to wear masks throughout, and students had an orientation session stressing safety measure before the examination. Students were taken in groups of seven and all had a detailed briefing by the Head of School before their examination. The examinations ran from 08.00 until 18.00 hours. Simulated patients were substituted for real patients, with the appropriate adaptation of the relevant examination cases, which were all designed in conjunction with our parent campus, RCSI Dublin, and blueprinted as valid assessment instruments. The requirements for running the examinations in the context of the pandemic necessitated four separate examinations to be designed, as no more than 40 students could be on campus at any one time, with no more than 10 examined in one block, using social distancing, personal protection equipment, sanitization, and deep cleaning. About 149 out of 152 of RCSI students attended the examinations without incident. All the long case encounters were recorded, and the recordings were sent to the External Examiner (in the UK), who viewed them and provided feedback at a meeting with all examiners, before the Board of Examiners.

The written examination was run online using fully proctored software and was undertaken by 524 students from the three RCSI campuses: Ireland, Bahrain, and Malaysia. Two separate examinations were run to facilitate students in different locations, from the west coast of the USA through Europe and to Australia. The examination questions were drawn from a comprehensive question bank of blueprinted and standard-set questions, to ensure validity, reliability, and equity. All 524 students completed

the examinations and connectivity issues were addressed in real-time by support provided by staff. Of note, there was consistency between student performance in the long case clinical examinations, OSCE, and subsequent performance in the written examination.

The final year Nursing students raised a challenging issue as regulatory body requirements require a minimum time of clinical placement for graduation, which was suspended with the University closure and the teaching hospitals being inaccessible. Student nurses, unlike medical students at the same stage, form part of the workforce and consequently the hospitals wrote to the university to request their placement and to offer their support. Discussions with the health and education ministries resulted in an agreement to allow final year nursing students to recommence their placements that allowed them to complete their training and to be able to graduate on time. A survey was conducted to elicit which students wished to resume their placements and participation was entirely voluntary; all the students except for five indicated that they wished to resume their training. These placements were allocated such that the students would not be working on COVID-19 wards ensuring their safety, but their presence would free up more experienced colleagues to be deployed to more critical areas.

Measures to Ensure Curriculum Delivery and Quality of Assessment

For the students not in their final year, a significant portion of the second semester was yet to be delivered. RCSI already had the virtual learning environment (VLE) in place, so there was a high degree of familiarity with this tool amongst students and faculty. This platform was then expanded to deliver an online curriculum. The components of each programme were collated into a master file and made available for academic staff to indicate how they would deliver them through recorded lectures, live streaming, interactive sessions or through other means. Academic staff were also asked to indicate sessions that could not be delivered through alternate digital means and would have to be deferred. To facilitate this technical assistance to record and/or deliver online, and a suite of resources was

made available to them to assist them in engaging successfully with technology enhanced learning.

It is acknowledged that online learning approaches should not involve the movement of didactic, face-to-face lectures into an online space. In this regard, the primary motivator for RCSI was to ensure complete delivery of the curriculum in a superior manner. Bezerra (2020) discussed how the effects of the global pandemic in healthcare education goes beyond a structural reorganisation of courses, requiring a change of attitude by managers, teachers and students and the use of innovative practices which preserve methodologies required to protect core elements of healthcare education.⁶ In addition, Martin, *et al.* (2017) discussed quality in online learning noting that there are no global standards, despite many years of attention, in measuring the quality of online learning and cite the fact that the terms “quality” and “standards” are often used interchangeably.⁷ Aldredge, *et al.* (2019) reported that the debate about quality in online education continues and that the elements for successful E-learning environments to function are quality instruction, academic integrity, and security of online platforms.⁸ Whilst the rapid move to online provision did not afford RCSI the luxury of programme redesign using evidence-based instructional design approaches, it did not prevent RCSI maximising the quality of online teaching and learning and ensuring the integrity of the online assessment. The authors observed that students’ engagement in online learning had certain issues for which additional measures need to be considered to improve the interaction.

While Microsoft Teams was the initial platform for rapid recording and provision of lectures, the limitations of this tool as a virtual classroom were recognised and a license for Blackboard Collaborate was acquired. Training and peer support in the use of recording tools were quickly provided to academics who needed this administrative support that ensured that the recorded lectures were made available through the VLE such that curriculum coherence was maintained. Student feedback was elicited continuously and used to inform practice improvement on an ongoing basis. The academic leads for each year held weekly online meetings

to elicit student feedback and concerns which, in turn, were used to improve the type and quality of provision. Student engagement was of particular concern and a series of reports was created so that the academics could track student engagement with a variety of resources on the VLE; low engagement was followed up by the academics, the administrative staff, and the student welfare staff, where appropriate.

Online examination was a particular area of focus and, from the end of March after the RCSI Dublin campus also closed, attention turned to the Marks and Standards Regulations governing each programme year. Rather than cancelling examinations and awarding marks based on assessment to date, a decision was made to move all years, except those which contributed to an award, to Pass/Fail facilitated through ExamSoft. In addition, all examinations were redesigned, to multiple choice question (MCQ) based, or a format that could be completed online. The associated changes were required to ensure that the core learning outcomes were still examined, and appropriate re-weighting of components was conducted to reflect the examination redesign.

RCSI is currently using the electronic speedwell digital examination system for clinical examinations, and this was expanded to accommodate large scale MCQ examination delivery. A comparison of student performance in these examinations against the equivalent components from semester 1 yielded no significant deviation in student performance, illustrating that the quality was consistent in the online environment. A decision was made not to try to conduct clinical examinations through online means, based on the firm belief that this would not authentically assess a student’s clinical capabilities, and these examinations were deferred to August/September 2020 (expect period of return to campus).

Feedback from Students

Harvey (2011), cites the United Kingdom Parliamentary Select Committee as stating, ‘What contributes to a successful university experience is an institution which actively seeks, values and acts on student feedback’.⁹ Likewise, the Irish Universities Act (1997) and many subsequent initiatives, such

as the Irish Survey of Student Engagement, place emphasis on student representation on all levels of university governance.^{10,11} RCSI has well-developed formal and informal mechanisms to ensure the student voice is heard and listened to, and it was of paramount importance to ensure that this was continued and enhanced during these times. From the day of campus closure, students were engaged on a continuous basis, using a variety of media. A daily email update was sent to all students, with information regarding precautionary measures, travel, curriculum, examinations and with a focus on trying to provide security, reassurance, and up-to-date information in a context where events and decisions, nationally and internationally, were unfolding daily.

To project manage the academic changes implemented a daily meeting with the senior faculty, business continuity planning (BCP) was held. The Student Council President was invited to join these meetings once a week and this proved a useful platform for high level communication both to and from the student body. Student meetings were also held frequently, primarily using Microsoft Teams; meetings with the class representatives and with the wider classes were held to address concerns, answer queries and take input.

This information was used to inform pastoral activities such as a weekly online “Coffee and Chat” session, meetings with individual class groups, and an initiative to make mobile internet devices available to the small number of students in Bahrain who were experiencing serious internet issues.

Sharing Experiences with RCSI Dublin

There are well developed communication mechanisms between the Bahrain and Dublin campuses, and these proved invaluable in the context of the disruption caused by COVID-19. The RCSI Bahrain campus closed three weeks before the Irish parent campus and the Irish senior management team has noted the value of the Bahrain experience in enhancing their own preparedness for closure. The Bahrain senior management team maintained daily contact with their counterparts in Dublin, with wider meetings of the management teams from each campus taking place around core matters –

initially the examination and graduation of the class of 2020 and then focused on the wider student body. From sharing of recorded lectures to joint revision of Marks and Standards regulations, collaborative delivery of online examinations, to a focus on the structure and implementation of the next academic year, RCSI’s well-developed collaborative discussion and decision-making bodies proved to be robust and responsive in the context of a rapidly changing external environment.

Staff and student communications are shared between both campuses to ensure consistency of messaging. Our internal communications platform (Workvivo) is used across both campuses with select staff given access to both platforms to ensure relevant cross-campus communications are shared accordingly. In addition, all staff within RCSI globally have been migrated to a global exchange from an information technology perspective to allow internal collaboration through the virtual learning environment, Microsoft Outlook, and Microsoft teams.

Conclusion

The pandemic of COVID-19 introduced great challenges to the higher education sector and at the same time opened the door for future opportunities. While RCSI Bahrain was successful in managing this unprecedented situation, more work must be done on analysing our experience, and that of others, to implement the needed changes to ensure student access to learning, without compromising their safety or that of the staff.¹² RCSI Bahrain sees the current impetus to provide education through technology enhanced learning (TEL) as an opportunity to expand and diversify our learning opportunities and resources for our students. More importantly, our goal is to map TEL to support our teaching and learning pillar and to enhance the learning experience of the students. In universities such as RCSI Bahrain, which has only health subjects, training and practice become essential components of the programme, making a blended model of face-to-face and online delivery the ideal fit.¹³ We believe that the university’s continuity plan for the short term had the necessary framework to guide us towards a vision of a more resilient and

technology-based higher institution in the future. This vision will support the university's strategic goal to take a leading role in this field within the region.

On a national level, we have recommended that the government review their stance regarding remote learning, as currently most of the countries in the Middle East, including Bahrain, do not recognise or accredit online or distance learning programmes. The Government should review their national higher education strategies and incorporate a policy of TEL that accepts this format of learning as an integral part of education.¹⁴ As part of the accreditation process of tertiary institutions, the relevant authorities must ensure that universities have the appropriate infrastructure and the experience to deliver and assess this method of learning. This includes a reassurance that all teaching and learning qualifications have a TEL component as a means of upskilling academic staff in this area. Moreover, leaders should review their national research strategy with a view to encourage research in the field of TEL, particularly in relation to authentic assessment and virtual practical training, and to promote global collaboration in this field.^{15,16} Finally, an appropriate methodology for evaluation of online learning to assess its efficacy and ensure this method of education supports the strategic needs of the country and the tertiary education sector needs to be developed.

Conflict of interest

The authors have declared that no conflict of interest exists.

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