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The University of Queensland International Science Series: creating a supportive learning environment for students during the COVID-19 pandemic

Międzynarodowa Naukowa Seria Spotkań na Uniwersytecie w Queensland: Utworzenie wspomagającego centrum szkoleniowego dla studentów w dobie pandemii COVID-19

ABSTRACT

During 2020, the COVID-19 pandemic had a major impact globally, affecting many aspects of health, commerce and education as well as the global economy. International students were greatly affected, being locked down in their homes and unable to continue their university studies on campus. This article describes the approach taken at The University of Queensland in Australia, which recognised this a unique opportunity to support and engage with students who were away from campus. An International Science Series of seminars was created to reach out to, and connect with research students, to support them in their scientific careers, and connect them virtually to their supervisors and peers. This virtual connection was maintained across 2020 through weekly Zoom meetings, to progress the development of the students and extend their knowledge of the broad base of science related to their field of study. These scientific multicultural discussions provide a valuable model for connections in the post-COVID-19 pandemic world.

Keywords: Covid-19; pandemic; lockdown distancing; virtual e-meetings.

STRESZCZENIE

W 2020 roku pandemia COVID-19 miała istotny wpływ na globalną sytuację zdrowotną, gospodarczą, edukacyjną oraz ekonomiczną. Studenci uczący się poza granicami swoich krajów dotkliwie odczuli restrykcje lockdownu uniemożliwiające im kontynuowanie studiów na docelowych uniwersytetach. W niniejszym artykule przedstawiono podejście zastosowane na University of Queensland w Australii, na którym zaproponowano unikatową możliwość pomagania studentom, a zarazem ich zaangażowania w czasie przebywania poza uczelnią. Zainicjowano serię międzynarodowych spotkań naukowych, aby dotrzeć do studentów i być z nimi w kontakcie w celu asystowania im w rozwoju ich kariery naukowej oraz udostępnić im wirtualną możliwość spotkań z promotorami oraz innymi studentami będącymi w podobnej sytuacji. Te wirtualne cotygodniowe spotkania za pośrednictwem platformy Zoom były organizowane w ciągu całego roku 2020 w celu poszerzenia wiedzy studentów poza zakres ich docelowych tematów naukowych wybranych do studiowania. Te międzykulturowe dyskusje naukowe zaoferowały praktyczny model życia w erze post-COVID-19.

Słowa kluczowe: Covid-19, pandemia, lockdown, dystans, wirtualne e-spotkania.

INTRODUCTION

In 2020 we have all suffered from the global COVID-19 pandemic threat. This is as a consequence of the coronavirus disease that started originally in China in 2019 and then spread over 200 countries, with more than ninety million confirmed infections worldwide and over two million deaths (JHU, 2020). Coronaviruses (CoV) are divided into four genera of α -, β -, γ - and δ -CoV, among which only α - and β -CoV can infect humans with generally low pathogenicity causing mild respiratory symptoms similar to a common cold (Guo et al., 2020). Three β -CoVs can lead to fatal respiratory tract infections. Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV) was first detected in 2002, and was responsible for over 800 deaths, with overall fatality rates of about 10% in the general population and 50% in people aged 65 years and above (Ma et al., 2020). A decade later, Middle East respiratory syndrome coronavirus (MERS-CoV) was reported, with over 2000 cases and a 34% fatality rate. The typical age of infected individuals was between 49 and 57 years. In 2020, the coronavirus SARS-CoV-2 was identified as being responsible for COVID-19 disease. This latter has rapidly affected many people across the globe, especially those between the ages of 40 and 60 years (Petrosillo, Viceconte, Ergonul, Ippolito, & Petersen, 2020). The pandemic potential of SARS-CoV-2 seems to be the highest amongst these three coronaviruses.

1. ADJUSTING TO THE CURRENT SITUATION

The COVID-19 battle is still ongoing, with many countries experiencing second and even third wave infections, with over a third of the global population impacted by rapidly rising rates of infection (Hopman & Mehtar, 2020). Emergency lockdowns have been initiated in many countries across the globe, with negative impacts on health, wellbeing, business activity, and other aspects of daily life. With limited pharmacological interventions or vaccines, reducing the rate of infection (i.e. flattening the curve) has become a priority, and prevention of infection is the best way to achieve this aim (Peretti-Watel et al., 2020). In most countries, the ministers for health have recommended social distancing, increased personal hygiene, and the use of personal protective equipment (PPE), such as masks, face-shields and gloves. Governments in high-income countries have been undertaking screening and also molecular tests for those exhibiting characteristic symptoms of the disease (Editorial, 2020). The approach of intense screening has not been possible in all parts of the world. Many countries are already facing, or anticipating, a deepening economic crisis as a consequence of temporary lockdowns imposed by governments.

Since the beginning of 2020, many socio-economic research studies and analyses have focussed on the economic impacts of the COVID-19 pandemic in both emerging and developed countries. Governments of countries affected by COVID-19 have been searching for the best options during

the pandemic crisis to help their citizens survive. Governments in Australian, Canada and the UK offered cash support for workers who lost their jobs (Sharma, Leung, King-shott, Davcik, & Cardinali, 2020). For healthcare providers, the Australian Health Department provides a 24/7 national "Coronavirus Mental Wellbeing" support service (Australian Government Department of Health 2020). Many elements of everyday life have changed as people maintain social distancing, endure restrictions and lockdowns, work more from home, and connect daily via online services and videoconferencing platforms such as Zoom or Microsoft Teams, and use telecommerce and telehealth services, as well as tele-education (Donthu & Gustafsson, 2020).

2. THE UNIVERSITY OF QUEENSLAND (UQ) INTERNATIONAL SCIENCE SERIES

In each country, business, medical and education sectors have adopted their own solutions to combat the challenges of the current COVID-19 pandemic.

In the middle of January 2020, the author LJW penned an article and an email alert for the Australian Dental Association on the topic of the SARS-CoV-2 virus, which at that stage was a very small outbreak limited to Wuhan, China. The purpose of that communication was to alert the dental profession in Australia to the fact that this particular virus, which had appeared, affecting some hundreds of people at the time, would be likely to impact upon the globe, and influence (and interrupt) the delivery of healthcare in Australia during 2020. At the time not much attention was paid to the topic (at least in Australia), thinking that perhaps the writer, as a "pandemic watcher", had made an incorrect call. Nevertheless, within a matter of a few short weeks, the situation changed quite dramatically. Now, in November 2020, there are few places on earth on which the pandemic has not left its footprints. The impacts are so large that they will resonate for many decades to come, much as occurred after the Spanish flu pandemic in 1918-1919.

One of the most important impacts of the pandemic concerned restrictions of movement, both national and international, due to lockdowns. This affected not only the economy but all sectors of human activity, including tourism and education, and especially study abroad programs. This was especially the case for Chinese students, as they had returned to China for the lunar New Year, an event that represents the largest single regular movement of people in the world. As borders began to close, travellers of all types became stranded and were unable to return to their original city and country. As well, in a number of countries, international students were advised to return to their home country as soon as possible, so they would be close to their families and could access suitable healthcare.

The net effect of these interventions was that large cohorts of international students were stranded away from universities, for what was initially thought to be only a period of

some weeks but has now turned into many months. Adding to this, as various restrictions were introduced by national governments to curb the spread of the virus, many laboratories undertaking research were shut down, and students were unable to continue on with their research projects. Even in areas undertaking so-called critical or vital research, where some continuation was allowed, strict social distancing limited the number of people who could be working in the laboratory at any one time. In some countries (e.g. India), such restrictions continue to the present day, or will be re-introduced as a response to later waves of COVID-19 infection.

Every challenging situation provides an opportunity to rethink traditional approaches, and this has been the case with research students and COVID-19. Oral examinations for thesis defence, as well as seminars for progression milestones such as confirmation of candidature, mid-candidature review, and thesis review have rapidly progressed to online environments using videoconferencing software. At the University of Queensland (UQ) in Brisbane, Australia, undergraduate and postgraduate teaching was converted from the traditional face-to-face mode to the online mode, in a matter of weeks – arguably doing what normally would have taken years to achieve as a change in approach, in just a matter of days, driven by the urgency of the situation that had presented itself.

Research students, who are still abroad and thus unable to work in the laboratory, can focus on their literature review and thesis preparation, and present seminars on their work to refine the planning of further experiments. However, what was done at UQ took this concept much further. In the International Science Series (ISS), the concept of a virtu-

al event initiated by the author ZMZ, with support from the author LJW, both research higher degree students and experienced researchers presented seminars by interactive video conferencing on current hot topics in research, covering the emerging science around the COVID-19 pandemic, and using examples from the pandemic to unpack many of the major concepts of microbiology, infectious disease and therapeutics. In effect, the ISS took the pandemic from being simply the news of the moment to becoming a sandbox within which discussions could explore and unpack the underlying science (Fig. 1).

What was particularly important about the ISS was that students from across the globe who had been unable to return to UQ were able to join in and participate actively. They remained connected to the University and to their supervisors through this activity and were able to progress the planning and execution of their own research work through this interactive seminar format.

The ISS strengthened and empowered international collaborations, providing additional benefits for researchers. In so doing, it also demonstrated to the students how relationships are formed which lead to such productive collaborations. High-quality science is rarely if ever a solo undertaking, so being able to see that good scientific work could continue to flourish despite all the obstacles of the present pandemic was a valuable lesson for all the students who were participants.

In a very practical way, the ISS brought together some of the best aspects of collegiality, despite the enormous separation in terms of real distance between the participants. The often used phrase “the world is a small place” came



Figure 1. The virtual global connection during the one hour Zoom sessions for the International Science Seminars organized by UQ researchers once per week

into focus, because of the feeling of connectivity between the students and their supervisors and mentors. Sharing what was happening in different countries as the pandemic passed through its various waves gave everyone involved a first-person account of the situation in so many different locations around the world, and this was a powerful and life changing experience.

Students have quickly adopted to this new style of the workshop where they can virtually feel connected with other student-mates and begun appreciating the opportunity to learn “out of the box” of their research fields. They have become more interested in other scientific areas, hidden to them before, with more mature and independent views on the associations between the global threats we all have experienced during the last centuries, such as losing the battle with microbial pathogens because of overusing antibiotics and then as a consequence observing multi-drug resistance, a shortage of fresh water due to industrial activities and water contamination as the consequence.

Students have felt comfortable in not only presenting and sharing their knowledge but also have become more confident in asking questions, providing their opinions and creating their own hypotheses. The ISS sessions have evolved into higher level Q&A meetings, motivating the students to spend more time to prepare themselves to brainstorm discussions and debates.

These cyber-meetings have created a more comfortable zone for those students who generally are shy and less open to others, and who lack confidence, especially because of social or cultural stereotypes. They can now present their thoughts as preliminary statements or hypotheses. This new online reality, in which they have found themselves equal and united, has made them more active and ready to cooperate with others. It has also helped them feel like “being at the university again”. These online interactions can help meet the basic human instinct of connecting with others, by meeting in person or being at an e-meeting at the same time as others, regardless of the time-zone. In this way, e-connection can provide subjective support for those experiencing lockdown-induced social isolation. This means “one can be isolated but not lonely, or lonely in a crowd” as a “social connection is possible even when people are physically separated” (Bavel et al., 2020). The cyber-meetings are a unique opportunity for all students to join the meeting from across the globe, with participants from such countries as Australia, India, China, Europe (Portugal, France, Germany and Poland), the USA (California, Texas and Massachusetts), and Africa (Nigeria), all being connected at cyber-meetings at the same time. This is an opportunity that under normal circumstances would most likely not have happened.

3. A NEW APPROACH FOR THE NEAR FUTURE

The duration of the COVID-19 pandemic is unknown, but it is certain that it has been already affecting daily life. Hence, we all should prepare a plan on how to adjust to the post-COVID-19 era. The ISS sessions have helped us to understand the lessons that we have learned from this health crisis. It is clear to us that the new reality will be different, with more cyber-connections for activities. We now know that we are capable of doing much more work from home than was ever assumed. Because of lockdowns, both locally and internationally, social meetings and activities have been very restricted (restaurants and bars closed temporarily closed; no travel, attending the gym or swimming, and only limited time for outdoor sporting activities). Medical care has become a “phone first” contact. With all that has been learned so far, we should be prepared for future pandemics, as these are highly likely, since there have been three coronavirus threats during the past two decades. We should also think not only globally, but look back to our ancestors’ local thinking, and consider what can be done at the local level for food and key supplies, building resilience and capacity.

REFERENCES

- Australian Government Department of Health. (2020). *COVID-19 Support*. Retrieved from <https://headtohealth.gov.au/mental-health-difficulties/covid-19-ongoing-impact/covid-19-support>.
- Bavel, J. J. V., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., ... & Willer, R. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature Human Behaviour*, 4(5), 460-471.
- Donthu, N. & Gustafsson, A. (2020). Effects of COVID-19 on business and research. *Journal of Business Research*, 117, 284-289.
- Editorial (2020). COVID-19: endgames. *The Lancet Infectious Diseases*, 20(5), 511.
- Guo, Y.-R., Cao, Q.-D., Hong, Z.-S., Tan, Y.-Y., Chen, S.-D., Jin, H.-J., ... & Yan, Y. (2020). The origin, transmission and clinical therapies on coronavirus disease 2019 (COVID-19) outbreak – An update on the status. *Military Medical Research*, 7(111). <https://doi.org/10.1186/s40779-020-00240-0>
- Hopman, J. & Mehtar, S. (2020). Country level analysis of COVID-19 policies. *EclinicalMedicine*, 25. <https://doi.org/10.1016/j.eclinm.2020.100500>
- JHU (2020). COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU). (2020). Retrieved from <https://coronavirus.jhu.edu/map.html>
- Ma, C., Su, S., Wang, J., Wei, L., Du L., & Jiang, S. (2020). From SARS-CoV to SARS-CoV-2: Safety and broad-spectrum are important for coronavirus vaccine development. *Microbes and Infection*, 22(6), 245-253.
- Peretti-Watel, P., Seror, V., Cortaredona, S., Launay, O., Raude, J., Verger, P., ..., & Ward, J. K. (2020). A future vaccination campaign against COVID-19 at risk of vaccine hesitancy and politicisation. *The Lancet Infectious Diseases*, 20(7), 769-770.
- Petrosillo, N., Viceconte, G., Ergonul, O., Ippolito, G., & Petersen, E. (2020). COVID-19, SARS and MERS: Are they closely related? *Clinical Microbiology and Infection*, 26(6), 729-734.
- Sharma, P., Leung, T. Y., Kingshott, R. P. J., Davcik N. S., & Cardinali, S. (2020). Managing uncertainty during a global pandemic: An international business perspective. *Journal of Business Research*, 116, 188-192.