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Utilising State-of-the-Art Video Collaboration to Enhance Careers Skills Support Provided to Remote, International Queen's University Students (Study 1) IN: Queen's Learning and Teaching Hub

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Utilising State-of-the-Art Video Collaboration to Enhance Careers Skills Support Provided to Remote, International Queen's University Students

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Description | What was done?

Similarly to other universities within the UK, Queen's has sought to develop its international profile in recent years, employing a range of approaches including the enhancement of international recruitment activities, developing degree courses which are aligned to global challenges and employment sectors, and establishing partnerships with international organisations within the education and industrial sectors. Indeed, Queen's has established a partnership with China Medical University, located in Shenyang, China, which centres around the operation of a International Branch Campus (IBC), and which delivers a number of undergraduate Queen's degrees, in their entirety, within a remote centre. At present, approximately 300 students are undertaking study within this centre, with course content and training being delivered collaboratively by academic staff from both partner universities.

Despite the facilitation of delivery of core course content, the nature of this IBC is as such that the provision of Queen's portfolio of student support services is made difficult, due to the absence of both the required physical estate and appropriate staff who have expertise within these particular areas, due to the geographical location of the campus. A notable example of this relates to the support provided to students by Queen's Student Guidance Centre directorate, and perhaps most notably, the Careers, Employability, and Skills office within this unit. The delivery of such complementary support is recognised as being critical in ensuring that students are able to successfully enter employment on completion of their degree, in addition to being fully prepared for various associated challenges, and as such, the paucity of this support within the remote campus may lead to issues in relation to the employability of students who are receiving their degree-level education within this centre.

Motivation and Aims

As a result of the issues outlined above, it has been necessary to investigate the use of innovative digital approaches for the provision of skills training to students within this remote centre, such that degree-focused training can be adequately complemented, and indeed, so as to ensure that the affected students are able to avail of such services to as similar an extent as those students located within Queen's Belfast campus, ultimately enhancing the student experience, and overall educational outcomes. The development of an appropriate, effective approach would subsequently permit the delivery of further student support activities, compounding the value of the approach, and ultimately, allow the University to work towards effectively delivering a complete range of services to students within this centre, and an overall replication of the experience provided to local students.

Methodology

Students enrolled on Level 2 BSc Pharmaceutical Sciences or Pharmaceutical Biotechnology courses within the remote campus, and who were participating within a Degree Plus-sponsored employability skills programme were invited to remotely attend an employability workshop, which was delivered by a member of staff from Queen's Careers, Employability and Skills Team, in Belfast. The workshop was delivered via the use of the "Room of the Future" facility (SyncRTC, Madrid, Spain), which employs a range of hardware and software-based videoconferencing solutions. More specifically, the room is configured to allow interaction between the remote students and the presenter via a range of routes, including both audio-visual (employing webcam and microphone technologies, and text-based communication channels (facilitated by "in window" chat functionality). As such, the orientation of the component aspects of the system aims to function via the provision of an immersive educational experience which is similar to that of a live classroom.

Following delivery of the session, attending students were invited to evaluate the delivery of the workshop via completion of an anonymous, pre-piloted, electronic questionnaire. Quantitative data

(derived from Likert-style questions) was analysed using non-parametric and descriptive statistics, while qualitative data (provided via the subjects' completion of open response questions) was analysed thematically. The views of the member of staff who delivered the workshop was also sought, and again processed using appropriate qualitative methodology (and thematic analysis performed).

A response rate of 64.3% was obtained for the proctored questionnaire. Of the respondents, 100% were female, with average age being 20.5 ± 0.7 years. 100% of respondents indicated that Chinese was their first/main language, whilst 77.8% indicated that they had not undertaken any form of distance learning prior to the workshop, and as such, it was assumed that these respondents would be entirely unfamiliar with the technology utilised within the study.

Students perceptions of the use of the platform were assessed both in terms of the preliminary aspects of its use (i.e. initial user setup, accessing the session, etc.) and the delivery of the session itself, and overall, were positive. With respect to the former, 90% of students reported that they found the initial preparation aspects easy to use, with all students indicating that communication regarding their access to the session was timely, easy to understand, sufficiently detailed, and facilitated their successful initial engagement with the platform. However, a much smaller proportion of the respondents agreed that the system worked well throughout the entire duration of the delivered workshop - further investigation of this aspect via analysis of open responses indicated that issues existed in relation to network stability, with a number of students indicating that their connection to the session was unreliable, requiring them to take remedial action, which in turn resulted in their missing of various aspects of the delivered presentation, leading to confusion and a reduction in their overall experience of the session.

Posed questions in relation to the delivery of the session itself were further divided into a range of themes, relating to the ease of use of in-session functionality, the perceived usefulness of these functionalities, the effectiveness of the session in comparison to a traditional local class, and the appetite for more teaching and support to be delivered via the use of the Mashme system. Student perceptions across each of the investigated themes were again strongly positive.

An average of 93% of respondents finding each of the in-session functionality aspects easy to use, and with all respondents agreeing or strongly agreeing that they found functionality such as viewing shared files, live polling, and virtual hand raising to be useful during the session. Further to this, 77.8% of students indicated that they found the ability to be able to speak to the remote presenter useful, with further analysis of open responses indicating that outcome was likely viewed less positively due to students' embarrassment or self-consciousness when speaking via the platform to both the presenter and their peers. Indeed, further analysis, complemented by observation of student behaviours during the session itself, indicated that students were often more comfortable using the text-based chat functionality to respond to, and ask, questions, as this removed the need for them to be heard, or seen on screen. Finally, 90% of respondents agreed or strongly agreed that the use of the Mashme system to deliver the workshop was useful, with related themes obtained from open responses including the ability to attend the workshop from their own abodes, the enhanced exposure to, and interaction with staff within the Belfast campus, and to be able to ask questions at any time during the session.

With respect to the overall effectiveness of the session in comparison to traditional, local "in-room" classes, 90% of respondents indicated that they found the delivery of the workshop via Mashme to be as or more effective than a traditional workshop, however a smaller number of respondents (56%) indicated that they agreed or strongly agreed that there should be more teaching delivered via the use of Mashme within their degree course. The disparity in these outcomes can be somewhat further explained via analysis of related open responses, with the most significant aspect being the reliability of the system with respect to network stability, which appears to have caused affected students a notable level of confusion and concern.

With respect to the operation of the workshop, responses gathered from the staff member responsible for the delivery of the session were also positive, with salient themes indicating that the technology was assistive, and effective in providing support to remote students, whilst also offering desirable levels of ease of use. Further commentary did indicate a number of drawbacks from the perspective of the educator however, with technical connection-related issues again being cited, in addition to aspects including student and educator unfamiliarity with the platform, which in turn was perceived as potentiating the difficulty of both the delivery and reception of the session itself. The staff member did also reference some students failure to communicate verbally via the Mashme platform, and indicated that whilst the text chat function was well used, simultaneous monitoring of this led to issues in terms of focus on the attainment of educational and developmental outcomes.

Successes | Challenges | Lessons Learned

Overall, this pilot study was successful, with students and educator alike responding positively to the use of the platform, and indicating that its use offered a range of developments over more traditional teaching approaches. This is encouraging, as these outcomes indicate that the use of such educational technologies may not only alleviate the challenges proctored by the delivery of training to remote centres, but indeed, may offer advantages over teaching approaches that involve teachers and students being present within the same classroom, and ensure that students can be fully supported in meeting stated educational objectives.

As highlighted, a number of issues do exist with respect to the utilisation of the Mashme platform, with a number of these being more related to the genre of communication, rather than the specific nature of this platform, and indeed, unique aspects of the system were positively received by both of the parties involved in the study. The most notable issue relates to the necessity for a stable network connection, which is unsurprising due to the nature of the platform itself, however, these outcomes do emphasise the need to ensure that, where possible, action is taken to provide students with appropriate internet access, including clear communication with students that they must avail of a suitable connection should they wish to access the system using an off-campus network.

Further to challenges relating to network connectivity, remaining issues do appear to relate to the unfamiliarity of the system, with this affecting staff and students alike. From the students' perspective, the ability to communicate verbally and appear on their peers' screens whilst doing so appears to offer a significant challenge, with students self-awareness leading to restrictive levels of embarrassment and self-awareness, however, it would be expected that such occurrences would be alleviated via enhanced use of the platform for teaching, and the associated increased in familiarity with this delivery approach. Likewise, the majority of concerns reported by the delivery staff appear to be related to unfamiliarity with the system and a lack of experience with its operation, and again, these concerns would be ameliorated with repeated used of the system, and a resultant increase in familiarity with various aspects of its functionality.

Scalability and Transferability

The nature of the system utilised here is as such that the main restrictions to use relate to the number of students who are able to simultaneously access delivered sessions - more specifically, 64 students can be accommodated at any point in time, which may mean that larger classes may necessitate grouping, and the operation of repeated sessions. However, where there is a rationale for the use of this system for the delivery of content, equivalent time and cost savings are offered in respect to the needs for travel, etc., to be negated, and as such, in most cases, the use of the system, even for repeated sessions, offer a range of efficiencies.

The system detailed within this work is extremely flexible due to its intended role as a replacement for in-room teaching, on occasions where this is not possible. As such, the range of functionality offered by the use of the Mashme system further complements standard classroom technologies, facilitating general aspects of teaching, particularly with respect to remote students.

It should be noted here that the Mashme system does offer further functionality, including, for example, the management of student groups, which, whilst not required within the work detailed here, may offer even greater levels of flexibility to educators who wish to make use of a range of education modes. Additionally, the nature of the system, and the environment within which it is placed provides educators with opportunities to educate local and remote students simultaneously, with an enhancement in outcomes for the latter group of students, with no perceived detriment to the former, and as such, may offer the potential for course designers to construct courses which can be delivered to home students, and via distance learning, without increased workload levels.

Whilst the use of the Mashme platform does offer significant opportunities for reductions in workload related to the delivery of multiple courses which may make use of common content, there are of course workload commitments with respect to staff training in the use of the platform, and more specifically, in the use of the interface which controls the various aspects of system functionality. However, in many cases, the time required to become proficient within the use of the system is expected to be negligible, as the user interface has so far been found to be exceptionally user-friendly.

A further restriction related to the use of this system in addition to investment of staff time relates to the availability of the system, and the need for the educator to be able to gain access to the physical aspects of the system in order to be able to operate their class. At present, one teaching space within the University is equipped with the necessary hardware, and as such, it is predicted that issues will arise in relation to room booking, and subsequently, timetabling of classes. However, this may be alleviated by the investment in further similar systems, should there be a robust use case.

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