

Bringing Them up to Speed: Teaching Scholarly Communication to New Graduate Students

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As the scholarly communication landscape becomes increasingly volatile, it is essential for new academics to be familiar with relevant concepts and issues. Librarians at institutions worldwide have responded to this need by providing scholarly communication training to their graduate students. At Hong Kong Baptist University (HKBU), librarians have been aided in this task by an institutional mandate requiring all graduate students to receive such instruction. This paper traces the development of the efforts of HKBU librarians in this space, from an initial offering of traditional face-to-face workshops to the program's current incarnation as an online course incorporating a required assessment quiz. Before detailing the rationale behind this evolution, a brief literature review is presented that situates HKBU's offering in a broader context.

Literature Review

In their recent review of the literature examining the role of libraries in developing the information literacy abilities of doctoral students, Ince, Hoadley, and Kirschner (2018) identified an understanding of the lifecycle of scholarly communication as one of four important skill sets. Providing training and development in this area can be a challenge for librarians. Graduate students tend to prioritise more immediately relevant topics such as accessing research materials, research data management, using citation management tools, and so on. A study by Fong, Wang, White, and Tipton (2016, p. 572) assessing the workshop needs of graduate students at Rutgers University-Newark found that out of seven suggested scholarly communication topics, only a workshop on "Publishing tips" received interest from more than 40% of the 233 graduate students that responded to the survey. Other topics (e.g., open access, increasing research visibility/impact, ORCID) attracted less interest. Lack of such training during their graduate studies could impact upon their future academic careers. Nicholas et al. (2017, p. 162) has found that early career researchers have low awareness of trends in scholarly communication such as open access publishing and repositories. By effectively introducing doctoral students to these topics during their studies, librarians can encourage future faculty members to stay up to date with the rapidly evolving scholarly communication environment.

How have librarians approached professional skills programming in scholarly communication for graduate students? McClellan, Detmering, Martinez, and Johnson (2017, pp. 549-551) provide a helpful summary of eight key examples. The most popular format for such programming is the stand-alone workshop, with five of the selected examples employing this methodology. Only one of the examples took the form of an online-only course. This was the online tutorial "Publish Not Perish" created by librarians at the University of Colorado-Boulder, which achieved popularity internationally. This prompted one of the creators to speculate whether such interest indicated the need for similar instruction among graduate students beyond their own institution (Kniesel, 2008, p. 183). The ability to extend the reach of instruction in this way is an obvious advantage of online tutorials, yet it seems that these are the exception rather than the rule. Returning to the key examples identified by McClellan et al. (2017), another commonali-

ty is the lack of formal assessment beyond standard workshop satisfaction surveys. The authors suggest that this can be attributed to the voluntary nature of such programming, as students pressed for time will likely be unwilling to complete detailed assessments. While high participant satisfaction is generally reported, formal assessment of learning would help ensure that program goals are indeed being achieved.

When considering format and assessment, it is also important to account for the diversity that exists within the graduate student population. Fong et al. (2016, p. 576) found in their study clear differences in the service needs of graduate students in the humanities, sciences, and social sciences. This aligns with the assertion by Kaufman and Fleming-May (2019, para. 1) that graduate students should not be "viewed as a monolith"; rather, the diverse needs within the various sub-groups must be recognized and catered for.

While there have been laudable efforts to meet the scholarly communication training needs of graduate students, there appears to be room for further development. In particular, tailored online tutorials with increased potential reach could be of particular value. Ideally, such efforts should incorporate rigorous assessment beyond satisfaction surveys to help ensure that program objectives are being met.

Background

In 2014, the Research Postgraduate Studies Committee (RPSC) of HKBU resolved to establish a "Mandatory Common Core Programme" for its research postgraduate students. Students are required to complete the program before confirmation of candidature, and it aims to equip them "with the necessary skills and knowledge to better prepare themselves for their academic career at HKBU and beyond" (HKBU Graduate School, 2019). The University Library was invited to design several non-credit bearing courses under the heading of "Research Support Skills." Two of these courses were geared towards introducing students to scholarly communication topics, and were delivered as conventional two-hour face-to-face workshops. These were assessed via standard satisfaction surveys.

While the results indicated that the sessions were well-received, over the years librarians identified a number of challenges inherent to the face-to-face mode of delivery. These included:

- Lack of assessment: Students fulfilled the requirement for these courses by simply attending them. Although librarians incorporated engaging pedagogies into their workshops, the results of informal in-class activities could not serve as a rigorous assessment of whether learning outcomes had been achieved.
- Diversity of student research experience: Librarians observed a wide range of prior knowledge in graduate students, ranging from experienced researchers with a dozen articles under their belt to neophytes that struggled to identify a correct definition for peer review. Ensuring that sessions were engaging for those with experience while at the

same time not leaving newcomers behind was an often impossible balancing act.

- **Student convenience:** Graduate students are time-poor, juggling myriad teaching, research, and personal responsibilities, all the while trying to make progress on their theses. This can make required non-credit bearing sessions, even useful ones, appear onerous in their eyes. Although the Library sessions were mandatory, students were often absent, resulting in their having to make up the requirement later in their studies.

In 2017, librarians decided to try and address these challenges by shifting to an online-only mode of delivery. This would clearly make it more convenient for students to complete the requirement. The proposed modular design would also address the challenge of diverse student experience. Students with prior knowledge of some concepts could focus their attention on only those topics with which they were unfamiliar. While these were welcome benefits, librarians were most enthusiastic about the prospect of a summative assessment. A well-designed assessment could provide better evidence of graduate student knowledge, and would certainly be more robust than an attendance requirement.

A proposal to replace the two face-to-face workshops with a new online course entitled “Introduction to Scholarly Communication and Publishing” was submitted, and approval was received from the RPSC early in 2018.

Developing the Course

Online course materials were developed over the summer of 2018 in a collaboration between instruction librarians and HKBU’s scholarly communication librarian. The course was hosted in the University’s learning management system, Moodle. A modular approach was taken, as it was intended for students to be able to easily pick and choose to review content that

was unfamiliar to them. After discussion, the following structure was adopted:

- Module 1: Defining scholarly communication
- Module 2: The scholarly publishing process
- Module 3: The open access movement
- Module 4: Predatory publishers
- Module 5: Assessing research impact - Bibliometrics and altmetrics
- Module 6: Creating a personal publication strategy

Each module is introduced by a two-minute video delivered by a different HKBU librarian, to take advantage of the opportunity to get students familiar with the faces of their librarians. The content itself consists of librarian-authored content alongside selected readings and multimedia. Figure 1 provides an example of how this is presented to students. While students were expected to be able to go through all of the modules in about four hours, further readings were provided for each module in case students were interested in exploring particular topics in greater depth.

Once the module content was complete, work began on designing the assessment task. Both the need for rigor and the practicalities of assessing over a hundred students per year were taken into account. A twelve-question online quiz was developed, and these were a mix of true/false, multiple choice, and drag-and-drop question types. Feedback was built into each question, as shown in the example provided as Figure 2.

As such a quiz does not require grading, students receive their result and feedback on each question immediately. One concern with this design was that students might be tempted to simply brute-force the quiz by taking it again immediately following a quick failed attempt after taking note of the correct answers, without actually reviewing any of the course material

Figure 1: Screenshot of Module 4 Main Content

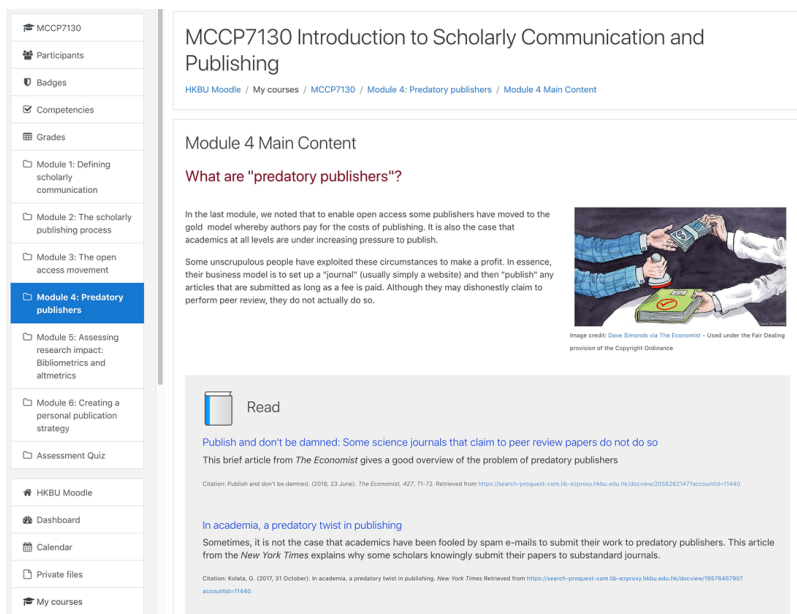
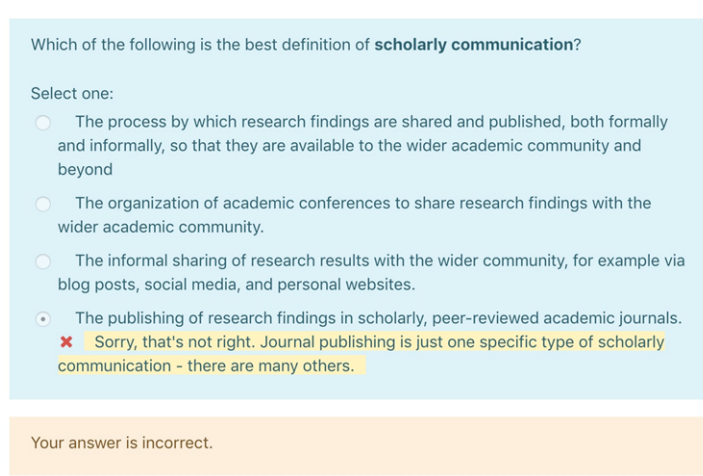


Figure 2: Example of Assessment Quiz Question and Feedback



or the feedback from the quiz. To encourage students to work through the material as intended, a two-week delay was enforced between quiz attempts).

Results and Student Feedback

The course was launched in October 2018, and was available for students to complete through to 30 April 2019. Given the lack of in-person interaction with the students, it was important to monitor the extent to which they were engaging with the course. As HKBU is using version 3.5 of Moodle, built-in analytics reports can be generated. The summary presented as Figure 3 (*see page 9*) shows that most students accessed the main content of each module, although there is a noticeable decline from Module 1 through to Module 6. As might be expected, access to the further readings was significantly lower than that of the main modules.

While a useful indicator, access data are inherently limited in that they provide no insight into whether students have engaged with the content and achieved the course intended learning outcomes. The most valuable assessment piece is the summative quiz that students needed to pass in order to fulfil the course requirement. One hundred and three students passed the quiz, and most were able to do so on the first attempt. Thirty-three failed attempts were recorded, and in three cases students needed three attempts before passing the quiz. Moodle also provides information on the time taken to complete the quiz, and most students recorded a time of around 5-10 minutes. This aligns with the design of the course, with students expected to first go through the course material and then be able to complete the assessment relatively quickly. A few students recorded completion times of thirty to sixty minutes. This suggests that the student was “working to the assessment,” i.e., looking specifically for the answers to the quiz questions in the course material. While this was not the intended way for the course to be completed, these students still achieved the course learning outcomes. Overall, librarians were far more satisfied with the quiz results as evidence of learning compared to the workshop attendance requirement of previous years.

At the end of April 2019, students enrolled in the course were asked to provide their feedback via a brief survey conducted online using the Qualtrics platform. Out of 124 students enrolled in the course at that time, 38 responded to the survey (for a response rate of approximately 31%). Librarians were most interested in gauging student opinion on the move to an online-only format. Thus, one survey question briefly outlined the former requirement to attend face-to-face workshops, and asked whether they preferred the new arrangement of online material plus the assessment quiz. A clear majority of respondents (76%) reported that they preferred the online course. A similarly large majority reported that the course was useful, with 76% of respondents also indicating that the course was either “moderately” or “extremely” useful. Cross-tab analysis showed that preference for online/face-to-face workshops did not correlate with how useful students found the course content.

Conclusion

This paper has briefly described an attempt to provide scholarly communication training for graduate students that is scalable to the institutional level and addresses the shortcomings of voluntary workshop programmes that lack assessment beyond satisfaction surveys. The following recommendations are made for practitioners interested in implementing a similar solution:

- Institutional support for making such training a requirement for graduate students is an essential prerequisite for success.
- Adopt an online modular course design to cater to diverse levels of prior knowledge among new graduate students.
- Calibrate assessments to encourage student engagement with course content, for example by enforcing a delay between quiz attempts.

HKBU librarians are encouraged by the results of this first iteration of the Introduction to Scholarly Communication and Publishing online course, in terms of both the assessment results and the feedback received from the satisfaction survey. However, the preference of a sizable minority for face-to-face instruction provides food for thought. In the words of one student respondent to the survey, “A real teacher is better than the computer.” Looking forward, the library may consider arranging topical workshops for those students interested in exploring the concepts introduced by the course in greater depth.

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rolled at UNLV, and UNLV Libraries promoted the event on the website and via social media, but we still heard from students who said that they would have participated in the Symposium if they had known about it. We plan to involve our Student Veteran Organization in promoting the Symposium in the future, in hopes that hearing about the event from other students might make it more appealing for potential participants.

We held workshops to give students additional support as they wrote their proposals and planned their presentations. These were too sparsely attended to justify continuing them in the future. Student feedback indicates that students value the tips and examples we sent via email, so we will continue to provide asynchronous support. We will also emphasize contact information for the Libraries and the Writing Center, so that potential presenters can schedule individual appointments as they see fit.

Consider the optimal size for your planning team. On the one hand, a large team means that each individual needs to do less and helps to cultivate broader buy-in for the event. But having too many people can make scheduling and planning unwieldy. We plan to have a smaller planning team next year but still encourage buy-in by asking a larger group to volunteer to review proposals, serve as judges, and help staff the event.

Next Steps

We plan to make this an annual event, and in the next iteration will rely more on student veterans themselves to plan and run the Symposium. We asked participants in 2019 if they would be interested in helping to plan the event in 2020—we will likely have two or more students play an active role in recruiting peers to present their research, recruiting judges, spreading the word about the event, and managing the event itself.

As the Symposium program grows in the future, we would like to see student veterans take over the bulk of planning and implementation with guidance from a faculty or staff advisor. Behind-the-scenes experience in conference planning is an important professional development opportunity for many of our students. We look forward to seeing how the student veterans build on the symposium program as they make it more completely their own.

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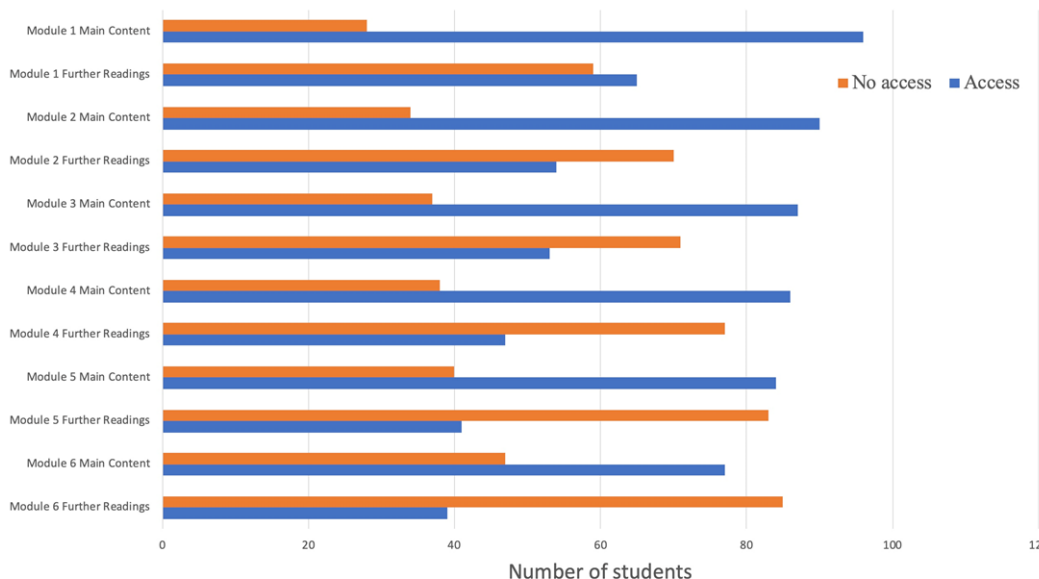
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Figure 3: Distribution of Student Access to Module Content



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