Teaching Information Literacy Skills During the COVID-19 Pandemic: A Case Study of T.J. Danaraj Medical Library

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ABSTRACT

Due to the COVID-19 pandemic, online learning, blended or hybrid provision has become the "new normal" in higher education. A new mission is emerging for academic librarians involved in the delivery of information skills sessions, addressing access and connectivity to resources, designing for online education and fostering student digital literacy development. This is an observational study based on the medical librarians' personal experiences and subjective opinions. This paper shows how the medical library changed their practices in enhancing the library skills during the COVID-19 emergency as to provide user-friendly services, researcher support tailored needs as well as to impart knowledge on information literacy (IL) to undergraduates and postgraduates during the pandemic. This paper also highlights the areas of importance for the design and direction of information literacy post pandemic. The evaluation method such as pre and post-test and usage statistics, are used in this study to evaluate the impact of each information skill session. The findings show that there is positive feedback from the undergraduates towards the courses and the level of knowledge of the postgraduates regarding library skill improved after the information skill sessions. There are new norms of interacting with students via Telegram and WhatsApp. In conclusion, this is a part of a new series in this regular feature regarding trends in the provision of information by health science libraries. By sharing expertise and drawing together relevant trends the series intends to serve as a road map for both health science librarians and health informatics professionals.

Keywords: Information literacy; Observation paper; Medical libraries; Academic libraries; Health sciences librarians.

INTRODUCTION

The pandemic has taken the world by storm and the unprecedented health crisis brought on by the coronavirus has disrupted the entire world. As many countries moved into varying degrees of lockdown in 2020, the higher learning institutions were forced to close and work remotely while events were canceled to limit the spread. Malaysia too had imposed the Movement Control Order and initially, it was for two weeks but was further extended for several months with different levels of movement control to minimize the risk of the outbreak.

Since face-to-face contact is not possible, universities and colleges had to resort to providing lessons virtually in full force. Before the pandemic, most higher learning institutions have started to implement a blended learning approach where both online and in-person learning experience when teaching students is practiced. However, when the regular academic methods are disrupted, online instruction appears to be the only feasible option to support teaching, learning, and research. Even though many are ill-prepared and not adequately trained, they had to adapt to new working conditions as a response to the crisis.

Martzoukou et al. (2020) said that the pandemic has created a slew of complex and ongoing challenges in higher education, including the implementation of remote tools and practices in online teaching and learning in a way that ensures accessibility and equity for all, issues related to online pedagogy, and how to prepare students with the information and digital literacy competencies required for the new online environment. COVID-19 has turned institutional fear of online learning into something eminently feasible. This will be enormously empowering for the university. Therefore, the objective of this article is to study the impact of each information skill session by conducting pre and post-test and usage statistics.

Library's Information literacy programme at T.J. Danaraj Medical Library

Since 1998, the University of Malaya Library (UML) has made it compulsory for all undergraduate students to sign up for the Information Skills Course (GXEX1401). It is a one-credit-hour course with a 14 hours lecture at the computer lab with internet access (Edzan N.N. 2012). Over the years, this course has been revamped to include a blended learning approach. It consists of web-based technology (online assignments, video, slide, online test), pedagogical approach with group discussion, and instructional technology with face-to-face training led by librarians. Under the course code GIG1004, it is one of the University's core courses and students must pass this course to fulfill the degree requirement [University of Malaya (First Degree Studies) Rules 2019 University of Malaya (First Degree Studies) Regulations 2019: Part VI: Structure of Programme of Study, Course Components and Schedule A, Regulation 7(1) Requirements for Graduation].

This course is designed to give students the skills they need to find information on their own using the Library's IT system. The skills obtained can be applied not only on campus but also in other areas of lifelong learning. Students are trained and guided on using the computer and IT systems such as Pendeta Discovery (Library Catalogue), Online Databases, and the Internet to search for information. This course will also develop student information management skills and become effective and efficient users of information. These essential skills will contribute to academic success as well as create a foundation for lifelong learning. Therefore, this course focuses on the strategic use of information and references sources in various formats. Evaluation of information gained, and the preparation of a reference list is also emphasized.

The postgraduates consist of Masters and Ph.D. candidates recommended to attend the Information Skills Session for two hours. During these sessions, library resources related to health sciences were highlighted, and different methods of searching were shown to the students. The postgraduates were also taught how to use EndNote, the reference

management software to manage bibliographies and references when writing reports and articles, and Turnitin, a tool to help prevent plagiarism. The Information skill session is a special session for postgraduate students in the three faculties. Unlike the GIG 1004 class, this session is not a compulsory class to attend. However, this session is available throughout the semester. The class is designed to equip postgraduate students with research skills that will help them to search for information independently using library services and facilities. It divulges the systematic ways to search for a scholarly article using library platforms. Some of the online services including inter-library loans, document delivery service, and plagiarism checker were elucidated during the class. The class also teaches the student how to manage references by using EndNote software. Some of the important tips on managing references by regrouping the citation and cites as they write were demonstrated during the class. The library also offers a systematic review session for those who are conducting systematic review research. The librarian will teach them how to develop search strategies and be used as a search statement. They also introduce several related databases and platforms to be used when conducting a comprehensive systematic review study. The last module that is included in the information skill session is the literature review class. This class equips students on how to write a proper structure of the literature review by also referring to the basic references in the library. The librarian will explain to the students how to use subject dictionaries, thesaurus, almanacs, and many more. The element of the information in those references will help the students to create a persuasive writing style in their literature review.

In recent years, many faculties have added Research Methodology as a mandatory induction course to introduce postgraduate research, make use of and evaluate a variety of research tools and methodologies.

A team of researchers and a librarian created the Literature Search (http://acord.my/RLOs/literature-search) reusable learning object (RLO) in early 2020 to support eLearning and teach students how to search for literature to answer clinical and healthcare-related questions. It is a practical and interactive open-access online resource in which students are first presented with a clinical scenario to activate their learning; then guided with images, demonstration videos, quizzes, and interactive activities to facilitate their learning of literature searching concepts and skills; and finally, apply the knowledge gained to search for the answer to the clinical scenario in a medical literature database.

In the first phase of this project, a survey of University of Malaya (UM) students and lecturers was conducted to identify the topics to develop into RLOs, and a literature search emerged as one of the top topics chosen. To begin with, librarians and evidence-based medicine experts who teach literature search subjects were gathered to contribute to the content of this RLO, which aims to teach students how to search for literature to answer clinical and healthcare-related questions. Following the ASPIRE RLO development framework, the storyboard was created, the specifications were filled out, and the prototype was reviewed by a medical student, an evidence-based medicine expert, and an eLearning expert before it was released for use in teaching.

At T.J. Danaraj Medical Library, a library component was included in these programmes and the librarians are invited to give talks on library skills during the scheduled slot to health sciences students. The paper aims to highlight various approaches undertaken to

impart knowledge on information literacy (IL) to health sciences undergraduates and postgraduates (from the Faculty of Medicine, Dentistry, and Pharmacy) during the pandemic and to highlight areas of importance for the design and direction of information literacy post-pandemic.

LITERATURE REVIEW

Academic libraries are critical to their institutions' teaching, learning, and research activities. The libraries exist to enable and enhance learning in all of its forms, whether it is the learning of a first-year undergraduate grappling with the meaning of higher education or the learning of a Nobel Laureate seeking to push the boundaries of her discipline (Brophy 2005). While the services and facilities were once designed with library operations and service delivery taking precedence over pedagogy, this is no longer the case (Bennett 2015), and, as a profession, the librarians have been complicit in being labelled as "non-academics" and accepting their roles as "supporting" learning. However, in today's digital environment, it is becoming increasingly clear that libraries and librarians have a significant role to play in learning and teaching in a rapidly changing global higher education sector. For decades, learning and teaching have been central to academic libraries' mission (Aldrich 2007; Bangert 1997; Wadas 2017). However, the way libraries fulfil their educational responsibilities is constantly changing in response to changes in pedagogy, technology, the economy, society, and their parent institutions' policies and strategies. Case studies of new and improved library practices have also resulted from advancements in information literacy, instructional design, peer-assisted learning, and open educational resources (Godbey, Wainscott, and Goodman 2017; Jacobson and Mackey 2017; Rinto, Watts, and Mitola 2017; Walz, Salem Jr, and Jensen 2016).

Lambert (2020) had suggested that during COVID-19, higher education institutions discovered that the technology exists at scale and in affordable forms to support high-quality online learning, and few methodologies are simple enough for their faculty to follow. There is live (synchronous) learning, recorded (asynchronous) learning, and numerous hybrids of the two. Zhao (2019) suggested that entry-level postgraduate students required additional information literacy training, possibly through an information literacy credit course or intensive one-on-one instructions that increases collaboration between libraries and faculties to integrate effective library-led information literacy into graduate course instruction would greatly benefit graduate students research and overall academic performance.

Information Literacy

The Association of College and Research Libraries defines information literacy as "the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning (Association of College and Research Libraries 2015). Information literacy (IL) is a set of seven skills: identifying (recognize information need), scoping (distinguish ways of addressing information gap), planning (create strategies for locating information), gathering (locate and access information), and assessing (compare and evaluate

information), managing (organizing, applying, and communicating information) and presenting (synthesizing and creating information) (Bent, Stubbings, and Sconul 2011). An information literate person, according to CILIP, is one who understands the need for information, the resources available, how to find information, the need to evaluate results, how to work with or exploit results, ethics and responsibility of use, how to communicate or share one's findings, and how to manage the findings (Chartered Institute of Library and Information Professionals (CILIP) 2004). This means that an information literate person can identify, access, locate, use, and communicate information in/via computer systems, traditional libraries, tools or technological machines, networked structures, the Internet, and graphic media. This can be further defined as a person's, in this case, a student's, ability to effectively use computer systems, libraries, electronic gadgets, the Internet, printed and published resources to determine, find, assess, arrange, use, and communicate information in both formal and informal settings. It is a set of skills that transforms students into lifelong learners. However, information literacy skills must be supplemented with a solid understanding of how information systems work, as well as an understanding of the various information sources and/or channels for meeting specific information needs.

Information Literacy initiatives

It is one of the core services of academic librarians to promote information literacy among students and staff in the university. Information literacy skills are foundation knowledge in any discipline and level of education. Previous experts including Chanchinmawia and Verma (2018) and Thanuskodi and Practice (2019) believed that information literacy is an essential skill for lifelong learning. Information literacy skills enable students and staff to master certain disciplines. Information literacy skills help students and staff to be more self-directed to access information and empowers students to be more confident to seek information (Thanuskodi and Practice 2019; Saptasari et al. 2019). The programme is designed to help students and staff in the university to be able to evaluate, search, use and create accurate information. The information literacy session has become a core activity in most of the academic libraries in the university. The module of information literacy is designed according to the courses offered in the university. The information literacy module for undergraduates and postgraduates is a design based on the information that the students usually need. In Taylor University Malaysia, there are five options of classes to choose including 1) route to resources, 2) down with databases, 3) research 101, 4) evaluating resources, and 5) cite it right (Taylor's Education Group 2021). According to Lela Ruzma Mohd Shaari, Harith Faruqi Sidek, and Saizimah Badzri (2012), a different information literacy initiative approached taken from the UKM library, whereby there is special library talk to new academic staff, and new students both undergraduates and postgraduates. Some universities design a special module for postgraduates, for example, Universiti Teknologi Malaysia Library provides a thesis writing class for their postgraduates. The librarian has also been asked to provide intellectual property training as part of the information literacy initiative (Dimitrova, Zdravkova, and Planska-Simeonova 2020).

The pandemic COVID-19 has transformed the information literacy initiatives in the university conducted in fully digital. Before the pandemic COVID-19, most of the literacy initiatives were conducted face-to-face or hybrid. The new norm of teaching and learning during this pandemic has forced librarians to be fully available online or in digital format.

Today during the pandemic, online learning is the most effective platform to engage with the students and staff. The sessions were conducted via Google Meet, Zoom, teams, and many more. However, librarians and students today face an invasion of information resources daily, as well as the challenge of utilizing these resources effectively and responsibly. The self-directed search for information also contributes to information overload among students in the university (Chanchinmawia and Verma 2018). Therefore, it is important to measure the effectiveness of the literacy initiative programmes in the library. The research finding will help librarians to identify the strength and weaknesses of the literacy initiative. The assessment helps the librarian to understand students' needs and what areas to focus on (Lwehabura 2018), (Okeji et al. 2020). There are several methods adopted by most of the librarians to measure the effectiveness of their literacy initiative. Surveys and interviews are the most frequently used to measure the success of the initiatives. Some librarians refer to the established guideline including Association of College & Research Libraries (ACRL) to prepare the measurement (Emmett and Emde 2007).

METHODOLOGY

There are various methods used to measure the impact of the literacy classes in this study. They are the pre and post-test questions, and page view statistics approach. Participants were health sciences undergraduate, postgraduate students, researchers, and academic staff of the Faculty of Medicine, Dentistry, and Pharmacy. This study was conducted from March 2020 till February 2021 in the Faculty of Medicine, University of Malaya. The methods used to measure the impact of the classes for undergraduate and postgraduates are as follows:

Undergraduate students

The evaluation for the undergraduate literacy classes is using pre and post-tests to test their knowledge. The course and course facilitators used Course and Teaching Evaluation System CTES.

Postgraduates students

  a. The Information Literacy and Research Methodology Sessions

Information Literacy and Research Methodology sessions consist of the Systematic Review Search, Endnote, Online Databases, and Introduction to Library. Therefore, the impact of these sessions has used the pre and post-test questions. Participants were given 10 minutes to complete a few questions before and after the session.

  b. Reusable Learning Object (RLO)

The ASPIRE framework's final component is 'evaluation.' When implementing eLearning resources, evaluation is an important step to take so that the eLearning resource can be improved continuously to maximize its impact on students.

The evaluation plan includes the following components: 1) an assessment of pre-and-post-RLO using knowledge and confidence; 2) a feedback survey, and 3) usage analytics using Google Analytics (GA) to measure user profile and number; user acquisition and user behavior. There are five pre and post-questions to measure the impact of their knowledge before and after using the RLO.

c.   Medicine Libguides

During the pandemic, three Libguides pages were created and designed to assist the medical students and researchers to help them to find resources related to Medicine. These Libguides were used in teaching as an example of resources and platforms on how they can apply the resources in their studies and research.

Firstly, the Libguides: Medicine https://umlibguides.um.edu.my/medicine that contains lists of information sources to help answer the questions. Each consisted of the best sources for finding articles and facts for topics of interest to faculty, students, clinicians, and other researchers. Under this, the Dean of the Faculty of Medicine has also suggested providing a page to support remote teaching and learning in medical education, including open-access resources and several online resources from the library collection. Therefore, the Medical Education Remote Teaching Resources have been created.
Secondly, the COVID-19: Clinical Ethics Resources for Healthcare Professionals, Bioethics & Academics https://umlibguides.um.edu.my/covid19ethics provides a compilation of resources on clinical ethics of COVID-19. Its goal is to help healthcare professionals make decisions about pandemic patients. It is a Malaysian initiative coordinated by Clinical Ethics Malaysia (CEM). CEM is made up of an independent team of experts from various healthcare and higher education institutions in Malaysia, including clinical ethics.

Thirdly, the COVID-19 Evidence Retrieval Services (CERS) is a platform designed to help clinicians by retrieving the best available evidence on COVID-19 https://umlibguides.um.edu.my/covid19. A team of evidence-based medicine experts, librarians, doctors, and medical students provide this service. This guide was used to share the medical students on evidence-based practice. It also provides resources and information on the outbreak of coronavirus (COVID-19) for students, researchers, and clinicians at the University of Malaya. The page view for all the pages has been captured from January 2020 till April 2021.

RESULTS AND DISCUSSION

The pandemic COVID-19 had to change the way classes were conducted in the library. Previously most of the classes were conducted in physical class where there is a special lab provided by the faculty for the GIG 1004 information literacy class for undergraduates. Similarly, information skill class is also conducted face-to-face in the T. J. Danaraj Library's computer lab. Some researchers also prefer to make an appointment to meet the librarian personally if they need special information skills consultation with the librarians. The pandemic had forced teaching and learning sessions to be conducted virtually. Undergraduate student's course outlines, notes, quizzes, and tests were posted and conducted via UM SPECTRUM. The class was conducted via several platforms including, Google Meet, Microsoft Team, and Zoom. The same platform was used to conduct

information skill sessions for postgraduate's students. The Endnote, literature review, and information skills class were conducted virtually via those platforms.

Facilitators were given the option of conducting three live classes using any platform they are familiar with, such as Google Meets, Microsoft Teams, WebEx, Skype, and others. Some facilitators created a WhatsApp and Telegram group to help with communication throughout the semester. Students can also contact their facilitators through the message and forum functions of UM Spectrum, as well as UMMail.

The outcome evaluation of the literacy classes for undergraduates

A total of 174 medical students and 50 dental students were involved during course evaluation for the GIG1004 Information Literacy Class. Six criteria were analysed including the relevance of the programme of study, three-question related to course content, knowledge enhancement, and intellectual skills. The assessment measured the satisfaction towards the course. Five Likert scales were adopted namely; strongly not agree, not agree, natural, agree and strongly agree. Figure 1 shows the research finding on the course evaluation.
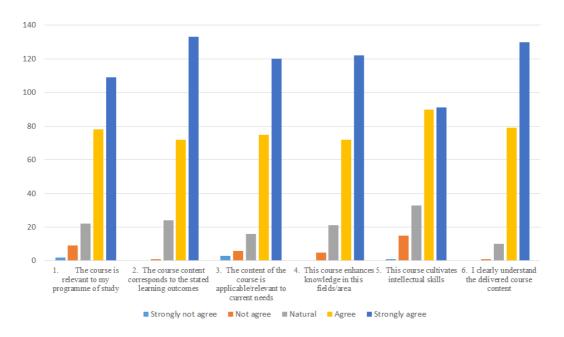

Figure 1: GIG1004 course evaluation

A total of 222 students were involved in the course evaluation. The students were asked to specify the level of agreement towards given statements in the survey. Eventhough the class was fully conducted in the online format, most of the students still find that the course is relevant to their programme of study. The method of class does affect the student to identify the importance of the course. Besides that, the students also agreed that the course content corresponds to the stated learning outcomes. Moreover, the online class didn't affect their understanding of the applicability of the information literacy class towards their current needs. The student also on the other hand,

unanimously agreed that this course enhances their knowledge (class A 52%, class B 53%, class C 67%, class D 60 %, class E 49%, and class F 72%). The positive feedback was also recorded for question number five. Most of the students choose to agree and strongly agree to the statement whereby the course cultivates their intellectual skills. For the last question, the students were asked whether they understand the delivery of the course content. The finding shows that the students unanimously understood the delivered course content without any problems. It shows that undergraduates students didn't face any major problem studying in online method due to the pandemic COVID-19. Other studies also found that there are no negative impacts using online learning on the students' performances and no significant difference in gained theoretical knowledge between these students (Franklin et al. 2021; Muthuprasad et al. 2021; Kratochvíl 2014).

The outcome of the literacy classes for postgraduates

Besides undergraduate students, this study also measures the feedback from the postgraduate students in the faculty. A total number of 66 postgraduate students registered for the information skill session during the pandemic. There are three main information skill classes offered to postgraduate students, namely Endnote and APA 7th class, Information literacy programme (library website, Pendeta Discovery, and A-Z databases), and Literature review class. Students who attended the class were required to complete the before and after feedback forms. Figure 2 shows the average research finding before and after attending the course. It shows that there is a sign of an increase in terms of knowledge after attending the courses. The results show that online class does not affect postgraduate students to understand each of the courses offered by the librarians.
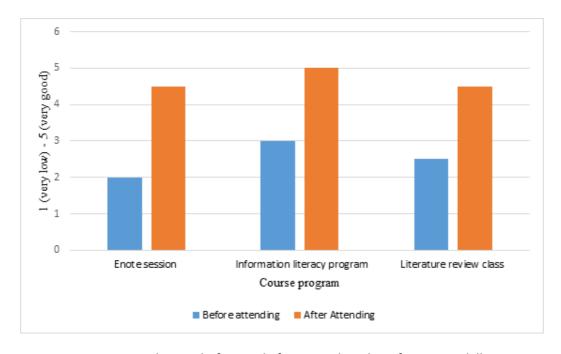

Figure 2: Course evaluation before and after attending the Information skill session namely, Endnote session, information literacy programme and literature review class.

This study also examined students' ability to use Endnote software, the ability to import and export citations into Endnote, the ability to cite while writing, and the ability to

understand the latest APA citation style, APA 7th edition. The research finding is presented in Figure 3.

Figure 3: Course evaluation before and after attending the Endnote class

The finding presented in Figure 3 shows that, on average, most postgraduate students can understand the Endnote session. Even though the class involves third-party software and some technical process, the online class does not stop postgraduate students from gaining their knowledge on Endnote and citation style. The finding clearly shows that online class does not affect undergraduate and postgraduate students to comprehend the courses.

The outcome of the Research Methodology Classes for postgraduates

A short survey was distributed before and after the Research Methodology class which was attended by 42 students. It briefly tested respondents' knowledge pre and post session including several questions on the effectiveness, usefulness, facilitators' presentation and the preferred method of delivery.

When asked what was used to search for printed books available in the library collection, Figure 4 shows that this knowledge doubled after attending the session.
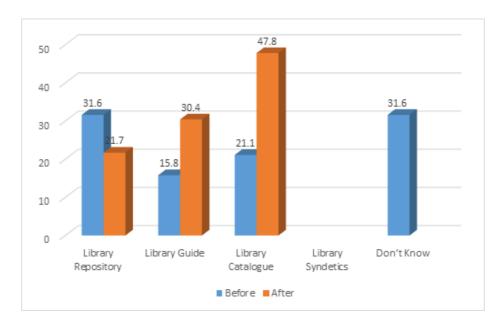
Figure 4: Pre and post questions regarding library tools

Students were then asked to name medical databases that they are familiar with. Initially, most of the students mentioned that they have heard of Cochrane and EMBASE as displayed in Figure 5. Post-session showed that there was an increase in databases such as OVID and ProQuest.
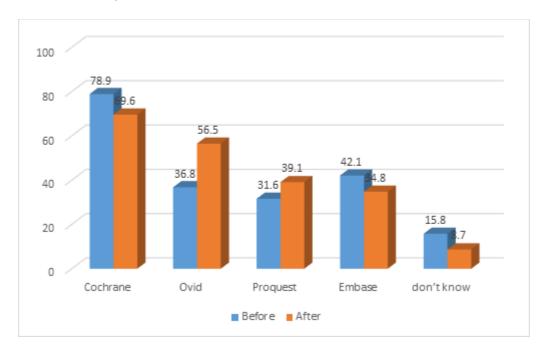

Figure 5: Pre and post questions on Medical databases

Students were then tested on their knowledge of predatory journals, how they can be harmful and were requested to select the incorrect answer. Choices given were i) your work could disappear ii) your work could be difficult to find iii) your profile could be exploited iv) you could lose the opportunity to publish your research in a credible journal

5) your impact factor in ISI could increase. The correct answer is 5 which shows that there is a 12.4% improvement after the session as shown in Figure 6.
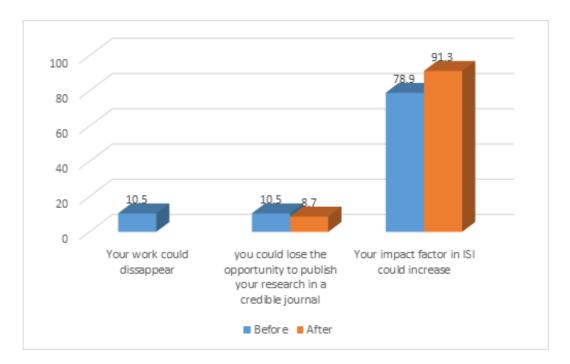

Figure 6: Pre and post questions regarding predatory journals

Subsequent questions asked whether the session was effective and useful to get the relevant information and then they were asked to rank the facilitator's overall presentation.
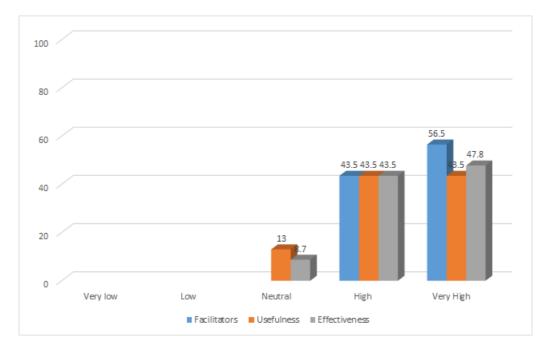

Figure 7: Effectiveness of the literacy session

For the final question, the students had to select the preferred mode of delivery. 69.6% preferred online while 30.4% still favoured physical interaction. A study by Bordoloi, Das, and Das (2021) observed that half of the respondents preferred blended learning, then only 22% preferred online learning and the rest preferred offline learning.

The outcome of using Reusable Learning Object (RLO)

Our preliminary findings showed that there was a significant increase in the knowledge score (six questions on literature search concepts) from pre- (mean=5.00, SD=1.2, n=108) to post- (mean=5.76, SD=0.60, n=59) RLO usage as Mann-Whitney Test revealed p<0.001. The confidence score (Likert scale 1 to 5 on user's confidence to search for literature to answer clinical questions) also significantly increased from pre- (mean=2.68, SD=0.97, n=37) to post- (mean=3.47, SD=0.99, n=15) RLO usage with Mann-Whitney Test showing p=0.018.

Based on the feedback survey, all responding users (n=38) would recommend this RLO to others, with the 'RLO being helpful' mean score of 4.79 (Likert scale 1 to 5). The main qualitative comments on 'what did the users like most about this RLO' reported is that this RLO is simple and easy to learn. The RLO has the following features such as mobile-friendly and available in digital format, reusable which means that it can be used time after time, support the learning objectives which is to explain the importance of search strategies in looking for relevant information using the health databases, offer bite-sized information that online learners can absorb quickly and effectively (Koh 2017).

The GA showed an intermittent increase of users over the months, which coincide with teaching sessions. Most accessed the RLO using a direct link provided by the lecturers. The RLO has accessed 655 sessions but only 91 (13.9%) sessions had completed all pages.

The outcome of using Libguides

There are three Libguides content that was designed for the students; the Medical Education Remote Teaching Resources, Clinical Ethics Resources for Healthcare Professionals, Bioethics, and Academics. These are information-sharing systems designed specifically to allow easy navigation for providing relevant resources in specific subject areas created by the Medical Librarians.

i)   Medical Education Remote Teaching Resources Libguides

The guide includes open-access resources and several online resources from the library collection to support remote teaching and learning in medical education. It is considered to be a "living" resource that will change continually and to which each faculty member may contribute ideas, experiences, questions, resources to the librarians to update the content.

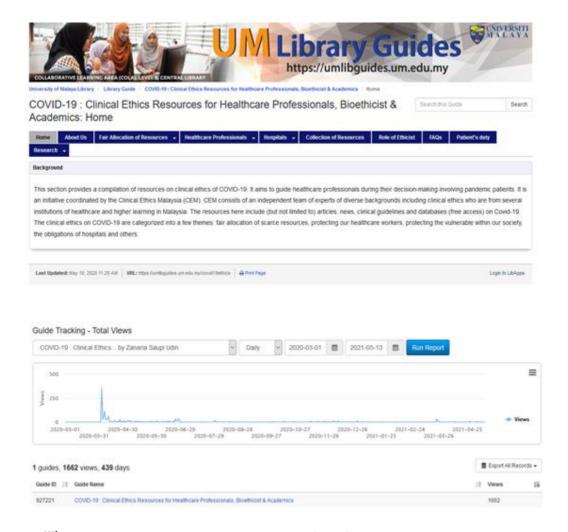Figure 8: Medical Education Remote Teaching Resources Libguides

Table 1 shows that there are high views since the pandemic started in March 2020. The medical librarians with the faculty members have been using this platform in their teaching. The medical librarians have introduced this page in the literacy sessions to the medical students, lecturers, and researchers and received good feedback verbally. These resources will be updated from time to time. It is designed so that the faculty members can refer to this page as a one-stop center for them to access all free teaching resources.

Table 1: Number of views for the past 16 months

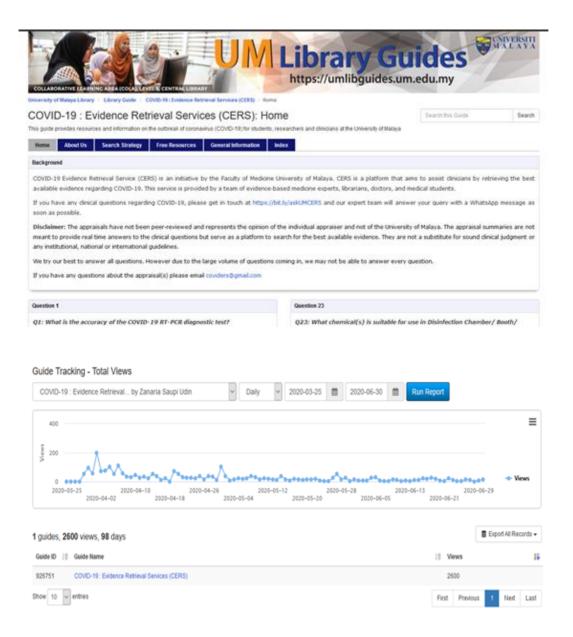| Year	2020												2021				
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mac	Apr	Total
Number of views	91	75	291	173	99	449	388	113	130	282	277	251	163	183	344	286	3595

ii)   Clinical Ethics Resources for Healthcare Professionals, Bioethics and Academics

This guide provides a collection of COVID-19 clinical ethics resources. Among the resources available on COVID-19 are articles, news, clinical guidelines, and databases (all of which are free to use). COVID-19 clinical ethics are divided into several themes, including fair resource allocation, protecting our healthcare workers, protecting the vulnerable in our society, hospital obligations, and others. There were 1662 views within 439 days and it shows that this page is being referred to. The medical librarians will also introduce this page as an example of resources that they can refer to.

iii)   COVID-19 Evidence Retrieval Service (CERS)

COVID-19 Evidence Retrieval Service (CERS) is a platform designed to help clinicians retrieve the best available evidence on COVID-19. A team of evidence-based medicine experts, librarians, doctors, and medical students provides this service. There were 2600 views within 98 days when the pandemic started. The medical librarians used this guide as an example to show the students the process of evidence-based practice (EBP). This service is no longer available, however, there are many examples that the librarians can use to explain to them from the beginning of the process of EBP till the end of the process which was displayed on this page.

CONCLUSION

The COVID-19 pandemic crisis has the potential to set a new standard for academic libraries, requiring them to make timely and critical decisions in support of online learning for students. These challenges may provide more opportunities for health sciences librarians to promote their value and become integral to the goals of their institutions. Transition to online learning and remote work has prompted increased access to and use of library online resources by students, faculty, and researchers seeking to maintain a sense of normalcy in their daily routine at the four academic health sciences libraries. The transition to online learning and remote work at the Medical Library has acted as a catalyst for increased access to and use of library online resources by students, faculty, and researchers who are attempting to maintain normalcy in their daily routine. To meet emerging needs in a rapidly changing environment, librarians must remain proactive, flexible, and agile in providing library services and managing library processes,

procedures, and policies. To stay healthy, productive, and creative, it is necessary to be able to quickly adapt to new technologies and the new normal, as well as to practice good self-care and attend to one's own emotional, social, and physical health needs.

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