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Camia Lasig, Nuelah Reyes, Roselyn Madia, Richie Garabiles, & Vanessa Morales

Abstract:

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Students' Information Sources and Information-Seeking Challenges: A Post-Pandemic Assessment

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ABSTRACT

Academic libraries play a pivotal role in developing strategies to improve access to information, promote literacy, and offer support to students, particularly during unexpected events such as the pandemic. This study aims to identify the sources of information relevant to students' course research and assignments, the challenges they face, and their coping strategies. The study employed the quantitative method and purposive sampling to include students who visited the library during the limited in-person classes. The study's findings revealed that students rely heavily on the modules provided by faculty members. The majority of students found the lack of access to physical information resources, such as books, journals, and theses, to be particularly challenging. Based on the results, this study offers direction for developing more effective library services, collection development programs, information literacy programs, and technological solutions.

INTRODUCTION

The country's national lockdown declaration compelled all institutions to switch from traditional classroom settings to virtual ones. The declaration also encompassed the closure of libraries, posing a potential challenge for students in terms of learning resources and spaces. The library is an essential resource for students' learning and academic achievements. Its primary purpose is to offer appropriate information sources to enable students to acquire the necessary information for their research and assignments. Despite the library's undeniable significance, various factors prevented it from fully fulfilling its mission during the lockdown. Librarians recognize the significance of students engaging in information searching and hold specific viewpoints on both the students themselves and their own duties as helpers in this process. They believe that students learn and come across useful information through information seeking, and develop skills for structuring topics, evaluating information, coping in new situations, and other lifelong learning skills (Stričević & Rubinić, 2023).

Particularly at Central Luzon State University (CLSU), full online services did not immediately resume following the lockdown. It was unfortunate that the library system's server collapsed, and there was no technician available to repair it right away. Additionally, the Inter-Agency Task Force (IATF) director's requirements require many documents before anyone can enter the campus, including its own employees, unless they have a work schedule. The current shutdown poses a vexing predicament for both library users and librarians when it comes to accessing the library system. Fortunately, the library system was repaired throughout the extended

duration of the lockdown. Subsequently, students have the facility to explore the library resources by utilizing an online public access catalog. The library offered just a few types of services, including document delivery, curbside pickup, virtual reference assistance, and access to only a few of online resources through subscriptions. However, according to the usage statistics, only a small number of students took advantage of the mentioned services. Before the pandemic, students at CLSU relied heavily on printed books rather than the online resources available in the library as a source of information for their academic research and assignments.

When the limited face-to-face classes began, the institution exclusively authorized in-person classes solely for courses that had laboratory components into their curriculum. The students were observed to once again gather at the university library to borrow books and make use of the study area. Library staff predicted that students would prefer to access information online due to their existing familiarity with the practice. Libraries cannot go back to the traditional services provisions as the communities are now learning the utilization of online services (Tammaro, 2020). Nevertheless, it is crucial for academic libraries to determine the information sources, preferences, and problems that students face throughout their efforts to find information during the pandemic. This is believed to streamline the improvement of the collection development program, as the sources that the audience and users of libraries and information centers rely on for information, are crucial in shaping collection and development policies. Providing information sources and buying and ordering the needed sources are practically futile if providers of services are unaware of the audience's needs (Marefat & Khademi, 2022). Similarly, it is important to develop and expand library facilities and services in order to maintain their significance in a rapidly changing environment marked by constant advancements in information. This includes establishing new facilities and enhancing existing library services. The study's findings enable libraries to efficiently meet the needs of their academic community, enhancing their role as essential resource providers for educational instruction, knowledge acquisition, and scholarly research. Additionally, this resource is highly beneficial for academic libraries in their preparation for potential future disruptions. This study assesses the information sources utilized by CLSU students for their academic research and assignments during the lockdown period. More specifically, it aims to accomplish the following research objectives:

1. identify the sources of information during the two-year online classes
2. determine the challenges of seeking information during the lockdown period
3. determine the strategies used by students to overcome the challenges they encounter when seeking information

LITERATURE REVIEW

Information sources

The given literature comprises an extensive description of how students use the information landscape for their research and assignments. Wilson's General Model of Information Behavior is a fundamental framework that highlights the intricacy of information seeking, which is influenced by a number of circumstances. Various factors encompassing both personal attributes and external bottlenecks, influence the preferences of students such as widespread presence of the internet. According to Kadam et al. (2018), the internet's accessibility and speed make it a popular resource for students. Nevertheless, the overwhelming control of Google, as mentioned by Statista, causes apprehensions over the comprehensiveness and credibility of information obtained from this

platform. Academic libraries, which have been seen as stores of knowledge, are adapting to the digital age. According to Dahlen and Hanson (2023), their responsibility goes beyond managing collections and includes teaching information literacy and creating user-friendly tools. Further, instructors have a significant influence on the improvement of student's seeking activities. Through the provision of library databases and the influence on students' source selection decisions, they have the potential to affect the results of students' research. The transition to online learning as a result of the COVID-19 pandemic has imposed extra responsibilities on faculty to deliver information literacy instruction (Ancheta & Ancheta, 2020; Bacomo et al., 2022). The study conducted by Tomas, Tewell and Wilson (2017) reveals an interesting paradox. While students appreciate the help of instructors and peers, they sometimes utilize library databases for their study.

Information seeking challenges

Different studies conclude that students encounter challenges when it comes to seeking and using information for their research and assignments. The pandemic worsened these situations, yet many of the concerns were existed before the scenario of lockdown. The studies of Batool et al. (2022) and Afolayan (2022) emphasize the paramount value of physical infrastructure, such as libraries, computers, laptops and reliable internet connection in supporting the process of searching information. The inadequacy of these resources, which is occasionally affected by socioeconomic inequality, shows obstacles for students. Students encountered tardiness of submission as a result of poor connectivity (Fortuna et al., 2023). Likewise, the Fawaz (2021) and Barrot et al. (2021) emphasize in their research the influence of issues such as inadequate internet connectivity, home-based distractions, and restricted availability of physical resources on students' capacity to finish assignments. The overload of information accessible on the internet, while providing advantages, poses difficulties too. The study conducted by Shuhidan et al. (2020) and Huang et al. (2021) highlight the challenges that students encounter when dealing with too much information and assessing credibility of sources. This demonstrates the importance of training students to be information literate to equip them with the ability to critically evaluate information. To cope up with challenges related to access to learning resources, students utilized the internet, participated in Facebook groups that share free resources, asked assistance from family members, utilized resources available at home, and sought guidance from teachers (Barrot et al., 2021). Moreover, to offer open distance learning for both higher education and technical-vocational courses, Republic Act 10650 enables higher educational institutions (HEIs) in the Philippines. This aims to provide accessible and high-quality education by utilizing open educational resources (OER) and delivering learning materials through various means such as print, audio-visual, electronic/computer, virtual classrooms, and face-to-face sessions. This study identifies and analyzes the unique obstacles that students encounter. By doing so, it offers valuable insights for developing focused interventions to tackle these challenges. Ultimately, the goal is to empower students with the necessary abilities to overcome difficulties related to information-seeking challenges.

METHODOLOGY

A self-constructed survey questionnaire was devised to gather data from students who frequent the library between September and November 2022. The majority of questions in the questionnaire are closed-ended, but there are a few that solicit multiple answers, allowing participants to choose

all applicable responses. The librarians examined the questionnaire prior to launching the survey link through Google Forms on several Online Public Access Catalog. Purposive sampling was employed to choose study respondents, specifically targeting students who visited the library during the limited face-to-face classes. The librarian asked the students at the front desk if they were willing to participate in the survey.

Population

The study's population comprised all undergraduate students who utilized the university library. A grand total of 109 responds were received from various undergraduate courses at the university.

Data collection

The survey link was accessed through Google Forms on several Online Public Access Catalog stations for a period of four months. Participants were guaranteed confidentiality and that the obtained information would only be used for research purposes.

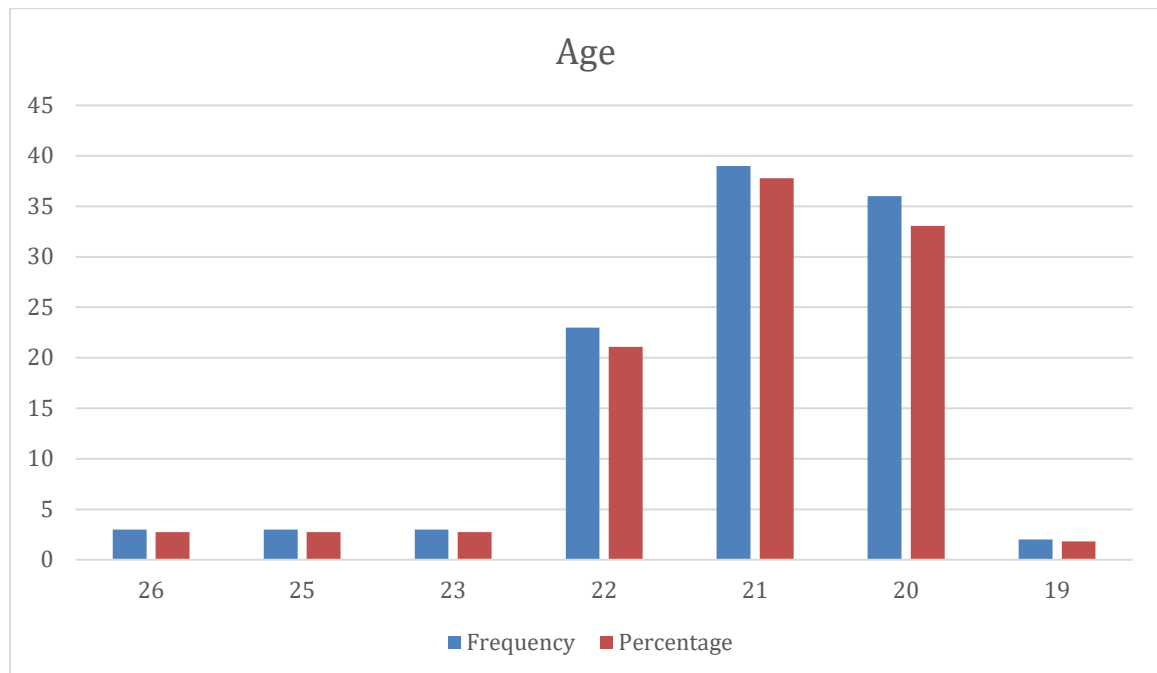
Data analysis

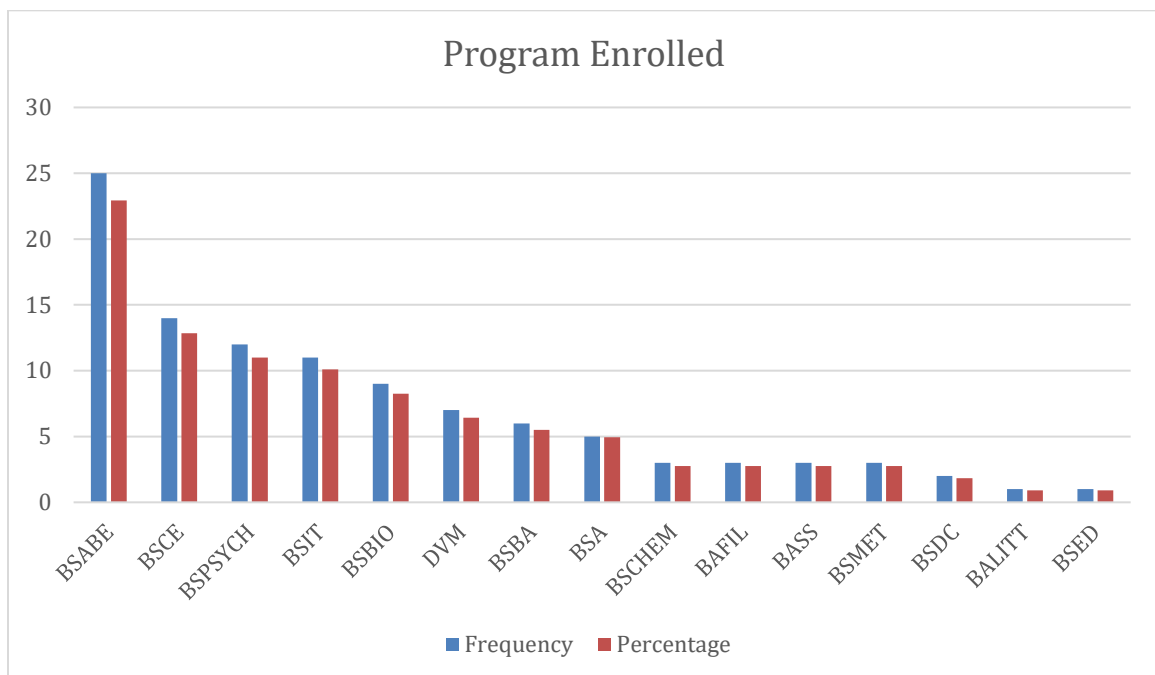
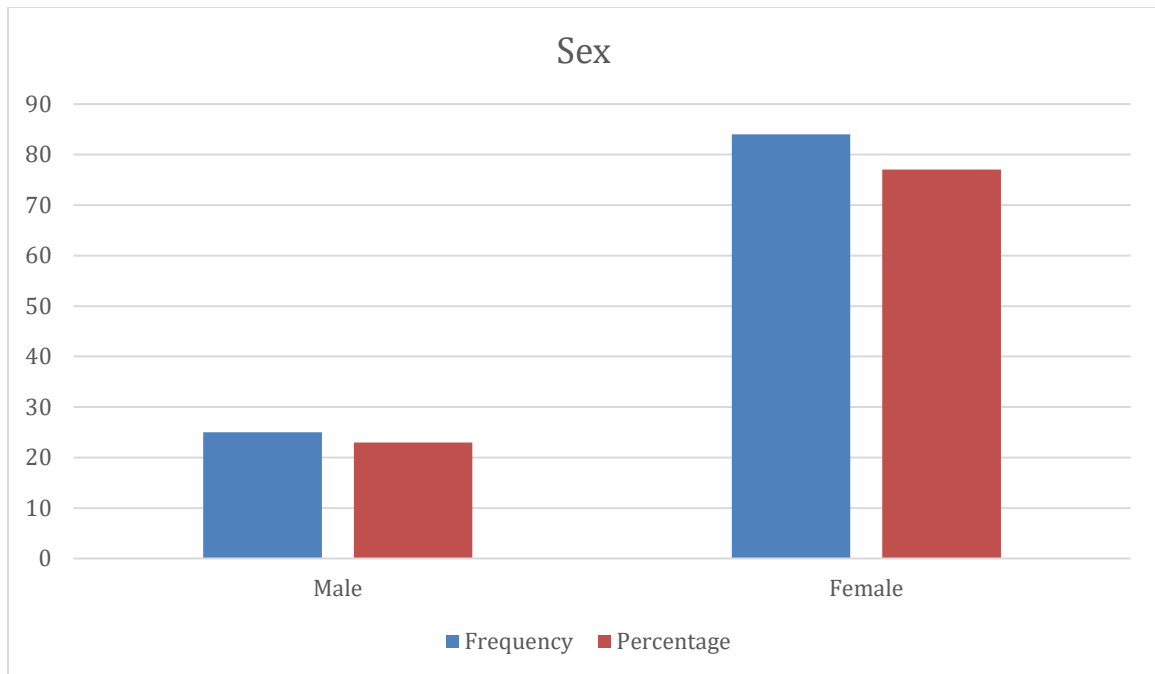
The socio-demographic profile of the respondents and the questions based on the objectives were described using frequency and percentage.

RESULTS

The study collected socio-demographic data from participants in order to have a comprehensive understanding and recognition of the population being studied.

Figure 1. Respondents demographic profile





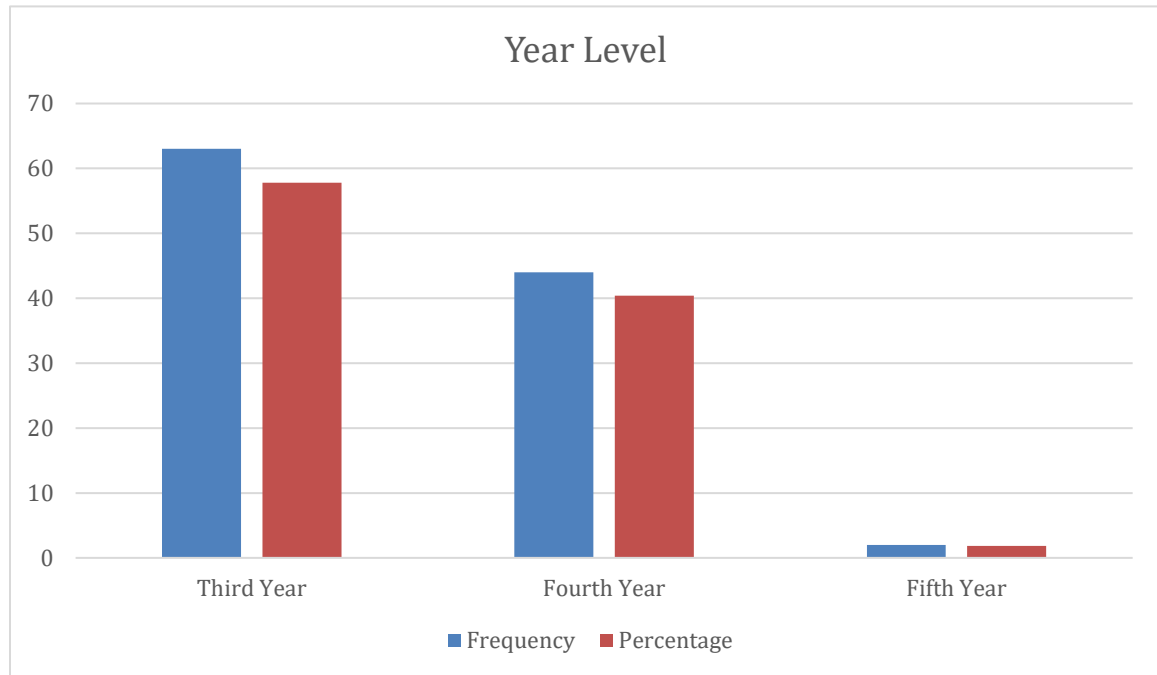


Figure 1 shows that the majority of the respondents enrolled in the different programs were young adults: 39 (35.78%) with an age of 21 years, 36 (33.03%) with an age of 20 years, 23 (21.10%) with an age of 22, and 3 (2.75%) for ages 23, 25, and 26, while only 2 (1.83%) are 19 years of age. This phenomenon can be ascribed to the typical age bracket of the university's college students. Of the 109 total respondents, 84, or 77.06%, were female, and 25 were male, or 22.94%. The data clearly indicates a notable gender imbalance, since the library usage figures consistently demonstrate a higher number of female clients. Moreover, the data reveals that BS in Agricultural and Bio-Systems Engineering have the most respondents with 25 or 22.94%, followed by BS Civil Engineering with 14 or 12.84%, BS Psychology with 12 or 11.01%, and Bachelor in Secondary Education and Bachelor in Literature have the least respondents with 1 or 0.92% each. It also reveals that 63, or 57.80%, of the respondents were in their third year, 44, or 40.37%, were in their fourth year, and 2 (1.83%) were in their fifth year. This is because during the survey, only students in higher years who have laboratories in their course disciplines are permitted to attend face-to-face classes.

Figure 2. Sources of information used in academic research and assignments

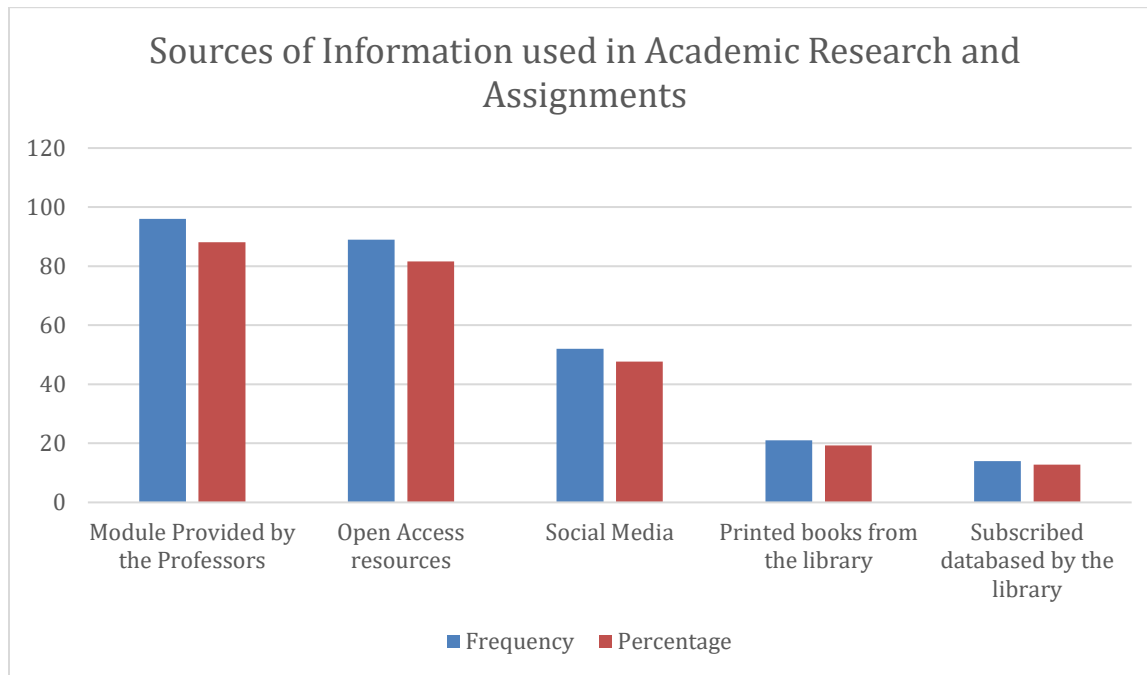


Figure 2 shows that the primary sources of information the students use are modules provided by the professors with 96 (88.07%), open access resources with 89 (81.65%), and social media with 52 (47.70%), while the least used sources are printed books from the library with 21 (19.27%) and subscribed databases by the library with 14 (12.84%). The frequency totals 272, indicating that the respondents have more than one source of information.

Figure 3. Challenges experienced in seeking information sources

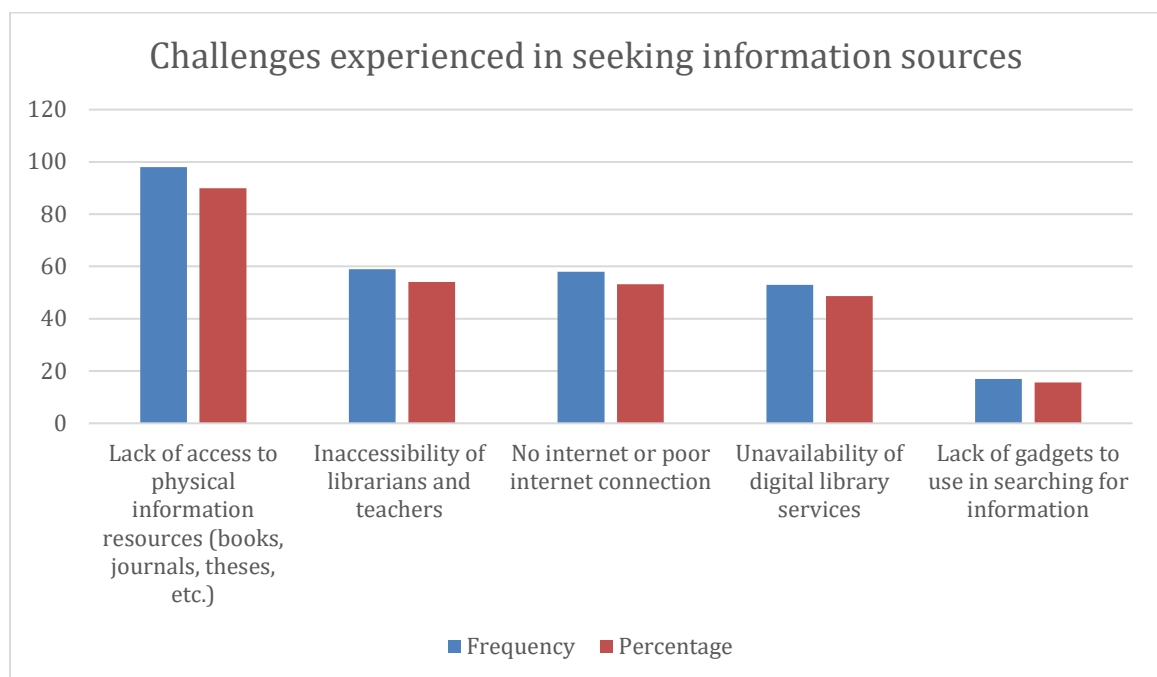


Figure 3 reveals the challenges experienced by the respondents in seeking information, especially during the lockdown period. These challenges included the inability to access physical information resources for 98 respondents (89.91%), the absence or poor quality of an internet connection for 57 respondents (52.30%), the unavailability of digital library services for 53 respondents (48.62%), and a shortage of gadgets for 17 respondents (15.60%). Another notable response was the inability to communicate with teachers, which was reported by 59 respondents (20.77%), while one respondent (0.35%) did not have access to any resources. Out of 109 respondents, 98, or 89.91%, reported a lack of access to physical information resources such as books, journals, and theses; 57, or 52.30%, reported a lack or poor internet connection; 53, or 48.62%, faced the unavailability of digital library services due to a lack or poor internet connection; and 17, or 15.60%, reported a scarcity of gadgets for information searches. Table 13 also shows that the total frequency was 226, which means that the respondents have met more than one challenge when it comes to seeking information.

Figure 4. Strategies for overcoming with the challenges encountered

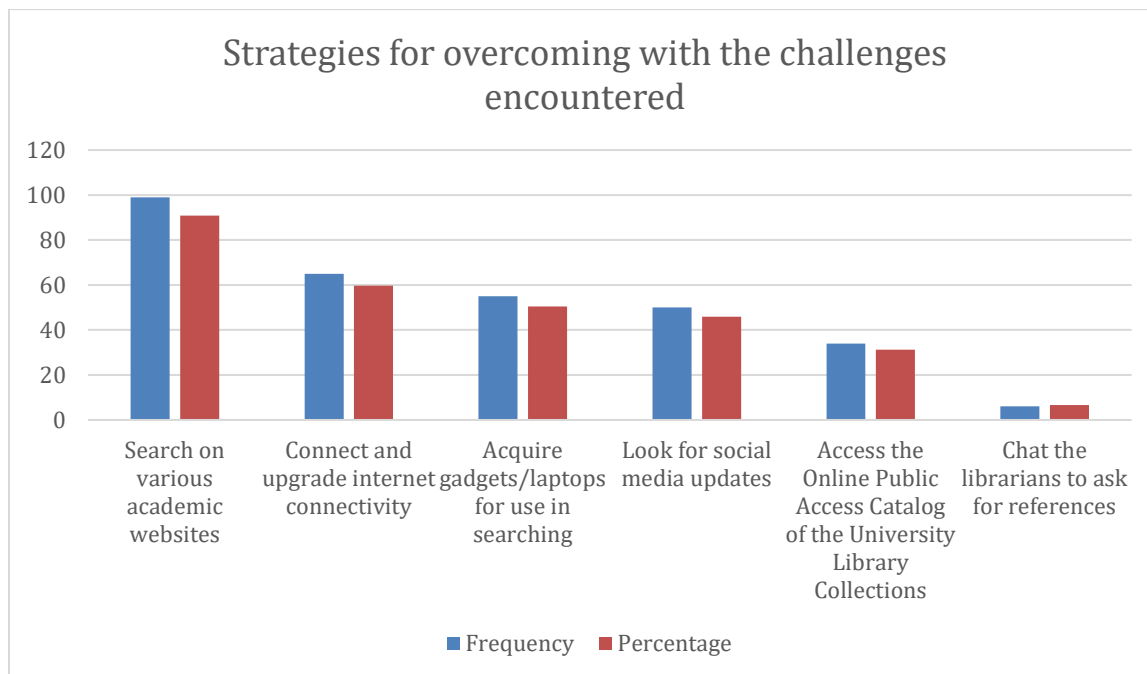


Figure 4 illustrates the strategies used by the respondents to overcome the challenges they encountered when seeking information. These strategies include searching on various academic websites (90.82%), connecting or upgrading to internet connections (59.63%), acquiring gadgets or laptops (55.45%), looking for social media updates (45.87%), accessing the OPAC (31.19%), and chatting with librarians (6.60%). It also indicates that the total frequency was 309, suggesting that the respondents have multiple strategies for overcoming the challenges encountered in accessing information.

DISCUSSION

Sources of information relevant to student research and assignments

Identifying the sources that students utilize can provide insights into their level of adjustment to remote learning and their ability to locate the essential resources needed to fulfill their course requirements. Libraries can utilize this information to improve and expand their digital resources. The study's findings indicated that a significant proportion of students substantially depended on the modules offered by the faculty members. Searching for open-access materials came next. Less than half of the students made use of the databases that the library subscribes to. The students' significant reliance on modules provided by professors suggests a clear inclination or requirement for structured and directed learning materials. These modules probably provided focused content that was directly applicable to the goals of the course, making them a convenient and trustworthy source of information. These results confirm the conclusions of Hamora (2022), who determined that students deemed the educational materials supplied by the faculty to be satisfactory, as evidenced by their appraisal of the module's physical characteristics, its components, and their overall evaluation. The satisfaction of students indicates that the modules produced by the faculty fulfilled their expectations, hence, they catered to their needs and created an opportunity for them to learn best amidst the pandemic.

This dependence also suggests that students have confidence in the instructor's ability to carefully select and provide the most relevant material, which can be ascribed to the instructors' credibility and the customized nature of these resources. It is highly accessible and uncomplicated for students to comprehend, particularly in an online learning setting. Instead of the pure online learning mode of instruction, faculty members design and develop learning modules that incorporate real-life and practical activities as one of the critical learning materials to be provided for students (Nadiahan & Cabauatan, 2021). The open-access resources are the second preference. The utilization of open-access resources as the second most commonly used source demonstrates students' proactive approach to augment their learning beyond the course materials. This signifies a degree of self-initiated learning in which students actively pursue supplementary knowledge to augment their comprehension. Open access policies are strategic measures enacted by organizations, donors, or governments to facilitate unimpeded access to scientific research material, free from any financial or legal obstacles (Mensah, 2024). Additionally, CLSU has its own open access online publications, which include the CLSU International Journal of Science and Technology and the CLSU International Journal of Education and Development Studies. These refereed journals are free and readily accessible, which could be of great advantage for students who may lack the financial resources to use paid articles.

Underutilization of subscribed databases poses possible concerns such as lack of awareness, perceived difficulty, or challenges in accessing these resources. Despite the databases' reliability and comprehensiveness, the majority of students did not utilize them. These findings suggest a need for increased awareness and instruction on the proper utilization of these invaluable resources. Students can gain learnings from training programs or instructional sessions that focus on browsing and using subscribed databases for their research and assignments. More so, instructors have the responsibility of suggesting library databases to students (Komissarov & Murray, 2016), and of impacting their decisions on which sources to use (Twait, 2005, as cited in Dahlen & Hanson, 2023). Access barriers could potentially prevent students from accessing library

databases due to technical glitches in the library system during that period. Technical personnel were unable to enter the university due to the total lockdown, and in order to do so, they had to adhere to strict guidelines, including a swab test, which was quite costly at the time.

Challenges met in seeking information sources

Due to the sudden lockdown, students found it challenging to seek information from sources. The majority of students found the lack of access to physical information resources, such as books, journals, and theses, to be particularly challenging. They also faced challenges due to the inaccessibility of librarians and teachers, as well as the absence or poor quality of internet connections. The least challenging experience was the lack of gadgets to use in searching for information sources. The lack of access to physical books, journals, and theses hindered students' ability to carry out extensive research. These sources often encompass detailed and specialized information that is not consistently accessible in digital formats. Traditionally, students have always depended on physical resources like printed textbooks and reference books to support their academic research. Students often turn to these printed resources for easy reading, to find authoritative information, and cite sources in their assignments preparing for examinations (Catequista, 2021). Although digital resources can enhance physical collections, they cannot completely substitute the extensive range and depth of information found in physical materials. This underscores the necessity for further digitization of library holdings and expanded availability of e-books and digital archives. Due to pandemic prevention and control efforts, students face challenges in accessing learning materials, especially those that are only accessible within their local network (Huang et al., 2021). This is added to the fact that there existed the difficulty on verifying resource's credibility or quality.

Librarians and teachers play critical roles in directing students to the right resources, imparting information literacy skills, and offering academic help. Their inaccessibility most likely caused difficulty in navigating available resources and receiving timely assistance. Promoting literacy, whether during or after a lockdown, requires a collaborative effort from teachers, librarians, parents, and students, as well as government and non-governmental organization (NGOs) support (Baskota & Shrestha, 2022). Creating and promoting virtual consultation hours, online chat assistance, and specialized email helplines helps reduce this issue. Training courses and webinars led by librarians and academics can also assist students in becoming more self-sufficient in locating and using information resources. Implementing and strengthening communication channels for students, librarians, and teachers is critical. Universities have to employ more participatory and user-friendly digital communication platforms to improve access to academic resources.

Poor internet connectivity poses major challenges to accessing online materials, engaging in virtual classes, and completing assignments, aggravating educational disparities and student motivation (Roy et al., 2023; Aroonsrimarakot et al., 2022). Universities and governments must prioritize infrastructure development to ensure that all students have reliable, high-speed internet access. It could also be beneficial to provide internet subsidies or form partnerships with telecom carriers to provide students with lower pricing. Offering downloaded tools and offline access alternatives can help students with inconsistent internet connections. It is critical to ensure that essential resources are available in formats that can be accessed without continuous internet connectivity. Despite being considered the least difficult challenge, the lack of gadgets still poses a critical issue for those affected. Access to reliable computers or mobile devices is fundamental for participating in online education. Some college students are still having difficulty with online

learning. Attending online classes is difficult, especially for students with limited resources. Smartphones, other gadgets, and internet connections play a significant role in online classrooms because they are the ones that students utilize while learning online (Jose et al., 2023). The library management may implement additional services, such as loan programs for laptops and tablets. Providing technical support and resources for maintaining and troubleshooting devices can help students make the most of the gadgets they have. Teaching-learning activities using instructional modules have become the new norm, particularly for institutions with limited resources (Ancheta & Ancheta, 2020; Bacomo et al., 2022). This trend also affects students from poor socio-economic backgrounds who cannot afford to provide gadgets for online learning.

Strategies to overcome the challenges encountered

Despite the library's curbside pickup service, students rely on several academic websites due to shortage of tangible materials. They then look for ways to connect and strengthen their internet connection. Having interactions with librarians is the least productive technique. The fact that the majority of students turned to numerous academic websites demonstrates a proactive attitude to overcoming a lack of physical resources and the inaccessibility of librarians and faculty members. Institutional websites contain a numerous resource, including open-access publications and instructional platforms, which can be valuable for course requirements compliance. This strategy shows students' adaptability and resourcefulness in using available digital tools. The dependence on institutional websites reflects a trend toward self-directed learning. Students take the initiative to identify and use reputable internet resources to augment their learning, which can help them improve their research skills and information literacy. The efforts to advance internet connectivity infer its critical role in online learning. To overcome learning resource issues, students used the internet, joined Facebook groups that provide free materials, sought assistance from family members, used resources at home, and consulted with teachers (Barrot et al., 2021). Students need a fast and steady internet connection to access study materials with clear video and audio quality while using the online class platform (Aroonsrimarakot et al., 2022). Gadgets and rapid internet access is essential for accessing digital resources, attending virtual classes, and submitting assignments. Students finding ways to connect to or upgrade their internet connectivity reveals persistent to overcome technological barriers. This might include using public Wi-Fi, upgrading home internet plans, or seeking alternative internet solutions. This finding also brings to light the broader issue of digital infrastructure. It highlights the necessity for institutions and governments to invest in improved internet connectivity for students, particularly in underprivileged areas. According to RA 10650, open distance learning in the Philippines for higher educational institutions (HEIs) and technical-vocational courses aim to provide accessible, high-quality education by utilizing open educational resources (OER), delivering learning materials via print, audio-visual, electronic/computer, and virtual classrooms, as well as face-to-face sessions.

The least-used strategy, chatting with librarians, suggests that students do not completely comprehend or feel comfortable using this resource. This supports Tomas et al.'s (2017) studies' result that students are most likely to consult faculty and peers for assistance and are largely unaware of librarians' roles. However, this in contrast to Asiedu's (2023) findings, that the majority of students patronize a public university library's reference services to meet their information needs. The study also implies that the library has been making significant efforts in the reference services section to attract students, which is why the majority of students are aware of these services. The proponent of the LIBRO project at a state university, Francisco (2023), which other libraries could follow offers significant insights on this light. The acronym "LIBRO" which is a

Filipino term for book and stands for Literacy Information, Booking, and Reservations Online, which is the project's main focus. The project provided a range of library services, including access to both digital and physical resources, with online library resources being the most accessed service and physical books continuing to be an important resource for students. This initiative proves how librarians can help students navigate academic resources and provide research guidance. Every institution must improve marketing library services and ensure that students understand how to seek librarian's assistance. This includes advertising for virtual chat services, such as librarian sessions into online classes, and making these services more user-friendly. Improving virtual connection with librarians can make this alternative more enticing. To extend quick response times, user-friendly platforms, and integrate chat services with learning management systems can all assist to boost their usage.

CONCLUSION

The assessment of students' sources of information for academic research and assignments, the difficulties they face in seeking information, and the strategies they use to overcome the challenges encountered, especially during unexpected scenario such as the pandemic could help in the creation of information literacy programs that equip and empower students with the essential skills to navigate the information landscape. Additionally, findings of this study can offer direction for developing more efficient and effective library services, collection development programs, literacy programs, and technological infrastructure solutions. The study's findings indicated that a significant proportion of students substantially depended on the modules offered by the faculty members which provide a focused content that are directly applicable to the goals of the course, which make them a convenient and trustworthy source of information. While some of the students made use of the databases that the library subscribes to. This indicates a necessity for increased awareness and instruction on the proper utilization of these invaluable resources. The lack of access to physical books, journals, and theses hindered the majority of the students' ability to carry out extensive research. This emphasizes the need for continuous digitization of library holdings such as theses and dissertations and extend the availability of e-books and digital archives. Poor internet connectivity poses major challenges to accessing online materials. Students rely on several academic websites due to a shortage of tangible materials. It urges the obligation for institutions and governments to invest in improved internet connectivity for students, particularly in underprivileged areas. The implementation of relevant laws, like RA 10650, is significant. It stipulates that open distance learning in the Philippines for HEIs and technical-vocational courses strives to deliver accessible, high-quality education through the use of open educational resources (OER). This includes the delivery of learning materials through print, audio-visual, electronic/computer, virtual classrooms, and in-person sessions.

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No potential conflict of interest was reported by the authors

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