

From Crisis to Transformation: Lessons Learned and Recommendations for LIS Graduate Programs in Thailand Post-Pandemic

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ABSTRACT

This study aims to investigate the management of library and information science (LIS) graduate programs in Thailand during the COVID-19 pandemic and highlights the challenges faced by the programs' chairs, faculty members, and graduate students during these unsettling times. This study employed a qualitative approach and used semi-structured interview protocols for data collection. A total of fifty-five participants, comprising five LIS graduate program chairs, ten faculty members, and thirty-nine graduate students, actively participated in the study. Content analysis was then utilized to analyze the interview transcripts, and the results were subsequently summarized into several themes. Based on the results, this research proposes that hybrid learning is applicable for the advancement of LIS graduate programs in the post-pandemic era. Additionally, creating more effective online teaching and learning environments and expanding collaborative teaching and learning networks are essential for the success of the programs.

Keywords: library and information science graduate programs, library and information science education, COVID-19, teaching and learning, Thailand

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1. INTRODUCTION

The COVID-19 pandemic has significantly affected education at all levels, promoting a rapid shift to online learning. Many higher education institutions (HEIs) adopted fully online teaching and learning right from the beginning (Majanja, 2020; Marinoni et al., 2020; Pangnani, 2020). Subsequently, some institutions later opted for a blended or hybrid learning approach as a solution for delivering online teaching and learning during the second wave of the pandemic (Abdrasheva et al., 2022; Sukiman et al., 2022; United Nations Educational, Scientific and Cultural Organization, 2020). However, the International Association of Universities reported that, while 67% of HEIs successfully offered online teaching and learning, the remaining institutions encountered difficulties. In fact, 24% of HEIs had to suspend certain classes, and 7% reported a complete halt in teaching during this period. Only 2% of the participating HEIs stated that teaching and learning activities in their institutions remained unaffected by the pandemic (Marinoni et al., 2020).

The main challenges in transitioning from face-to-face classrooms to an online approach include the general lack of technical capabilities and infrastructure, the absence of necessary pedagogical approaches for online teaching, and the specific demands of individual disciplines due to their distinct requirements (Marinoni et al., 2020). Abdrasheva et al. (2022) comprehensively identified various challenges faced by educators in online learning environments, including instructors' technological unpreparedness, insufficient alternative pedagogical strategies, difficulties in online assessment, digital divide concerns, and students' adaptability and competence in the online learning environment. Several challenges also directly affect learners. Notable considerations include students' attitudes toward online learning, the scarcity of support and accessibility to academic resources, students' unfamiliarity with online learning technologies, and their struggle to maintain focus during online sessions (Patricia Aguilera-Hermida, 2020). It can be seen that, during the pandemic, both instructors and learners were abruptly forced to transition to an online learning environment without prior preparation, resulting in numerous challenges and issues.

Library and information science (LIS) schools worldwide have encountered significant disruptions due to the COVID-19 pandemic, a trend extensively documented in literature. A substantial volume of research in the LIS field has focused on the pandemic's impact and has been disseminated across various publications. Sheikh et al. (2023)

have identified five research themes emerging over the past two years of the pandemic: libraries and services, library management, libraries and technology, libraries and information society, and libraries and education. Much of this research concentrates on LIS education and professions during the pandemic, generally examining experiences (Aslam et al., 2021; Craft, 2020; Landoy & Færevaa, 2020; Majanja, 2020; Willenborg & Withorn, 2021), perceptions (Boté-Vericad, 2021; Shastri & Chudasma, 2022), as well as challenges and opportunities encountered by LIS scholars, students, and professionals (Ocholla, 2021; Simpson, 2020). Furthermore, other research within the realm of LIS education has revolved around online teaching and learning, online pedagogical issues, and information and digital literacy, all of which are pivotal to the evolving learning landscape (Sheikh et al., 2023).

Despite the profound impact the pandemic has had on LIS education worldwide, it has also sparked a crucial discourse on LIS education and management amid these uncertain times. Engaging in this discourse is essential to address questions concerning the future of LIS schools and how they should navigate the challenges arising from the pandemic. In Thailand, Somabut and Tuamsuk (2021)'s study explicitly summarized and proposed factors for developing an online teaching and learning ecology in HEIs during the COVID-19 outbreak. However, their study primarily focused on the broader context, and specifically, research on the LIS education program is limited. Therefore, the objective of this study is to investigate the management of LIS graduate programs in Thailand during the COVID-19 pandemic. The goal is to gather pertinent information about the experiences and challenges faced by LIS graduate programs' chairs, faculty members, and graduate students amid the pandemic. Additionally, the study will present recommendations and potential solutions to assist LIS programs in managing unprecedented challenges triggered by the pandemic and in preparing for future management of LIS graduate programs.

2. LITERATURE REVIEW

The literature review in this study has covered topics regarding higher education in Thailand and the pandemic, and online learning and LIS education during the pandemic.

2.1. Higher Education in Thailand and the Pandemic

In Thailand, the initial case of COVID-19 was officially reported on January 13, 2020, which prompted the

government of Thailand to declare a state of emergency (World Health Organization, 2020). HEIs had to shift to a full online approach starting April 1, 2020 (Ministry of Higher Education, Science, Research, and Innovation, 2020). Studies during the pandemic focused on the readiness of faculty members and students in many disciplines to adopt online learning in the Thai context. Those studies revealed major challenges of online learning in higher education at the beginning of the transitional period (Imsa-ard, 2020; Puriwat & Tripopsakul, 2021; Saetae, 2021; Somabut, 2020; Somabut & Tuamsuk, 2021; Thanavisuth, 2021). For instance, Somabut and Tuamsuk (2021) addressed the difficulty that the majority of Thai universities lacked the necessary online infrastructure and facilities, leaving both instructors and students unprepared for a swift transition to online education. Universities were required to rapidly respond to this unexpected situation by upgrading technological infrastructure, procuring and developing online platforms, and providing online training for both instructors and students.

Many studies have uncovered differences in perspectives between faculty members and students concerning the abrupt transition to online learning. These studies primarily assess instructors' current statuses and their viewpoints on online tools and techniques in knowledge delivery. The findings of several studies reveal variations in faculty members' preferences and instructional approaches. While some instructors expressed a preference for conducting live online sessions through video conferencing and learning platforms, others chose to provide pre-recorded lessons (Imsa-ard, 2020; Puriwat & Tripopsakul, 2021; Saetae, 2021; Somabut & Tuamsuk, 2021; Thanavisuth, 2021). Additionally, some instructors adopted a combination of techniques for managing online classes and prominent online learning platforms, including Zoom, Google Meet, Microsoft Teams, and WebEx, and some faculty members used social media platforms, including Facebook and Line, to distribute lecture materials and communicate with students (Saetae, 2021; Somabut, 2020). Interestingly, one study asserts that pedagogy for online instruction closely resembles the traditional face-to-face approach, with faculty members continuing to rely on lectures and providing similar learning materials such as slides, handouts, and retrieved documents during virtual classes (Somabut & Tuamsuk, 2021).

Online learning offers undergraduate students certain advantages, such as the convenience of staying at home, the ability to record class sessions for later review, and the flexibility to learn at their own pace (Thanavisuth, 2021).

However, this mode of education comes with its own challenges. Students have reported encountering technical difficulties, distractions during online classes, communication obstacles, feelings of isolation, limited interaction with peers and instructors, and struggles with motivation when studying online (Imsa-ard, 2020; Thanavisuth, 2021). Importantly, students emphasize the importance of accessible instructors who provide effective feedback and guidance during and after online sessions (Imsa-ard, 2020; Puriwat & Tripopsakul, 2021; Thanavisuth, 2021). To enhance the quality of online learning and establish an efficient virtual classroom, it is crucial to develop well-designed course content, provide adequate administrative and technical support, and consider the unique characteristics and competencies of both learners and instructors (Puriwat & Tripopsakul, 2021).

During the pandemic, although several studies have been carried out to outline the readiness of faculty members and students in many disciplines to adopt online learning platforms, there are limited research regarding the management of LIS education and LIS faculty members' and students' perspectives on online learning during the pandemic in Thailand.

2.2. Online Learning and LIS Education

Online learning is a mode of instruction delivered through electronic means over the Internet, utilizing various digital platforms. Nguyen (2015) categorizes this educational approach into two formats: purely online learning, and hybrid or blended learning, which combines traditional face-to-face classes with online components. Notably, online learning has a well-established presence in LIS education, particularly in developed countries such as the United States, the United Kingdom, and European nations (Chowdhury & Chowdhury, 2006; Oguz et al., 2015). This pedagogical method has been integrated into LIS education for many years, as underscored by the Association for Library and Information Science Education (2021), with nearly all LIS schools in their study offering some forms of online instruction. Remarkably, 20% of American Library Association accredited schools in the United States and Canada have already integrated fully online classes into their curriculums.

In Thailand, there are nine LIS graduate programs offered by six universities, comprising five autonomous universities and one open university. The master's programs consist of four masters of arts (M.A. in information studies) and two masters of information science. Meanwhile, the doctoral programs include two Ph.D. programs, with

two focusing on information studies and one on information science. Before the onset of the COVID-19 pandemic, all LIS graduate programs in Thailand primarily operated through face-to-face instruction.

However, the pandemic has forced a major shift in content delivery methods. In response to the Thai Government's directive for HEIs at the time to transition to fully online operations, online learning, whether synchronous or asynchronous, emerged as the predominant pedagogical approach across all levels of LIS education. Notably, online learning extended beyond traditional teaching and learning activities, encompassing professional development initiatives within the LIS field. During the pandemic, numerous national and international online conferences and webinars in various topics were organized by LIS schools, libraries, and professional organizations. These endeavors aimed to promote lifelong learning and information literacy, bolster professional development, and nurture professional networks, fostering the growth of LIS initiatives during the pandemic. For instance, since September 2020, International Federation of Library Associations and Institutions (IFLA) has conducted a series of webinars on various topics related to how libraries respond to and facilitate access to information during the pandemic (Gigabit Libraries Network, 2020; IFLA, 2020). In Thailand, the Thai Library Association and other professional networks and libraries have actively conducted a multitude of online activities encompassing a wide range of topics on online services, promoting relearning and reskilling, assessing the roles of libraries in online distance learning, and offering support to both professional development and online learning endeavors.

Online learning has emerged as a valuable and appropriate instructional method, both during the pandemic and beyond. Its merits encompass cost-effectiveness, flexibility, convenience, time-saving features, and the potential for collaborative learning. Moreover, the availabilities of synchronous and asynchronous teaching methods grant 24/7 online access to learning platforms (Almahassee et al., 2021; Ibna Seraj et al., 2022). According to Ibna Seraj et al. (2022), most teachers and students across various disciplines worldwide have had positive experiences with online learning. Similarly, studies conducted within the LIS field also reveal a preference for online learning among both faculty members and students. For instance, Bankole (2022) investigated the adoption of online learning among LIS undergraduate students in Nigeria, finding that the majority of students expressed high levels of satisfaction. Students particularly appreciated the flexibility

of learning anytime and anywhere, as well as the effective time management facilitated by online education. Additionally, LIS faculty members in some regions have reported positive feedback regarding the benefits of delivering practical courses online. For instance, in Indonesia, faculty members found that the digital hands-on experience not only promoted learning but also enhanced digital competency among students. This was achieved through the application of digital skills, online presentation skills, and online event management skills in showcasing online cultural exhibitions (Zain et al., 2022). Besides this, several studies have highlighted the potential of online learning to foster collaborative learning environments (Mustakim et al., 2021; Zain et al., 2022).

Online distance learning is widely recognized as a prevalent mode of education today. However, it presents distinct challenges, including technical infrastructure limitations, insufficient technological proficiency among both instructors and students, difficulties related to hands-on training and practicum experiences, and emotional stress associated with self-directed learning. Notably, issues with technology and inadequate skills are frequently observed in online learning environments, as highlighted in various studies (Abdrasheva et al., 2022; Igwela & Nsirim, 2020; Ocholla, 2021; Priyanto & Cahyaningtyas, 2021). For instance, Igwela and Nsirim (2020) found that while LIS educators expressed positive viewpoints towards e-learning at the beginning of the pandemic, they have been facing many challenges, including a lack of technical infrastructure, limited Internet connectivity, absence of pertinent policies and guidelines for implementing e-learning, and inadequate IT skills of both educators and students. Additionally, Ocholla (2021) and Poole and Zhang (2021) reported concerns among faculties regarding the feasibility of teaching practical courses in online learning environments, especially for fields of archival education where hands-on experiences are crucial and challenging to replicate virtually.

The abrupt shift in pedagogical methods has heightened stress levels across the educational spectrum, particularly for educators and learners less accustomed to online teaching and learning. Several studies have documented increased stress in both educators and learners within the online learning context (Dey & Kumar, 2022; Ocholla, 2021; Poole & Zhang, 2021; Priyanto & Cahyaningtyas, 2021). This stress is not limited to LIS education but extends to related fields, such as archival science. For example, faculty members in the LIS field in the sub-Saharan African region reported increased workloads

and longer hours when transitioning to remote teaching, which resulted in burnout and frustration. These challenges were further compounded by limited interpersonal communication and social support, such as mentoring and guidance, as noted by Ocholla (2021). Similarly, the archival educators who shifted to fully online delivery faced increased workloads in monitoring online discussions and adapting content. Some educators noted that their students struggled with online platforms such as Zoom (Poole & Zhang, 2021).

LIS graduate students have also experienced frustration and difficulty concentrating on lessons in online settings, expressing a strong need for interaction and socialization with instructors and peers compared to traditional face-to-face classrooms (Priyanto & Cahyaningtyas, 2021). Moreover, concerns about family health, uncertain examination schedules, and fear of falling short of teacher expectations have contributed to stress levels, with more than 80% of students reporting that academic stress negatively impacted their performance (Dey & Kumar, 2022).

The success of online learning in LIS education is contingent upon a range of factors. These factors include the readiness of both faculty members and students, the availabilities of adequate technological infrastructure, the utilization of effective pedagogical approaches, and the willingness of both faculty members and students to embrace this mode of education. Comprehending the challenges faced during the pandemic and discerning the preferences of stakeholders can provide valuable insights for developing strategies to better manage LIS graduate programs in the future.

3. RESEARCH METHODOLOGY

This study employed a qualitative approach to investigate two primary aspects: 1) the management of LIS graduate programs in Thailand during the COVID-19 pandemic, and 2) the challenges encountered by LIS chairs,

faculty members, and students of LIS graduate programs during the pandemic.

3.1. Participants

The study population encompassed graduate program chairs, LIS faculty members, and graduate students from six universities in Thailand, comprising five autonomous universities and one open university that offer LIS graduate programs, as listed in Table 1. Key informants were chosen through purposive sampling, employing specific criteria for selection, which encompassed individuals serving as current faculty members or graduate students at the time when the researchers gathered the data. While the invitations were sent to all of the graduate programs, only small numbers of LIS graduate program chairs, faculty numbers, and graduate students accepted participation in this research project. In total, there were nine chairs overseeing LIS graduate programs; nevertheless, only five of them (55.55%) took part in this study. The LIS faculty members were selected from 10 out of 29 (34.48%) LIS graduate program committees, and these individuals also undertake teaching responsibilities for their program. The total cohort comprised 221 LIS graduate students from nine universities, encompassing 28 Ph.D. students and 193 master's students. A minority of these individuals (39 LIS graduate students, 17.65%) from six universities agreed to serve as key informants.

3.2. Data Collection and Data Analysis

This study employed a qualitative approach and used semi-structured interview protocols for data collection. Three distinct semi-structured interview protocols were developed and utilized for data collection, corresponding to each group. The interview protocol for the program chairs primarily centered on the management of LIS graduate programs. Conversely, the interview protocols for LIS faculty members and graduate students focused more on the challenges they encountered and their strate-

Table 1. Overview of universities offering graduate programs in library and information science

Name of the university	Master's degree program	Doctoral degree program
Chiang Mai University	M.A. (Information Studies)	-
Chulalongkorn University	M.A. (Information Studies)	Ph.D. (Information Studies)
Khon Kaen University	M.I.S (Information Science)	Ph.D. (Information Studies)
Maharakham University	M.I.S (Information Science)	-
Srinakharinwirot University	M.A. (Information Studies)	-
Sukhothai Thammathirat Open University	M.A. (Information Studies)	Ph.D. (Information Science)

gies for managing the situation. A pilot test was conducted with a small number of test participants to evaluate the semi-structured interview protocol, ensuring the credibility and dependability of this study. In order to optimize participants' time, the interview questions were sent to them in advance via email, allowing them sufficient time to contemplate the questions before the actual interview. The interviews were conducted in January 2022. Content analysis was utilized to thoroughly scrutinize the interview transcripts, subsequently organizing them into distinct thematic categories. As this study entailed translating interview transcripts from Thai to English, multiple researchers participated in reviewing both the transcripts and the identified themes to ensure the reliability of the findings. This process of researcher triangulation aimed to bolster the validity and credibility of the research findings by mitigating potential biases and errors that might arise from a singular researcher's perspective. To ensure confidentiality, the identities of both the participants and their respective institutions have been kept anonymous in the findings of this study.

4. RESEARCH FINDINGS

This section presents the study's findings in alignment with both the characteristics of the respondents and the study's objectives, encompassing:

1. The management of LIS graduate programs in Thailand during the COVID-19 pandemic.
2. Experiences and challenges of the participants during the pandemic.
3. Guidelines for managing LIS graduate programs in the post-pandemic.

The following descriptions provide details of these findings.

Table 2 presents the characteristics of the participants. The participants consisted of five chairs of LIS graduate programs from five universities and ten faculty members from six universities. The majority of both the LIS graduate program chairs and faculty members held Ph.D degrees (10, 66.67%), while a few chose not to disclose their educational qualifications. Regarding sex, the majority were female (7, 46.67%), followed by males (4, 26.67%). Four faculty members opted not to specify their sex.

Among the graduate student participants, 24 (61.54%) were doctoral students and 15 (38.46%) were master's

Table 2. Characteristics of the respondents

Characteristic	n (%)
LIS graduate program chairs and faculty members	
Position	
LIS graduate program chairs	5 (33.33)
Faculty members	10 (66.67)
Educational qualifications	
Ph.D	10 (66.67)
N/A	5 (33.33)
Sex	
Female	7 (46.67)
Male	4 (26.67)
N/A	4 (26.67)
Graduate students	
Educational qualifications	
Doctoral students	
Dissertation	24 (61.54)
Coursework	21 (53.85)
Master's students	
Thesis	3 (7.69)
Coursework	15 (38.46)
Thesis	
Coursework	5 (12.82)
Sex	
Female	10 (25.64)
Male	25 (64.10)
N/A	7 (17.95)

LIS, library and information science; N/A, not answer.

students. Most of the doctoral students, 21 (53.85%), were engaged in their dissertations, followed by 10 (25.64%) master's students enrolled in coursework, 5 (12.82%) master's students involved in theses, and 3 (7.69%) doctoral students pursuing coursework. The distribution of the respondents by sex indicates that the highest number of responses (25, 64.10%) were from females, whereas 7 (17.95%) respondents were male, and the other 7 (17.95%) respondents preferred not to answer.

4.1. The Management of LIS Graduate Programs in Thailand During the COVID-19 Pandemic

The findings regarding the management of LIS graduate programs during the COVID-19 pandemic were derived from interviews conducted with five chairs of LIS graduate programs. Participants disclosed that the

challenges they encountered during the pandemic were primarily related to technological infrastructure. In particular, respondents expressed concerns about adapting to the new mode of learning and the effectiveness of communication between faculty members and students. Four main themes emerged, encompassing technological infrastructure, policies for teaching and learning, learning platforms and communication channels, and extracurricular activities.

4.1.1. Technological Infrastructure

Technological infrastructure generally includes Internet connectivity, devices, and online learning tools. All of the program chairs mentioned that their universities and respective faculties were responsible for providing this infrastructure. Furthermore, they emphasized the importance of access to assistance and support when users encountered IT issues. The most common problems reported were unstable Internet connections, outdated computers, and insufficiently supported systems and licenses for large numbers of students. The following information provides more detailed explanations about the infrastructure.

“Some learning activities used to be organized on-site. Initially, some faculty members encountered difficulties in adapting to the online learning environment. Surprisingly, when we shifted to online activities, a significant number of graduate students displayed heightened interest in online activities compared to on-site ones.” – LIS graduate program chair 2

“Readiness for both lecturers and students is imperative. Lecturers must improve their online teaching skills and encourage active engagement in online classes. The university lacks remote information technology (IT) support services; so students must address IT issues on their own. Maintaining a positive attitude towards online learning is essential for students.” – LIS graduate program chair 4

4.1.2. Policies for Teaching and Learning

The findings unveiled that certain LIS graduate programs in Thailand had previously incorporated elements of blended or hybrid learning prior to the pandemic. Nevertheless, the predominant mode of instruction for most programs had been entirely face-to-face, with online learning used as a supplementary tool. In response to the pandemic, all of the universities temporarily closed their

physical campuses and shifted to comprehensive online education. Due to the fluctuating nature of COVID-19 outbreaks, universities frequently updated their policies for resuming on-site instruction, sometimes reversing decisions. All of the chairs of LIS programs (5, 100%) agreed unanimously that the pandemic had impacted their programs, leading to changes in teaching and learning policies. These policies allowed instructors flexibility, enabling them to choose between on-site and online teaching. In cases of on-site teaching, both instructors and students were mandated to adhere strictly to the health and safety guidelines set by the Ministry of Public Health, Thailand. Some chairs of LIS graduate programs provided additional insights:

“The department’s policy is in alignment with the university’s policy, requiring approval from both the LIS program committees and the graduate school committees. At my university, all teaching and learning activities are required to be conducted entirely online.” – LIS graduate program chair 2

“In March 2020, my university adopted a policy for 100% online teaching due to COVID-19. This policy addressed social distancing, safe measures, on campus protocols, and work-from-home guidelines. It underwent frequent revisions in line with circumstances and government directives.” – LIS graduate program chair 3

4.1.3. Learning and Extracurricular Activities

LIS graduate programs in Thailand had consistently organized onsite extracurricular activities even prior to the COVID-19 pandemic. All of the LIS program chairs (5, 100%) indicated a shift towards online formats for both learning activities and extracurricular events. This transition included various activities such as online orientations, counseling sessions, proposal defenses, and thesis and dissertation defenses, as well as professional development events including online seminars and conferences. Due to the outbreak, many onsite extracurricular activities, including study visits to other LIS schools and information organizations on both national and international levels, had to be canceled. Two of the program’s chairs provided further explanation:

“Postgraduate students are now required to enroll in a seminar course and submit progress reports for their postgraduate studies and/or doctoral dissertation, all of which have transitioned to online formats. Furthermore,

consultations for dissertations and theses are also being conducted online.” – LIS graduate program chair 5

“One of my graduate students received acceptance to present his paper at a national conference. Initially, I had concerns about his ability to attend the conference due to the ongoing outbreak. However, the conference eventually shifted to an online format conducted through Zoom.” – LIS graduate program chair 3

4.1.4. Learning Platforms and Communication Channels

Various online learning platforms were adopted by LIS graduate program for both learning and communication between lecturers and students. The choice of platform varied among programs based on the available facilities and the preferences of both lecturers and students. Key platforms universally used included Microsoft Teams, Zoom, Google Classroom, and Facebook Messenger. Some programs subscribed to new online learning platforms, while others had already incorporated platforms such as Google Classroom, Google Meet, and Facebook Messenger (5, 100%) and Blackboard (2, 40.00%). Additionally, programs mentioned the use of other platforms such as Line Meeting, Webex Meet, Jamboard (Google), and Moodle. Certain learning platforms, such as Microsoft Teams, Zoom, and Google Meet served not only as virtual classroom tools but also for occasional lectures, seminars, and other academic activities. Below are examples of statements from the chairs of LIS graduate programs explaining their choices of learning platforms and communication channels during the COVID-19 pandemic.

“Before the pandemic, our university used Blackboard for teaching and learning. However, when the outbreak began, we implemented online exams using the Blackboard platform and obtained a Zoom subscription for delivering lectures and hosting online conferences.” – LIS graduate program chair 3

“At my university, we offer access to Microsoft Teams, Zoom, and Jamboard (Google) for online learning and collaboration. However, the decision on which programs to be use is left to the discretion of the lecturers, taking into account their expertise and convenience.” – LIS graduate program chair 4

4.2. Experiences and Challenges of the Participants During the Pandemic

The results for this section are organized according to participant groups, which consist of the chairs of LIS graduate programs, faculty members, and graduate students. The experiences and challenges faced by each group are outlined below.

4.2.1. The Chairs of LIS Graduate Programs and Faculty Members

The analysis of interview transcripts with the graduate program chairs and faculty members reveals several major themes, including technological issues and online learning challenges, as well as personal challenges, as presented in Table 3. These themes are elaborated upon, and illustrative quotes from the interview transcripts are provided in the following sections.

4.2.1.1. Technological Issues and Online Learning Challenges.

All of the program chairs and faculty members in this study reported that their LIS programs and graduate schools consistently provided training and online courses to familiarize them with online tools for teaching and learning purposes. These classes helped them to be acquainted with online tools. In accordance with the universities’ policies during the COVID-19 outbreak, the faculty members were given flexibility to choose between on-site or online teaching. For onsite teaching, the faculty members were required to adhere to the health and safety standards established by the Ministry of Public Health. Moreover, they were able to use online learning tools that they were familiar with. They also had the option to use online learning tools they were comfortable with. Despite the provision of computer laboratories, computers, Internet connectivity, and IT technical support by all the universities in our study for both online and on-site teaching, program chairs and faculty members encountered several technological and online learning challenges. The top three issues mentioned by both groups were low quality of Internet connections (10, 66.67%), followed by preferring face-to-face instruction for practical courses (6, 40.00%), and insufficient IT infrastructure and equipment (5, 33.33%). The following quotes provide insight into the experiences of program chairs and faculty members regarding these challenges.

“Despite the university’s ongoing efforts to enhance IT infrastructure in support of online learning and examina-

Table 3. Challenges and issues of the chairs and faculty members (n=15)

Theme	Chairs (n=5)	Faculty members (n=10)	Frequency	%
Technological issues and online learning challenges				
Low quality of Internet connection	5	5	10	66.67
Preferring face-to-face for practical courses	3	3	6	40.00
Insufficient IT infrastructure/equipment	2	3	5	33.33
Additional costs for high-capacity equipment and software licenses	2	2	4	26.67
Lack of skills to create instructional media	0	4	4	26.67
Unfamiliar with online learning technology/equipment	0	2	2	13.33
Lack of supporting academic resources	0	1	1	6.67
Insufficient IT skills	1	0	1	6.67
Difficulties adjusting to working and teaching online	0	1	1	6.67
Personal challenges				
Increased workloads	4	4	8	53.33
Lack of opportunities for social interactions with peers, students, and other LIS professionals	2	5	7	46.67
Experiencing a lack of student motivation to complete their thesis/dissertation	4	1	5	33.33
Time management issues	2	1	3	20.00
Health and mental issues: office syndrome	2	1	3	20.00
Difficulty maintaining work/life balance	2	1	3	20.00
Budget constraints	2	0	2	13.33
Inability to contact master's or doctoral students for supervision or guidance	1	1	2	13.33
Decline in research productivity	0	1	1	6.67
Lack of motivation to do research	0	1	1	6.67

IT, information technology; LIS, library and information science.

tions, issues related to online exams have been reported over the past two years.” – LIS graduate program chair 2

“The faculty policies for graduate education at my institution grant the faculty members to teach both online and onsite. For online learning, while I have the option to conduct online classes using Cisco Webex and Google Classroom, I personally prefer to teach certain practical courses, such as research methodology, in an on-site format.” – Faculty member 3

4.2.1.2. Personal Challenges.

The majority of participants (8, 53.33%) mentioned increased workloads as their primary challenge, followed by a lack of opportunities for social interactions with peers,

students, and other LIS professionals (7, 46.67%), and students experiencing a lack of motivation to complete their theses/dissertations (5, 33.33%). Most program chairs and faculty members attributed their increased workloads to the transition to remote work and online working environments. Consequently, some of them (3, 20.00%) reported experiencing issues with time management, health concerns such as “office syndrome,” and difficulty in maintaining a healthy work-life balance. The participants provided some explanations as follows:

“As a program chair, I often find myself managing teaching preparation, university board meetings, and online webinars simultaneously, which leads to increased stress. This stress is further compounded by the need to

accommodate additional meetings with graduate students in my already packed schedule.” – LIS graduate program chair 5

“In-person meetings with students are crucial for discussing complex research topics, as certain concepts and theories can be challenging to explain thoroughly online. The pandemic’s social distancing measures have reduced my social interactions with colleagues and students, which is a significant concern. Moreover, not being able to reach one of my students has been a source of great distress.” – Faculty member 10

“Amid the crisis, one of my students contracted the virus. She expressed a lack of motivation to continue in the program, citing her full-time job and health-related issues as significant challenges. Convincing her to complete her research and prepare for the final defense has proven to be a daunting task.” – Faculty member 7

4.2.2. Graduate Students

The results for this section were derived from the interview scripts of 39 graduate students. An analysis of these transcripts uncovered three significant themes that participants encountered during the pandemic: technological issues and challenges with online learning, personal struggles, and challenges related to thesis and dissertation work, all detailed in Table 4. Each of these themes will be elaborated on in the subsequent sections, with supporting quotes from the interview transcripts.

4.2.2.1. Technological Issues and Online Learning Challenges.

The major challenges for most participants were technological issues and online learning challenges. Despite 21 participants (53.85%) reporting sufficient IT skills, slightly over half of them still favored face-to-face learning over online learning. Five participants pointed out that online learning was more suitable for theoretical courses, while they believed practical courses and other interactive learning activities should be conducted in-person. Issues with low quality of Internet connections were a common concern, mentioned by 18 students (46.15%) and 11 participants (28.21%) cited insufficient IT infrastructure and equipment as problematic, emphasizing the critical role of Internet quality and IT resources in effective online teaching and learning. Participants stated that these technological limitations had a distracting impact on their learning experiences. The following are some explanations about

the problems associated with online learning.

“At first, I was struggling with the online learning system. Participating in online class and meeting via Zoom and MS Team was harder than being in face-to-face classes.” – Graduate student 1

“It is easy to get distracted in online classes because of a low quality of Internet connection, which results in poor audio and picture quality. Sometimes, I cannot hear the lecturers well.” – Graduate student 18

“The technical issues did not allow me to catch up with the lessons during online learning.” – Graduate student 23

4.2.2.2. Personal Challenges.

The majority of participants (20, 51.28%) identified issues with time management as their primary challenge, followed by health and mental issues (12, 30.77%), lack of opportunities for social interactions with academic advisers, supervisors, and peers (11, 28.21), as well as difficulties in maintaining a work/life/school balance (9, 23.08%). Most graduate students in this study were working full-time. As a result, they reported that time management and health and mental issues as their major concerns. They also had to maintain their work/life balance, particularly those employed in hospitals or serving as university-level lecturers. These groups of students also mentioned additional situational challenges, such as difficulties concentrating while learning at home and increased workloads. Those who mentioned time management asserted that:

“I was faced with time management issues since I was working fulltime in a hospital. Therefore, I could not make learning and dissertation as my first priority.” – Graduate student 1

“I work in a hospital and my workload during the pandemic burdened my study. Consequently, I could not pay attention to my thesis, particularly for data collection.” – Graduate student 9

“I am a lecturer, who not only has to teach online but also provides community services during the COVID-19 outbreak to meet the university’s key performance indicators. Working from home felt like a 24/7 job. Therefore, these duties affected my time management.” – Graduate student 24

Table 4. Challenges and issues of library and information science graduate students (n=39)

Theme	Frequency	%
Technological issues and online learning challenges		
Preferring face-to-face for practical courses	21	53.85
Low quality of Internet connection	18	46.15
Insufficient IT infrastructure/equipment	11	28.21
Unfamiliar with online learning technology/equipment	7	17.95
Additional costs for high-capacity equipment and software licenses	7	17.95
Lack of supporting academic resources	7	17.95
Insufficient IT skills	6	15.38
Quality of online learning resources	5	12.82
Personal challenges		
Time management issues	20	51.28
Health and mental issues	12	30.77
Office syndrome	6	
Stress and anxiety related to work/study	3	
Burnout	3	
Lack of opportunities for social interactions	11	28.21
Difficulty maintaining work/life/school balance	9	23.08
Concentration difficulties learning at home	7	17.95
Increased workloads	7	17.95
Being distracted during online class	6	15.38
Financial distress	5	12.82
Thesis and dissertation-related challenges		
Limited access to library physical space	8	20.51
Minor change to research	5	12.82
Inability to collect data for thesis/dissertation	4	10.26
Lack of motivation to do research	4	10.26
Inability to contact research subjects directly	4	10.26
Lack of supervisor support due to communication issues	3	7.69
Ineffective time management for thesis/dissertation writing	2	5.13
Inability to finish thesis/dissertation on time	1	2.56

IT, information technology.

Additionally, some graduate students reported that they faced with health and mental issues, which encompassed the body pains and fatigue known as “office syndrome,” stress and anxiety related to work and study, and burnout. The quotes below provide details of students’ health issues.

“I frequently found myself grappling with anxiety dur-

ing online learning, primarily because I had limited control over my learning environment. This loss of control contributed to a decline in my enthusiasm and motivation for learning. Additionally, I had concerns about the quality of IT equipment and its potential influence on the overall quality of online learning and examinations, which further compounded my worries.” – Graduate student 5

“Online learning required me to sit in front of the computer screen for several hours, which caused inflammation in my neck and back pain.” – Graduate student 6

“Engaging in prolonged online classes resulted in visual impairment. Furthermore, full-time employment and nocturnal dissertation work have engendered heightened levels of stress and anxiety. Sometimes, I feel that I experienced burnout.” – Graduate student 19

“I get stressed out because of online learning and examinations due to the low quality of IT devices and unstable Internet signal.” – Graduate student 22

4.2.2.3. Thesis and Dissertation-Related Challenges.

Given that the majority of participants (26, 66.67%) were in the stages of conducting their theses and dissertations, several of them have reported encountering challenges pertaining to these academic endeavors. Specifically, 11 participants (28.21%) underscored the lack of opportunities for social interactions with academic advisers, supervisors, and peers as a prominent concern. This was followed by limited access to library physical spaces (8, 20.51%), relatively minor research adjustments (5, 12.82%), and inability to collect data for thesis/dissertations, lack of motivation to do research, and inability to contact research subjects directly (4, 10.26%). These results were supported by the following quotes.

“Contacting my advisor and peers was difficult during that time. I couldn’t consult with them during the daytime due to my full-time work commitments. Sometimes, I had to work on my thesis during the night without any support. This situation created additional tension and a lack of motivation.” – Graduate student 2

“I had worked on my dissertation before the pandemic. When the second wave of COVID-19 struck, I had to change my data collection method from face-to-face semi-structured interviews to online interviews. This was very challenging because I could not directly contact my research subjects. Consequently, I had to extend my data collection period.” – Graduate student 35

This study also discovered that graduate students heavily depended on online learning resources, particularly online databases offered by libraries and handouts provided by their instructors. It seems that a few of them still found it necessary to visit libraries in person for various

reasons. In fact, eight graduate students (20.51%) reported that academic libraries had temporarily closed during the pandemic. Although these libraries offered book delivery services by mail and provided online access to many databases, some students continued to prefer accessing the libraries in the usual manner, as evidenced by the following quotes.

“Though the libraries provided home delivery services during COVID-19, the number of books that could be borrowed was limited. I preferred to access the library on-site because I could explore books, especially for theses and dissertation and research reports on shelves. Not all of them are available electronically. This helped me formulate idea for my research.” – Graduate student 1

“It is true that we can access and use online databases for our study and research. However, I need space for collaborative work, especially for brainstorming and doing group assignments.” – Graduate student 6

“Accessing the library databases from home is quite difficult because I cannot deal with the process of using virtual private network (VPN) for remote access.” – Graduate student 18

“The book delivery service via mail from the academic libraries is too slow, and I cannot use the material in a timely manner.” – Graduate student 20

In addition to the challenges and issues experienced by graduate students, several key themes have emerged, highlighting the advantages and positive aspects arising during the pandemic. Although the graduate student participants reported many challenges, 25 of them (64.10%) indicated that online learning offered various advantages, especially a reduced risk of infection (20, 51.28%), the convenience of online learning (5, 12.82%), and the opportunity to gain new experience from a variety of free online courses (5, 12.82%). The following quotes are examples of graduate students’ explanations regarding the advantages of online learning during the COVID-19 outbreak.

“Online learning is not problematic; on the contrary, it represents a shift in the learning format that allows learners to enhance their IT skills. Furthermore, it offers convenience in handling and managing time for my dissertation.” – Graduate student 7

“I recognize the significance of online learning and have a preference for it, as it mitigates the risk of infection during outbreaks.” – Graduate student 21

“I could be able to effectively manage my study time. This granted me ample time to prepare for classes and complete assignments punctually.” – Graduate student 33

Fifteen graduate student participants (15, 38.46%) mentioned that the online learning environment during the pandemic gave them opportunities to maintain online collaboration with peers and other LIS professionals and gain new skills. For instance, two participants asserted that:

“Over the past years of the pandemic, I attended various online webinars and conferences, and I have maintained contact with several LIS professionals. I believe that such interactions would have been less feasible in a typical situation.” – Graduate student 35

“I was a second-year master’s student when the COVID-19 pandemic hit. Initially, I struggled to keep up with coursework, especially in subjects that were new to online learning. After seeking guidance from my academic advisor, I enrolled in several Massive Open Online Courses (MOOCs) such as Thai MOOC and other platforms. These help to improve my digital literacy, research skills, and English proficiency.” – Graduate student 34

4.3. Recommendations for the Management of LIS Graduate Programs (Post Pandemic)

The LIS graduate program chairs, faculty members, and graduate students in this study provided pertinent recommendations for managing the LIS graduate programs in the post-pandemic era. The recommendations can be synthesized into three themes as follows:

4.3.1. Developing a Hybrid Curriculum for LIS Graduate Programs

The chairs of LIS graduate programs, faculty members, and graduate students have recognized the advantages of online learning, particularly during the COVID-19 outbreak. However, the majority of them still prefer face-to-face instruction for practical courses. As a result, all of the chairs and faculty members (15, 100%), along with most of the graduate students (25, 64.10%), have suggested that their respective universities should develop hybrid curricula for LIS programs. This integration would combine

synchronous classrooms with online or virtual learning, which offer benefits to both faculty members and students by fostering spontaneous and immediate social interaction. This is especially critical for graduate-level programs, as progress and achievements often depend on close collaboration with advisors. Additionally, online or virtual learning supports various learning formats and facilitates the establishment of regional, national, and international LIS networks. Hybrid learning also eliminates barriers that might hinder international graduate students from studying remotely, making it a suitable approach for LIS graduate programs in the post-pandemic era.

The majority of graduate students (22, 56.41%) also recommended that the lecturers consistently adopt new technologies and utilize suitable learning materials throughout their teaching. This approach aims to attract, encourage, and enhance student engagement. One graduate student emphasized this by stating:

“An advantage of online learning is that I can review the lectures anytime I want and learn at my own pace. It would be great if the lecturers could provide more interactive learning media, rather than just using PowerPoint and assigned reading lists.” – Graduate student 28

4.3.2. Creating an Effective Online Teaching and Learning Environment

Twenty graduate student (20, 51.28%) agreed that an effective learning environment is vital for the management of LIS graduate programs in the post-pandemic period. Therefore, universities and LIS departments should facilitate online teaching and learning environments, especially by providing effective learning platforms to support teaching and learning activities. These platforms should include functions to track students’ progress and facilitate online collaboration. Additionally, these learning platforms should be connected to and integrated with other systems, such as the enrollment system. Furthermore, some graduate students highlighted the necessity of effective research tools to assist with their research processes. For instance, a graduate student mentioned:

“Online learning platforms like Microsoft Teams and Zoom were helpful for lectures; however, additional research tools, such as Qualtrics and other data analysis software, are also necessary for completing research. The department should provide these tools to support graduate students both online and on-site.” – Graduate student 7

Although only seven of the graduate students (17.95%) mentioned a lack of academic support, a greater number of them (15, 38.46%) emphasized the significance of university libraries as important sources of information during the pandemic. These students also suggested that libraries should provide more accessible electronic resources for graduate students (8, 20.51%), offer online training courses (5, 12.82%), and provide online research support (4, 10.26%). Two graduate students explained that:

“At the start of the pandemic, I was worried as universities and libraries closed. I needed books for my thesis not available online. Luckily, my university library offered book delivery by mail, which was a great help.” – Graduate student 15

“I primarily relied on online information during the pandemic, but accessing university databases was often hindered by VPN issues. I believe it’s essential for the university library to regularly maintain its VPN service and provide guidance on Open Access resources. Additionally, offering online training and research consulting support would be highly valuable.” – Graduate student 23

4.3.3. *Expanding Collaborative Teaching and Learning Networks*

All the LIS graduate program chairs and faculty members, along with 22 graduate students (56.41%), shared the consensus that collaborative teaching and learning networks are essential for effectively managing and improving LIS graduate programs following the pandemic. Online learning environments allow LIS programs the flexibility to establish collaborative networks for teaching and learning, particularly in terms of national and international partnerships and exchange programs. Such collaborations with universities, libraries, and other information organizations worldwide can provide valuable opportunities. Consequently, both faculty members and graduate students have the chance to broaden their experiences and knowledge through these collaborations. These findings were not only confirmed by the LIS graduate programs’ chairs and faculty members, but also by graduate students who have benefited from online collaboration, as evidenced in the following explanations:

“An online environment offers opportunities to establish online learning and teaching networks and collaborations, both at the national and international level. During

the pandemic, I participated in various international online conferences and served a guest lecturer for several online classes, experiences that were not possible normally. Therefore, this online collaboration should be sustained as a regular teaching and learning activity in the new normal.” – LIS graduate program chair 3

“A positive aspect of the pandemic is the ability to engage in multiple online activities simultaneously, if you can manage your schedule effectively. For example, I could attend an online webinar during a department meeting. Additionally, I had the opportunity to present my paper at an international conference co-organized by multiple LIS schools and professional organizations in different countries, which might not have been possible in normal circumstances.” – Faculty member 7

“My lecturers have extended invitations to guest speakers who are experts in various fields, including qualitative research and data curation. This teaching approach has been highly effective, as it offers students insights from researchers in diverse organizations. Personally, I greatly benefited from these online sessions and was able to generate numerous ideas for my thesis as a result.” – Graduate student 19

5. DISCUSSION

The analysis of interview transcripts from LIS graduate program chairs, faculty members, and graduate students revealed their challenges and perspectives on LIS education during the pandemic. Participants navigated a rapid transition to fully online learning, coping with the challenges of adapting to this new environment. The key findings and guidelines for the management of LIS education post-pandemic are discussed below.

5.1. *Issues Relating to Online Learning in LIS Education and Suggestions*

Similar to studies of other academic disciplines and LIS institutions worldwide, this study found that technology infrastructure is a critical factor that presents challenges for both educators and learners on a global scale. Inadequate technology resources and subpar Internet connectivity have adverse effects on online teaching and learning, as well as the overall administration of LIS programs. These findings align with previous research and are consistent with the outcomes of the present study. All groups of key informants in this research identified these

technological challenges as fundamental and of significant concern. For example, the chairs of LIS graduate programs emphasized that technology infrastructure, including Internet connectivity, was not only indispensable for supporting online learning, but also crucial for facilitating effective communication between faculty members and students. Faculty members in this study echoed these concerns, expressing apprehensions regarding technology infrastructure issues such as unstable Internet connections, outdated devices, and online learning management systems. Earlier research likewise revealed that despite initially holding positive attitudes toward the adoption of e-learning at the onset of the pandemic, LIS educators encountered numerous challenges, including the lack of adequate technical infrastructure and limited Internet access (Igwela & Nsirim, 2020; Somabut & Tuamsuk, 2021).

This study affirms the critical importance of technology infrastructure and Internet connectivity within online learning environments. The graduate students who participated in this study overwhelmingly concurred that inadequate infrastructure and unreliable Internet connections significantly impeded their learning experiences. These findings align with a body of research conducted during the pandemic (Almahasees et al., 2021; Bestiantono et al., 2020; Muthuprasad et al., 2021). For instance, Almahasees et al. (2021) observed similar challenges among undergraduate students, including issues related to IT proficiency, limited opportunities for interaction, and technical difficulties stemming from the cost of network access. Furthermore, the abrupt transition from traditional face-to-face instruction to fully online learning across various platforms and devices introduced additional complexities not only for graduate students but also for faculty and staff (Wang et al., 2020).

Given that technology infrastructure, including Internet connectivity, hardware, and software, plays an indispensable role in online learning environments, both universities and LIS graduate schools must ensure its availability. This is essential for managing LIS graduate programs in the post-pandemic era, where online learning is prominent. LIS administrators should prioritize cutting-edge technology infrastructure, reliable Internet connectivity, and robust learning tools and systems, such as Microsoft Teams, Zoom, Blackboard, Google Classroom, and Google Meet, which are essential components for the successful adoption of online learning. Additionally, the participants in this study suggested adopting new technologies and utilizing suitable learning materials, such as interactive media and learning management systems

supporting both synchronous and asynchronous learning activities. Similar results were also confirmed in literature. For example, Sukiman et al. (2022) discovered that Zoom supports real-time learning, enhances the efficiency of online education, and improves engagement between instructors and students, including those pursuing doctoral studies. Hence, providing such essential tools can greatly facilitate effective teaching and learning in this environment.

The lack of IT skills appears to be a major challenge in online learning during the pandemic (Igwela & Nsirim, 2020; Nimavat et al., 2021). This study confirms that it is also one of the major issues challenging LIS educators in the Thai context. It addresses the importance of IT skills and the necessity for developing IT skills among both educators and learners. Our findings show that LIS faculty members expressed concerns about their IT skills for online learning, while graduate students in the study felt confident in their IT skills. It is practical for LIS graduate schools to offer support and training to prepare both faculty and students for the online learning environment. Topics could include using online tools (Zoom, Microsoft Teams, Google Meet, Webex), assessment tools (Socrative, Google Forms, Quizizz), research tools (Survey Monkey, Qualtrics, Google Forms), and creating online interactive instructional media and tools (Nimavat et al., 2021).

Alongside technological challenges, the participants in this study expressed concerns about various personal challenges. These included time management, health and mental well-being, and a lack of social interaction. Additionally, the graduate students also addressed thesis and dissertation related issues as their primary concerns, including limited access to physical library space and minor research adjustments. These concerns align with findings from prior studies (Almahasees et al., 2021; Imsa-ard, 2020; Nimavat et al., 2021; Patricia Aguilera-Hermida, 2020; Thanavisuth, 2021). Patricia Aguilera-Hermida (2020) found that college students faced difficulties concentrating while learning at home, struggled to balance life-related stress, lacked motivation, and found online learning challenging. Contacting professors was also challenging. Understandably, these issues can impact students' performance in an online learning environment. To prevent and resolve these types of problems, LIS graduate programs should provide online support and counseling on educational and health related issues, catering to both faculty and students.

5.2. Hybrid Learning As the Key for Post-Pandemic LIS Education

This study underscores the suitability of hybrid curricula and collaborative teaching and learning networks as strategies for transitioning beyond the pandemic. Hybrid learning, as evidenced, amalgamates the advantages of both face-to-face and online instructional modalities. It affords students the benefit of flexibility and self-paced learning, complemented by convenient 24/7 access to learning materials asynchronously. Simultaneously, it facilitates the maintenance of social interaction among students and faculty members during in-person activities. These findings align with prior research conducted by Romaniuk and Łukasiewicz-Wieleba (2022), and Sukiman et al. (2022), which similarly affirmed the appropriateness of hybrid learning as a post-pandemic educational paradigm. For instance, Romaniuk and Łukasiewicz-Wieleba (2022) and Sukiman et al. (2022) substantiate the proposition that hybrid learning remains a pertinent educational approach in the post-pandemic era. Sukiman et al. (2022) specifically accentuate the effectiveness of online learning at the doctoral level, both in terms of the learning process and its outcomes. While doctoral students in their study acknowledged the advantages of hybrid learning during the pandemic, they expressed a preference for face-to-face instruction in certain contexts. Consequently, the researchers recommended a balanced approach that considers the interplay between online and offline learning. For a master's degree, a suitable proportion might be 40-50% offline and 50-60% online. However, for more advanced students such as doctoral students and candidates, Sukiman et al. (2022) find it prudent to reduce the offline component to 20%, allocating the majority—approximately 80% of the learning time—to online modalities. Our present study expands on this by suggesting that the 20% allocation for offline activities could encompass practical exercises and hands-on experiences, as indicated not only by faculty members but also by graduate students in our study.

When designing blended and hybrid learning for LIS online degree programs, administrators must consider content and communication in both synchronous and asynchronous modes (Franks, 2012; Romaniuk & Łukasiewicz-Wieleba, 2022). The absence of a social element can hinder hybrid learning success (Romaniuk & Łukasiewicz-Wieleba, 2022; Sukiman et al., 2022). Therefore, prioritizing social interaction is crucial. Hybrid learning should foster collaboration through online and on-site methods, cultivating a community of practice. For example, it can involve internship opportunities, inviting

guest speakers or lecturers, and engaging in project-based learning. Furthermore, interdisciplinary collaboration is essential due to LIS's intersection with other disciplines such as social sciences, humanities, archival studies, education, and management (Poole & Todd-Diaz, 2022). Integrating diverse perspectives fosters students' knowledge and skills expansion. Additionally, for hybrid curriculum success, instructors should pay special attention to the curriculum's objectives, strike a balance between online and in-person activities, and provide effective feedback, as well as evaluation and assessment. These factors offer opportunities for students to develop and showcase their achievements (Center for Teaching Innovation-Cornell University, 2022). Within a hybrid learning environment, a shift from a teacher-centered to a learner-centered approach is imperative. This transformation empowers students as independent learners, with instructors assuming the role of facilitators, guiding and supporting students in achieving their educational objectives.

6. CONCLUSION

The teaching and learning of LIS graduate programs in Thailand have transitioned to fully take place in an online environment since the COVID-19 pandemic, similar to other institutions worldwide. The chairs of these programs, faculty members, and graduate students in this study acknowledged both advantages and disadvantages of online teaching and learning during the pandemic. Despite the support provided by the universities in the form of technology infrastructure, including devices, tools, and improved Internet connections, program members still encountered numerous challenges. As discussed earlier, the most common issues were related to problems with unstable Internet connections and outdated devices and applications, which impeded the teaching and learning process. Additionally, personal challenges such as increased workloads, time management, and a lack of social interaction posed barriers to delivering high-quality education. To enhance the effective management of LIS graduate programs, the chairs, faculty members, and graduate students in this study recommended that universities develop hybrid curricula, establish effective online teaching and learning environments, and expand collaborative teaching and learning networks.

The recent pandemic has had a profound impact on education and content delivery worldwide. It has not only disrupted education in a general sense but has also altered the management of educational programs, methods of

knowledge transfer, communication, and collaboration. While the pandemic introduced various challenges to the academic world and, to some extent, brought education systems to a halt, it also opened doors to new opportunities and led to innovations and efficiencies along the way. This crisis has highlighted flaws and shortcomings related to technology infrastructure and IT-related skills that need addressing to prepare for future events. As we move beyond the recent pandemic and enter a new era of education, it is imperative to reflect on the lessons learned and focus on areas that require improvement.

7. LIMITATIONS

Our findings offer valuable insights into the management of LIS graduate programs in Thailand amid the pandemic, shedding light on the challenges faced by LIS chairs, faculty members, and students within these programs during this period. Additionally, the principal findings furnish essential guidelines for the management of LIS education in the post-pandemic era. The following research limitations require consideration. Initially, data were gathered from a sample of only 54 key informants. Furthermore, the majority of our participants were graduate students. Hence, the generalizability of our findings to encompass all LIS graduate programs in Thailand is limited. Secondly, our study was conducted towards the end of 2021, and we conducted interviews with key informants in January 2022, during a period following the initial outbreak when cases were declining. Therefore, the results obtained may not be directly comparable to research conducted at the peak of the outbreak. Finally, due to the exclusively Thai origin of our participants, the applicability of the outcomes to different nations is restricted. Nevertheless, despite these constraints, the researchers posit that the findings from our study could prove beneficial for administrators of LIS graduate programs in various countries, aiding them in transcending the challenges posed by the recent pandemic and transitioning into a novel educational phase.

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CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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