Keeping up with the shift: A study on the pedagogical practices among academic librarians in the post-pandemic era

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Abstract: Academic libraries' teaching and learning responsibilities have expanded and evolved in the online environment. Academic librarians in higher education institutions who also teach now recognize the need to keep up with this generation's hybrid learning modalities. Understanding various learning theories that can support online library instruction and maximizing technology use for effectively identifying the appropriate tools for different learning outcomes is now emphasized. Certain pedagogies we are accustomed to might not effectively work in the new normal environment. Hence, this paper aims to document and analyze academic librarians' pedagogical approaches and how the application of technology changed the teaching and learning landscape moving forward in the hybrid environment. This paper presents individualized and contextual experiences to draw out insightful perspectives–allowing librarians to re-think and re-evaluate practices that can further help them embrace their teaching role. The study employed a qualitative research design using the thematic analysis method. It targeted reference librarians in academic libraries who were mainly tasked with teaching responsibilities through information literacy sessions. The study revealed that librarians' exposure to varied teaching opportunities and experiences enabled them to develop strategies and approaches to manage learning during instruction. These aspects allow them to explore resources that bring about creativity in fulfilling their role as instructional librarians. Reinforcing specific competencies and increasing creativity skill sets boosts the librarians' confidence to strengthen their pedagogical approaches further

and sustain meaningful user-education programs. The embedded narrative inquiries in the study served to identify emerging pedagogies for librarians within academic libraries in a post-pandemic setting. As librarians play a crucial role in supporting education and fostering information literacy, this study aspires to seek innovative ways of pedagogical practices to continue serving as invaluable champions of learning in the post-pandemic era.

Keywords: *Academic libraries, Online teaching, Pedagogy*

1. Introduction

The COVID-19 pandemic crisis has affected the whole higher education institution, with the majority of students worried about their health and safety, the safety of their loved ones, and the financial consequences of the pandemic. Face-to-face encounters were restricted, resulting in "ambiguous loss" due to uncertainty generated by the notion that libraries will become irrelevant and obsolete, potentially leading to retrenchment. To meet the national government's basic public health criteria, institutions made the necessary changes to deliver their academic programs and services. The investment in current technology acquisition was evident. It was used to transition better, function efficiently, and remain relevant based on the notion that learning is not a function of student characteristics but teaching attributes. As a result, it is said, that education should shift its emphasis from treating learning problems to enhancing teaching abilities (Lloyd, 1975).

As librarians adapted their services to comply with social distancing and other safety measures, virtual sessions for library instruction were born. With the increased use of online resources during this time, demand for instructional demonstrations is needed more than ever. Fast forward after two years of lockdowns and restrictions, with online classes still an option, onsite classes are now easing in—making librarians rethink their ways of providing the services in a new hybrid environment.

Hence, this paper intends to document and analyze academic librarians' pedagogical approaches and how the application of technology changed the teaching and learning landscape moving forward in the hybrid environment. The study aspires to seek innovative ways of pedagogical practices—how librarians approach teaching and learning—their practices and techniques in the post-pandemic era.

As librarians play a crucial role in supporting education and fostering information literacy, this study aspires to seek
The study revolved around the following research questions (RQs):

RQ1. How did the academic librarians adapt to the abrupt changes in providing formal instructions?

RQ2. How did the academic librarians recalibrate their teaching methods and strategies using the online teaching style?

RQ3. How did the academic librarians effectively integrate technology in providing formal instructions?

RQ4. How did the academic librarians address challenges in providing instructions in a hybrid modality?

1.1   Teaching and learning

While technological advances predominate, changes in how people consume information greatly affect the roles of librarians and have offered opportunities for the library profession to transform. Librarians are now called upon to provide instructional support to students and faculty in person and online. Otto (2014) has identified these significant signatures of pedagogical opportunities— when an individual student or faculty member asks for assistance at the reference desk or through a one-off research consultation as the most frequent pedagogical opportunity—to a full-blown "library instruction" session that usually arises through collaboration between the teaching faculty and the librarian.

A key aspect by which librarians have adapted to this changing environment is by updating and developing new pedagogical strategies to emphasize critical thinking in information literacy. This changed environment brought unique responsibilities for the academic librarian, including the need for training in pedagogical theory and practice, the development of online curricula, and methods to ensure their continued professional and personal growth (Martzoukou, 2021).

To minimize student stress during this challenging time, it's also important to avoid using unnecessary technology or tools that don't directly contribute to lecture goals. Clearly communicating which tools will be used and why can also be beneficial, especially for students who might struggle with managing multiple platforms. Providing a glossary of these tools, including their purpose, how they'll be used, and links to technical support, could further assist students (Ibacache et al, 2021).

This focus on simplifying the technological landscape complements a broader shift in librarians' instructional role. Beyond simply providing information, librarians now prioritize developing students' information literacy skills. This includes teaching effective research strategies, source evaluation, and information synthesis, empowering students to navigate and critically assess information independently.

Another important aspect of the changing role of librarians is their increased involvement in the design and delivery of online courses. As observed by Priyadarshani and Jesuiya (2021), the shift within their teaching role is also

taken into account—from merely being a conduit of information to assuming the responsibility of planning the instructional method.

With the growing number of online courses, librarians play a critical role in ensuring students can access the information and resources they need to succeed. This includes creating and curating online collections of digital resources and providing instructional support through online chat, video conferencing, and other digital platforms.

1.2   Pedagogical influences

Academic librarians' role in teaching and learning is a core function that has expanded and diversified globally (Bewick & Corrall 2010; Houtman 2010). Societal and technological factors can affect how librarians deliver the expected roles. There have unquestionably been advancements in information literacy education that emphasize not only the dissemination of knowledge but also "librarians' teacher development and teacher identities," which highlight how librarians perceive their pedagogical work and roles and its impact on librarian communities of practice, curricula for aspiring librarians, and development of library instruction programs (Baer, 2021).

Aside from just teaching information literacy concepts, librarians also developed pedagogical discourses on their own. These pedagogical developments usually advance as they perform these roles on the job or through trial and error, usually supplemented by personal readings and other methods such as seminars, workshops, and peer support (Leckie & Fullerton, 1999; Bewick & Corall, 2010). This peer support extends to peer observation or peer review, which has been used widely as an indispensable professional development activity to ensure professional learning for both the observed and the observer. Co-teaching also helps hone teaching strategies and builds confidence (Hall, 2017).

1.3   Library instructions in the post-pandemic era

As academic libraries were compelled to move from face-to-face to online service delivery, several approaches were investigated and developed to continue providing services despite interface constraints. Most libraries improved their digital and online resources, paving the path for the re-creation of various library services, including instructional services. Instructional librarians have no choice but to provide instructions via online modality. Some of them utilized different platforms just to deliver the library's instruction services, such as orientations, training, and information literacy sessions.

These online instructions provide a new flavor to how librarians educate, giving rise to constructivist education that exemplifies collaborative learning. Palincsar (1998) noted that collaborative learning is a student-centered educational strategy that relies on social constructivists' concept that understanding is generated more successfully with peers than it is alone. Online classes are said

to be treated as a modern method of the learning process for coping with problems (Agustina and Cahyono, 2017; Priyadarshani, 2021). Academic libraries are believed to continue providing online and hybrid instruction, even in the post-pandemic era. Hence, librarians must strategize and adjust their teaching styles and methodologies to align their instructional and learning outcomes, including their assessments. Thus, the emergence of digital pedagogies and academic librarians is a pressing topic.

Moreover, as a springboard to this research, it was recommended in the study of Saib et al. (2023) to investigate further the digital skills and pedagogical practices of academic librarians in an online environment; emerging 21st-century pedagogical frameworks and academic librarians; as well as academic librarians transforming pedagogy with technology–to discover if digital pedagogies are indeed effecting change.

2.   Methodology

This study employed a qualitative research design using the thematic analysis method. Participants were seven (7) librarians in selected academic libraries in Manila. Respondents must be currently assigned teaching responsibilities in the form of information literacy sessions at their respective institutions. Experience in handling sessions during the COVID-19 pandemic and the shift to the new normal is a must for this study.

The data from this study was derived from one (1) online-focused group discussion via Zoom, which was facilitated by the researchers last May 2023. This method intends to gather data and facilitate conversations with and among librarians who have experienced delivering information literacy sessions provided by the library in an online environment. The focus group discussions enabled the participants to express their feelings and freely convey their thoughts about the topic. Informed consent detailing voluntary participation and confidentiality was sent to the participants before they were invited to the online-focused group discussion.

The data for this study were collected via video recording of a group discussion, which lasted 1 hour and 21 minutes. The audio from this recording was subsequently transcribed, yielding approximately 20 pages of text. Thematic analysis, as described by Braun and Clarke (2006), was employed to analyze the transcribed data.

The analysis began with a thorough familiarization phase. The researchers immersed themselves in the data by repeatedly reading and re-reading the entire transcript, listening to sections of the audio recording as needed for context, and making initial notes and observations. This iterative process allowed for a deep understanding of the participants' perspectives and the nuances of the discussion.

Next, initial codes were generated. Researchers systematically reviewed the transcript, identifying and labeling keywords, phrases, and segments of text that

related to the research questions. These codes served as concise summaries of the data's content. Discrepancies in coding were discussed and resolved through collaborative consensus, ensuring the codes accurately reflected the data. The codes were then combined into broader themes. Researchers looked for patterns and connections between the initial codes, grouping similar codes together to form overarching themes that captured significant recurring ideas or concepts within the data.

The identified themes were then reviewed. Researchers revisited the original transcript and audio recording to validate the themes. This involved checking if the themes adequately captured the range of perspectives expressed in the discussion and if there was sufficient evidence in the data to support each theme. Themes that lacked strong support or were not sufficiently distinct were either revised or discarded.

Following the review, significant themes were selected for further analysis and interpretation. This involved considering the relevance of each theme to the research questions and the overall study objectives. Themes that were particularly salient or insightful were prioritized for reporting.

Finally, the findings were reported in a clear and comprehensive manner. This involved providing rich descriptions of each significant theme, supported by illustrative excerpts from the transcript. The excerpts were chosen to highlight the key aspects of each theme and to provide direct evidence of the participants' experiences and perspectives. The analysis also considered the relationships between the themes, providing a holistic understanding of the phenomenon under investigation.

3. Results

The results were drawn from the insights shared by the respondents of this study. The relevant themes that emerged were: 1) Transforming information literacy instruction; 2) Embracing digital tools and platforms; 3) Fostering engagement and participation; 4) Cultivating adaptability and resourcefulness; 5) Designing for effective online learning.

Transforming Information Literacy Instruction. This theme encompasses shifting to online delivery, modifying teaching methods, and recreating information packets and instructional materials. The pandemic forced a rapid transition to online learning, compelling librarians to not only deliver sessions remotely but also fundamentally rethink how they teach and the resources they utilize. This theme explores the challenges and innovations in adapting information literacy instruction to the digital environment. It examines the redesign of content, the adoption of new pedagogical approaches suitable for online delivery, and the creation of engaging digital learning objects. This transformation reflects a significant adaptation to the digital environment, requiring librarians to reimagine their roles as educators.

Depending on an institution's capability and technological infrastructure, these sessions can be delivered synchronously or asynchronously. Academic

librarians also highlight their experiences by quickly learning and re-learning through capacitating themselves concerning integrating different applications, platforms, and features that will further help them create an interactive online instruction method during the onset of the pandemic. Librarians even shared that:

"Today, we were able to maximize the features like raising hands, the importance of reactions e.g. thumbs up" (Respondent B)
"We even opted to increase our Zoom subscription to accommodate a greater audience" (Respondent D)
"We strategize switching in between using Powerpoint, Google Slides, Zoom, and Google Meet for presentations" (Respondent E)
Emphasis was also given to strengthening the technological infrastructure of the library, most especially the internet connectivity, subscription to different software and applications, enhancing the library website, elevating social media presences, and utilization of a Learning Management System (LMS) that would create more opportunities and stability in conducting online delivery of IL. Most of them are the following:
"Internet connectivity poses risk and must not be interrupted" (Respondent A)

"There's now an emphasis on searching and using the best platforms to hold sessions" (Respondent E)
"Maximizing the use of the university's learning management system to upload our asynchronous modules" (Respondent F)
In addition, as academic librarians transitioned to online teaching methods, they recognized the importance of revising their teaching strategies and experimenting with new ways to deliver lectures to adapt to the "new normal way" of providing instruction. The librarians were pushed to be more resourceful and creative in their instruction handling, which provided them with opportunities to empower themselves and discover new ways to be effective in their teaching roles. Librarians reported that they resort to reading articles and watching video demonstrations on how to teach online effectively, given that most do not have formal training in teaching. It was also mentioned that simple language should be used to avoid technical jargon. When presenting information, it was noted that we should break it down into easy-to-understand segments since we tend to speak continuously in the online format and forget to pace ourselves.
One person can handle the class in a face-to-face setting without much problem. However, in the online environment, a lot can go differently. To handle concerns with connectivity and few librarians who can handle sessions, co-teaching was seen as the solution:
"Partnered teaching helped our team deliver online library sessions. This ensured that our co-facilitators were ready to handle their classes as main facilitators in the succeeding sessions. This also helped us train all librarians to handle every session more effectively. Harnessing everyone's capability in case

there are a lot of scheduled sessions—more librarians can handle classes" (Respondent E)

The instructional materials were also recreated to suit online information literacy learning, and librarians became more creative and innovative in repackaging their teaching aids to make the presentations and discussions more appropriate and engaging to the learners. Databases and other information resources were converted to be more accessible and can be used for hands-on applications anytime.

The pandemic paved the way for librarians to create and expand online research guides that provide a list of resources and instructions on how to access and maximize these resources. The guides and instructional videos were embedded in the website, and part of providing online instructions is to encourage learners to visit the website and navigate through these resources regularly. Common tools used were Canva, Powtoon, and Springshare's LibGuides.

In conclusion, the narratives reveal a significant transformation in information literacy instruction. Librarians didn't simply replicate their face-to-face sessions online; they fundamentally rethought their pedagogical approaches, content delivery, and resource creation to effectively engage learners in the digital space. This transformation highlights the resilience and adaptability of librarians in responding to the changing educational landscape.

Embracing Digital Tools and Platforms. The post-pandemic era has witnessed academic librarians strategically embracing digital tools and platforms to enhance their teaching practice. This theme examines the librarians' proficiency with various online platforms, their ability to leverage collaborative tools for student interaction and their effective integration of Learning Management Systems (LMS) functionalities. This exploration delves into how librarians have harnessed technology to create dynamic and interactive online learning experiences.

During the pandemic, librarians realized the value of improving their website and educating their learners on how to benefit from the information provided, such as accessing different resources and availing of library services. Hence, resources and services were posted and regularly updated on the sites. These changes were always emphasized during library orientations and training. The librarians also reported keeping up to date with the latest web technologies. Different gadgets and tools were explored to efficiently present themselves and their content to the students–from the appropriate specifications of the camera, microphone, and such to web applications that improve the functionality of their site and stay competitive. This maximized the available collaborative online tools to facilitate effective interactive learning. Engaging learners with interactive tools like polls, quizzes, interactive games, and breakout rooms keeps them focused and involved in the session, thereby enhancing active learning.

With most universities using LMS in managing their courses, academic libraries have also integrated their learning modules into these platforms, providing easy access to research materials and tutorials for their research journey.

"Canvas was maximized through a library research course where we put there our online modules" (Respondent E)

Overall, in a rapidly changing technological landscape, academic librarians have adapted quickly to providing formal instruction by leveraging a range of tools and techniques that meet the needs of their stakeholders. The narratives underscore the crucial role of digital tools and platforms in post-pandemic information literacy instruction. Librarians have demonstrated a willingness to embrace new technologies and integrate them effectively into their teaching practice, creating more engaging and interactive online learning experiences for students.

Fostering Engagement and Participation. Maintaining student motivation and interaction in virtual learning environments has emerged as a key challenge in the post-pandemic era. This theme delves into the strategies academic librarians employ to foster a sense of community and encourage active participation in online learning. It examines techniques to stimulate discussion, facilitate collaborative activities, and create a supportive online learning atmosphere.

Academic librarians have had to make significant changes in their online teaching aid preparation to ensure effective interaction and engagement with their learners in an online teaching modality. The librarians observed that most of the materials they used in the face-to-face modality should be shifted to accommodate online learning to aid in capturing and sustaining learners' attention in a virtual environment. They also believed that adjusting the teaching methods to encourage participation and engagement is vital for effective delivery in the online setting. For example, some librarians shared how they created short, engaging video tutorials to replace lengthy text-based guides, while others developed interactive quizzes and online scavenger hunts to reinforce learning. Beyond materials, librarians also emphasized the critical need to adapt teaching methods to encourage active participation. They experimented with various techniques, such as using breakout rooms and incorporating polls and surveys to gauge understanding.

Furthermore, fostering a sense of community emerged as a key priority. Librarians described how they intentionally created opportunities for students to connect with the instructor. This included establishing online discussion forums and creating informal online spaces for students to interact. One librarian explained,

"It's not just about delivering content; it's about creating a space where students feel comfortable asking questions, sharing ideas, and learning from each other"(Respondent F)

This emphasis on community building reflects a deep understanding of the importance of social interaction in online learning.

To reiterate, this highlights the importance of fostering engagement and participation in online information literacy instruction. Librarians have implemented various strategies to create a sense of community and encourage

active learning in the virtual environment, recognizing the crucial role of interaction in effective online learning. Their efforts to transform instructional materials, adapt teaching methods, and cultivate a sense of community highlight their commitment to creating engaging and interactive learning experiences for students in the digital age. This theme reveals a proactive and innovative approach to online pedagogy, demonstrating the evolving role of academic librarians as facilitators of learning even if we shift online.

Cultivating Adaptability and Resourcefulness. The sudden shift to online teaching demanded a high degree of adaptability and resourcefulness from academic librarians. This theme explores how they navigated the challenges of the new digital landscape, including learning new technologies, developing new pedagogical approaches, and adapting to the evolving needs of students in a virtual environment. It highlights their ability to innovate, problem-solve, and find creative solutions to ensure effective information literacy instruction.

Librarians have experienced challenges in providing instructions in an online modality. The pandemic caused librarians to be more flexible and resourceful in delivering online instructions despite the limitations effectively. The narratives collected in this study paint a picture of librarians' resilience and ingenuity. Faced with the limitations of the online modality, librarians demonstrated remarkable flexibility in their approach to instruction. One librarian shared,

"With the flexibility of the class hours, the IL sessions can also be scheduled even after our work shift" (Respondent J)

During the pandemic, librarians needed to be resourceful and adjust their information literacy programs, including changes to the content structure and format, use of human resources, scheduling, and other factors. With this shift online, the notion of being available most of the time became more prevalent. Librarians reported receiving requests for training even after office hours and on weekends, making them adjust their schedules and divide the workloads properly. This allows for the effective implementation of sessions even in the face of physical constraints and instructional confusion. Technical rehearsals were also incorporated to plan for and foresee potential technical issues during the actual instruction, which increased the efficient tasking and overall management of instruction for librarians.

This illustrates how librarians adapted their schedules and workflows to meet the needs of their students, demonstrating a commitment to accessibility and student-centered learning. Beyond scheduling, resourcefulness also extended to contingency planning.

Another librarian explained, "Even if you get disconnected from the internet, there should be a backup plan and find ways to deliver the session" (Respondent C)

This highlights the proactive approach librarians took to anticipate and mitigate potential technological challenges, ensuring continuity of instruction even in the face of disruptions. This type of problem-solving was crucial for maintaining the quality and consistency of online learning experiences.

This theme demonstrates the adaptability and resourcefulness of academic librarians in the face of unprecedented change. Their ability to not only learn new technologies and develop innovative teaching strategies but also to adapt their schedules, create contingency plans, and continuously refine their skills has been essential to the continued success of information literacy instruction in the post-pandemic era. This reveals a dynamic and forward-thinking approach to librarianship, highlighting the crucial role librarians play in supporting student learning in an evolving digital world.

Designing for Effective Online Learning. Effective online teaching necessitates careful planning and a well-structured approach. This theme explores how academic librarians designed their online courses and learning experiences, considering key factors such as clearly defined learning objectives, appropriate assessment strategies, and the logical organization of content. It delves into their understanding and application of instructional design principles within the unique context of online learning. This theme goes beyond simply delivering content online; it examines the intentional and thoughtful design choices librarians make to create engaging and effective learning experiences.

Librarians recognized that simply transferring traditional face-to-face teaching methods to an online platform would not be effective. One key challenge they addressed was maintaining student engagement. As one librarian noted,

"You change strategy when you see them [students] bored" (Respondent G)

This highlights the importance of dynamic and adaptable teaching strategies in the online context, where student attention can be more easily diverted. For example, some also indicated that instead of relying solely on lengthy pre-recorded lectures, librarians also incorporate short, focused videos interspersed with interactive activities. A short video demonstrating how to use a specific database, followed by an interactive quiz to check comprehension, and then a breakout room activity where students practice searching the database themselves is also another strategy.

In addition, since visual cues are limited, librarians need to actively solicit feedback from students. These were done through regular check-in questions, surveys, or even quick polls asking about the pace and clarity of the material. Providing timely and personalized feedback on assignments and activities is crucial for maintaining student motivation.

Librarians did recognize the distinct nature of online interaction. One even shared, "There's a big difference between face-to-face and online interaction with the students. If you think it's hard

figuring them out in person, it is another story online" (Respondent E). This understanding led to exploring new techniques for fostering interaction and building rapport in a virtual setting. For example, some librarians experimented with incorporating interactive quizzes, polls, and breakout rooms into their online sessions.

Beyond engagement, librarians also focused on ensuring clear communication and a well-structured learning experience. As emphasized by one librarian,
"You must also be mindful about ensuring continuity in instruction and fluency in the delivery of the content" (Respondent C)
This highlights the importance of clear and concise communication in online instruction. Librarians now create detailed course syllabi with clear learning objectives, assignment instructions (if possible), and grading rubrics (if in coordination with a specific course subject requirement). They also use announcements and discussion forums to communicate important information to students and answer their questions.
Meanwhile, the narratives also revealed a role shift for librarians online. As one shared,

"You perform the different roles–as a facilitator, chat moderator, technical person when you handle a class" (Respondent B)
This illustrates the multifaceted nature of online teaching, where librarians often take on multiple roles, from content delivery to technical support. In some cases, they might even need to provide technical support to students who are struggling with the online platform or tools.
Overall, the themes in this study explored the multifaceted adaptations of academic librarians' pedagogical practices in the post-pandemic era, revealing a significant shift in how they deliver information literacy instruction. It provided valuable insights into the dynamic evolution of academic librarians' pedagogical practices in the post-pandemic era. The themes highlight their resilience, adaptability, and commitment to providing high-quality learning experiences for students in the digital environment. These adaptations are not merely temporary responses to a crisis but represent a fundamental shift in the role of academic librarians, positioning them as key players in shaping the future of information literacy instruction.

4.   Discussion
This study investigated the evolution of academic librarians' pedagogical practices in the post-pandemic era, focusing on how they adapted to the rapid shift to online and hybrid learning environments. Research Question 1 (RQ1) explores how librarians adapted to the abrupt changes in providing formal instruction. This question aligns strongly with the theme of Cultivating adaptability and resourcefulness, examining their responses to the sudden transition online. Narrative data related to RQ1 reveals how librarians adjusted workflows, learned new

technologies, and developed new online instruction strategies, highlighting the challenges faced and the support systems available (or lacking). The theme of Transforming information literacy instruction is also relevant, as these "abrupt changes" necessitated modifications to content and delivery methods.
RQ2 investigates how librarians recalibrated their teaching methods and strategies for online instruction. This question connects most closely with

Transforming information literacy instruction, focusing on the specific changes made to pedagogical approaches, experimentation with new techniques, and redesign of instructional materials. The theme of Designing for effective online learning is also pertinent, as this recalibration involved considering instructional design principles.

RQ3 examines how librarians effectively integrated technology into formal instruction, directly addressing the theme of Embracing digital tools and platforms. Narrative data describes the specific technologies used, the rationale behind their selection, and how they were integrated, also revealing challenges and solutions.

Finally, RQ4 addresses the complexities of hybrid instruction, exploring how librarians navigated the challenges of balancing online and in-person components. While the existing themes primarily focus on online learning, RQ4 may require revisiting the data for more narratives, specifically about hybrid instruction. These narratives could potentially lead to a new theme, Navigating hybrid learning environments, or be integrated into Cultivating adaptability and resourcefulness, exploring the challenges, strategies, and efforts to ensure equitable access and engagement in hybrid settings. Pedagogically, hybrid instruction requires careful consideration of creating a seamless and equitable learning experience for students attending both in-person and online, requiring librarians to adapt their teaching styles and assessment methods to accommodate both modalities.

5.   Conclusions

This study has revealed the transformation of academic librarians' pedagogical practices in response to the challenges and opportunities presented by the shift to online learning environments. The findings reveal that academic libraries have fully embraced their role in providing quality library instruction, demonstrating a strong commitment to fostering information literacy skills in a remote context, even as institutions transition to online modalities. The teaching pedagogies of librarians increasingly emphasize equipping students with the ability to locate and utilize information from diverse sources, critically evaluate source credibility, and properly cite sources. A core element of this evolution is the strong commitment to incorporating active learning strategies, and engaging students through questions, and critical thinking exercises. These strategies promote deeper learning and the development of transferable skills applicable across various contexts.

In summary, this study highlights four key achievements: (1) Academic librarians successfully transitioned their instruction by maximizing available resources and adapting to diverse instructional strategies; (2) Teaching information literacy provided opportunities for reinventing instructional delivery, effective classroom management, utilizing available digital and technological resources, and rethinking learning assessment to ensure meaningful and practical learning during the pandemic; (3) Employing

technology has enabled librarians to be more dynamic, creative, and efficient in their instructional activities; and (4) Librarians demonstrated adaptability and flexibility in addressing the challenges of shifting teaching online.

In the future, it is anticipated that librarians will further develop their competence in navigating the hybrid modality with confidence and pedagogical expertise. A sound understanding of pedagogy will be essential, enabling them to design and deliver effective instructional sessions that cater to the diverse needs of learners. Librarians must continue developing engaging and interactive learning activities that foster critical thinking, problem-solving, and collaboration. Based on these findings, the researchers recommend: (1) Providing more training to librarians related to technological pedagogical and content knowledge (TPACK) for successful technology integration. There must be an investment in targeted professional development, and librarians must receive ongoing and specialized training in pedagogical best practices for online and hybrid learning environments. This should go beyond simply learning the technology and must delve into effective instructional design, engagement strategies, assessment techniques, and culturally responsive teaching in digital spaces; (2) Foster Communities of Practice. Encourage or start collaboration and knowledge sharing among librarians by creating communities of practice focused on online and hybrid instruction. These communities can provide a platform for librarians to discuss challenges, share successful strategies, and learn from each other's experiences. Mentorship programs can also be beneficial; (3) Conducting further studies on instructional approaches specifically focused on online teaching by librarians. In addition, there could be a focus on assessment–to develop and evaluate effective assessment methods for online and hybrid learning environments. Explore how to assess student learning in ways that are authentic, meaningful, and aligned with learning objectives. These recommendations aim to support librarians' continued evolution as essential educators in the digital age.

5. References

Agustina, E. & Cahyono, B. Y. (2017). Perceptions of Indonesian teachers and students on the use of Quipper School as an online platform for extended EFL learning. Journal of Language Teaching and Research, 8(4), 794. https://doi.org/10.17507/jltr.0804.20

Baer, A., (2021). Academic librarians' development as teachers: A survey on changes in pedagogical roles, approaches, and perspectives. Journal of Information Literacy 15(1), pp. 26-53.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), pp. 77–101. https://doi.org/10.1191/1478088706qp063oa

Hall, J. (2017). Developing teaching best practice-pedagogy, preferences, and professional development. The International Information & Library Review, 49(1), pp. 59–64. https://doi.org/10.1080/10572317.2017.1270692

Houtman, E., (2010). Trying to figure it out': Academic librarians talk about learning to teach.

Library and Information Research 34 (107): pp. 18– 40.

Ibacache, K., Rybin, A., & Vance, E. (2021). Emergency remote library instruction and tech tools. Information Technology and Libraries, 40(2), pp. 1–30. https://doi.org/10.6017/ital.v40i2.12751

Lloyd, J. (1975). The Pedagogical Orientation: An Argument for Improving Instruction. Journal of Learning Disabilities, 8(2), pp. 74–78. https://doi.org/10.1177/002221947500800202

Leckie, G., & Fullerton, A. (1999). The roles of academic librarians in fostering a pedagogy for information literacy. Proceedings of the ACRL Ninth National Conference, pp. 8–11.

Martzoukou, K. (2021). Academic libraries in COVID-19: a renewed mission for digital literacy.
Library Management, 42(4/5), pp. 266–276. https://doi.org/10.1108/LM-09-2020-0131

Otto, P., (2014). Librarians, libraries, and the scholarship of teaching and learning. New Directions for Teaching and Learning, (139), pp. 77–93. https://doi.org/10.1002/tl.20106

Palincsar, A.S. Social constructivist perspectives on teaching and learning. Annu.Rev.Psychol.1998,49, pp. 345−375.

Priyadarshani, H. D. C., & Jesuiya, D. (2021). Teacher's perception on online teaching method during COVID-19: With reference to school level teachers at Faculty of Education, the Open University of Sri Lanka. Shanlax International Journal of Education, 9(2), pp. 132-140.

Saib, M. O., Rajkoomar, M., Naicker, N., & Olugbara, C. T. (2023). Digital pedagogies for librarians in higher education: a systematic review of the literature. Information Discovery and Delivery, 51(1), pp. 13-25.