HYFLEXING LIBRARY INSTRUCTIONAL MATERIALS:
Getting at the Heart of Designing Flexible Instruction

Lorelei Rutledge, Tallie Casucci, Alfred Mowdood, and Donna Ziegenfuss

The advent of COVID-19 has radically altered higher education teaching in the United States. University faculty and staff, including librarians, have pivoted to make resources and instruction accessible for students, many of whom were learning remotely and without access to physical library resources. In order to support learning in person and remotely, librarians at the University of Utah’s J. Willard Marriott Library adapted face-to-face (F2F) practices and created additional online learning tools to give students, faculty and staff equitable access to online learning materials. This paper describes librarians’ strategy to design and develop an open online course, the Marriott Library online One-Stop resource, for undergraduate students, graduate students, and faculty/staff at the University of Utah. This work was grounded in the HyFlex learning model, which posits that students need the flexibility to choose which delivery format works best for their preferred learning style. Instructional materials were organized on the online site using the four learner-centered components of Schlossberg’s Transition Model, which include situation, strategies, support and self.

LITERATURE REVIEW

All industries, including higher education, have faced challenges during the pandemic. Many librarians encountered barriers to making materials remotely available to students, faculty and staff, while library users also struggled to access and use library materials digitally. In response, libraries mobilized to make resources available equitably when possible and to extend loans of print materials or technology to facilitate remote user needs. In addition, instruction and reference consultations have moved online; Anderson noted that librarians rated user consultations as more difficult than normal, demonstrating that switching to online connection posed problems. Instructors and faculty members across colleges and universities have dealt with challenges and problems related to implementing online education, including extended work hours and symptoms of burnout.

Like faculty and staff, students have struggled to maintain mental and physical well-being during this time. In interviews conducted with students at a large public university system in Texas, researchers found that “82% of students showed concern about their performance being impacted by the pandemic.” In particular, concerns about managing the shift to online learning and sustaining engagement and motivation were com-
mon. Further, concerns around health and economic security have drained students. Ryerson (2020) reported an increase in drinking among students, which has led to lower psychological health and additional negative impacts, including concerns about academic performance. In studies of multiple cases where quarantine was implemented, researchers found that “Confinement, loss of usual routine, and reduced social and physical contact with others were frequently shown to cause boredom, frustration, and a sense of isolation from the rest of the world, which was distressing to participants.” It stands to reason that this reduced contact, combined with other stressors, may make students especially vulnerable to reduced wellness. At the University of Vermont, students were asked to rate how much COVID disrupted their personal lives on a 10-point scale, with 10 being the highest level of disruption; 87.3% of students chose at least six or higher.

Stress and anxiety levels among students also differed according to their personal situations and characteristics. College students often struggle with housing challenges and food insecurity. In addition, “low-income, underrepresented minority, and first-generation students may encounter increased stressors at home due to scarcity in basic needs (e.g., food, shelter), or access to healthcare or technology required for maintaining contact with others.” Researchers found that students described as sexual or gender minorities faced more pandemic-related depression and PTSD symptoms than their counterparts. Students who were women, LGBTQ+, or lower socioeconomic status reported higher anxiety and stress than other students. Lederer et al. also noted that students of color and their families face additional struggles to maintain health and well-being due to structural racism and healthcare disparities.

One suggested way to respond to these challenges is to promote and expand access to student support services, especially for students from underserved groups. As more institutions of higher education recognize the importance of addressing student mental health, libraries are also following suit. Although libraries may not host mental health support services, the 2020 Top Trends in Academic Libraries noted that libraries are strong partners in promoting student wellness. Libraries in the United Kingdom and United States are supporting students through a variety of activities and spaces. By providing resources to students that promote their personal wellness, but also address academic and library-related concerns, libraries can support students in challenging situations.

One specific academic challenge that students experienced as colleges and universities closed and classes moved online was coping with the shift to online coursework. In a study asking students to evaluate their experiences of courses that transitioned online in Spring 2020, researchers found that “students evaluated their classes as less enjoyable, less interesting, instilling less learning, holding less attention, motivating less effort, and including less cultural content/considerations after it transitioned to online.” This dissatisfaction was echoed in Parker’s mixed-methods research, which found that the majority of respondents were dissatisfied with their remote coursework, although a majority felt that they and their professors tried their best to engage with the class. One positive finding was that students noted increased flexibility due to online courses.

HyFlex Learning
In this moment of crisis, many higher education institutions turned to HyFlex Learning, developed by Brian Beatty at San Francisco State University. HyFlex learning was designed to allow students to choose whether they want to participate in-person, online synchronously, or asynchronously, with each modality designed to provide equivalent learning opportunities that meet their needs. Although HyFlex learning has significant benefits in terms of allowing education to continue when catastrophes like the COVID-19 crisis occur, this approach requires a substantial and sustained investment of resources from higher education institutions for success in order to make online learning equivalent to in-person learning.

The HyFlex model has also been found to provide benefits for faculty as well as students. Although there is an increased demand on faculty time to design a multimodal learning experience, the process produces more flexible curricula for students. Since the HyFlex model provides online learning materials for a variety of delivery modalities, learning materials can be remixed and reused in different ways and in a range of instructional situations. In addition, faculty and students can also take advantage of the flexibility of the model to teach and learn in a variety of locations without necessarily being constrained to the classroom. Librarians providing instruction can benefit because they can provide instruction flexibly. HyFlex learning with asynchronous op-
tions also allows librarians to create online learning materials that students can revisit at the point of need. Librarians Taylor and Fielder used HyFlex instruction principles to create live in-person and live synchronous online instruction, as well as recordings of these instruction sessions that students could revisit as needed.29

**Schlossberg’s Transition Model**

While the HyFlex model provided a useful pedagogical approach, Schlossberg’s Transition model, which focuses on individuals’ personal and social resources in times of change, offered context for thinking about how library online learning materials could support students’ holistic wellness. Schlossberg argued that many people are in transitions in different parts of their lives, stating that “a transition is any event or nonevent that results in changed relationships, routines, assumptions, and roles.”30 From this perspective, many college students are in transition as they learn how to become members of an online learning community and, in some cases, function without supports they had in previous periods of life. Transitioning from undergraduate learning to a more rigorous graduate program can also be a stressful change. Adjusting to the obstacles created by the COVID-19 pandemic required a transition, as it has changed social and learning routines for many people. It will also demand continued transition as students, faculty, and staff adjust to the “new normal” of the post-pandemic era. In order to understand the resources that a person has available to cope with a transition, Schlossberg recommended looking at the “4 S’s,” which are:

1. The Situation variable—What is happening? Does the transition come at a time of multiple stressors?
2. The Self variable—To whom is it happening? Each individual is different in terms of life issues and personality.
3. The Support variable—What help is available? Supports and available options vary for each individual.
4. The Strategies variable—How does the person cope? 31

This model allows educators to consider elements of learning beyond just learning specific skills, but also in terms of students’ self-care, permitting the creation of a holistic form of students support.

The purpose of this case study is to demonstrate how librarians collaborated to used HyFlex Learning principles, combined with the Schlossberg’s Transition Model to create the library’s flexible online educational and support presence in the university learning management system (LMS).
The aims are to offer just-in-time learning opportunities, offer accessible content organized by audience, and an effective strategy to reuse and remix learning content as appropriate. Figure 1 displays the homepage design for the online One-Stop resource.

**PLANNING AND IMPLEMENTING THE ONLINE ONE-STOP RESOURCE**

In May 2019, four librarians began planning for a Canvas LMS solution for graduate students within Google Drive documents. Using a backward design process to complete a Fink dream exercise revealed they had broader goals than original planning implied. Besides finding and using library resources for dissertations and theses, the librarians wanted to easily reuse content and recommend wellbeing resources for graduate students. The librarian-created resource focused on the graduate student/thesis journey. The broader categories were getting started (introduction), design, do, and disseminate.

During the COVID-19 shutdown, the librarians reanalyzed the graduate student resource and decided to expand the content for more audiences. The librarians then started simultaneously adding content to the new Canvas resource throughout 2020. They created and added disciplinary and topic specific content within the new Schlossberg’s Transition Theory organization structure. This content included hyperlinks to websites, worksheets and handouts, and more detailed topic pages. Using the Canvas LMS accessibility checker, the worksheets and handouts were updated to meet 508 accessibility standards. The librarians created new closed captioned video tutorials, using either Zoom, YouTube, or Kaltura recordings to add to the Canvas LMS. Many of these videos were “think aloud” database searching tutorials originally created for a specific course.

To advertise this new resource, librarians shared it with their colleges/departments, wrote a library newsletter article, which was shared on the University’s news website, and posted the main page and three audiences pages to Canvas Commons. Whenever professors requested guest lectures, synchronous, and asynchronous content, the librarians either add that new content to the One-Stop Canvas presence or share existing One-Stop Canvas content. Although the entire course is open and available to anyone with the URL, a librarian activated a self-enroll option so enrollees could receive announcements and participate in discussions, such as the FAQ board as enrolled members of the tool.

**RESULTS**

Evaluation of this online resource occurred throughout summer-fall 2020 and the librarians routinely evaluated content and used Canvas LMS and YouTube analytics to track views, enrollments, and other key metrics. Any detailed comments from professors were saved. Evaluation became a more critical component of the project with the continued uncertainty related to the COVID situation. The librarians designed and are the process of implementing a survey and interview process to assess the satisfaction and value of the resource. Since this pandemic online situation is ongoing, the team also need to consider how the situation may change post-COVID and begin planning for that.

As of April 1, 2021, the Canvas course has about 54 disciplinary/topic pages (excluding the main page and the 3 audience pages), 15 discussions, and 1 quiz. The video tutorials range approximately from 30 seconds to 10 minutes. There are 81 enrolled students, which include mostly professors, followed by graduate and undergraduate students. Figure 2 shows the number of page views from January 2020-March 2021.

The One-Stop course has created multiple beneficial outcomes for librarians, professors, and students. Developing materials that can be easily remixed and reused reduced the time and energy required for librarians to meet the needs of multiple stakeholders. Instead of creating new content each time they worked with an instructor or course online, they could adapt existing One-Stop materials. In addition, by designing the tutorials in the course for the asynchronous online instruction first, often the most difficult process when using a HyFlex model, librarians could then adapt the materials for use in synchronous online, hybrid or F2F delivery modalities. By keeping these materials in a centralized repository, librarians could also share their work with each other, further reducing the load. This gave librarians more time to focus on developing new online content, providing individualized instruction and reference, and managing other job responsibilities.
Professors have also benefitted from this course. They can easily add material from this Canvas course into their own Canvas pages as needed. The functionalities of Canvas LMS made it easy for them to copy and share modules between multiple courses. Many of the modules are also targeted specifically at faculty and graduate student needs, allowing them to get support in accessing library resources for their own research.

Since the course is open access, students can use these resources independently or part of their coursework. They had access to materials when they needed them in formats that best suited their needs. In addition, they were able to access wellness resources, which may be vital to students struggling with the social, emotional, and physical impacts of the pandemic. The course served as a way to promote other tools, resources, and services the library could offer to support students and other stakeholders, such as long-term laptop and hotspot checkouts.

Although the project has had many benefits, there were also challenges. Implementing a HyFlex approach requires a significant time investment, especially when designing learning activities. Creating such a tool collaboratively also required additional time for consensus-building and planning about how to create the resource. Since remixing and reusing resources can get unwieldy, developing a plan for communicating changes to the course and maintaining it was essential.

**IMPLICATIONS OF THE ONE-STOP PROJECT**

Earlier attempts at creating an online course did not progress as quickly as the One-Stop course did during the past eighteen months. A “sense of urgency” was created by the team seeing the importance of the Schlossberg Transition Model in their own life and work. This Model enabled the team to work together and build this resource even though the team came from a variety of disciplines and areas of expertise. Further, having one person steeped in instructional design enabled the team to follow best practices when developing the course. One of the key factors enabling the success of the One-Stop resource design was the creation of a cross-disciplinary librarian team who could work together to build, enhance, and adapt the resource. Since departments across campus have different needs and expectations, this expertise allowed contributors to create content that matched different needs. Some of the tutorials for business students and faculty focused on how to answer specific kind

![Online One-Stop Page Views](image)

**Figure 2.** Page views of the Online One-Stop by month from January 2020–March 2021.
of common business queries, rather than how to use specific databases. Materials for dissertating students addressed the writing process in detail because our experts recognize that putting pen to paper is a major concern for this group. One of the next steps for the project will include continuing to build discipline-specific resources. Librarians are currently working on a three-module course about how to conduct qualitative research, with an emphasis on using qualitative data analysis tools.

LESSONS LEARNED AND FUTURE PLANNING

One of the most important lessons learned in this One-Stop project is the value of librarian collaboration in envisioning, designing, and developing a shared teaching resource. This project would not have been possible with just the efforts of one librarian. Each librarian can create disciplinary online teaching materials for specific purposes and courses, but the COVID pivot created an immediate need for a collaborative effort on a set of general research resources. Now with the One-Stop created, the team and others can draw from these resources to customize materials and go deeper into specific library resources. Deciding to create the instructional materials in Canvas, a tool faculty and students are now all using because of COVID, centered these efforts in the middle of the campus-wide learning space. It provided positive opportunities for the librarians to learn more about online learning, build Canvas skills, and collaborate on new ideas during a stressful and chaotic time. Utilizing the enhanced campus assistance for online teaching and learning during COVID with templates, training, and support was the perfect time to embark on this project.

Future plans also include developing an inventory of all learning objects connected to the One-Stop Library resources. This inventory will then be used to create an interactive search for the One-Stop resource. Currently, users first browse by audience and then review the modules to find relevant lessons and resources. Creating a new audience page specifically for librarians that addresses their needs would also make the tool even more accessible to colleagues. The use of videos and video tutorials has provided resources for students to go back and review as needed, as well enable students and faculty to reach out to librarians to see what else they have to offer. Recent articles from the Chronicle of Higher Education highlight some important questions to consider in the future. For example, how can higher education materials be modified to meet the future need to retrain workers in the post-COVID world? Should the One-Stop resource be modified so that it has a credentialing or badging component?

Although the pandemic has created undeniable challenges and highlighted inequities for students, faculty and staff, it has also offered opportunities for college and university libraries to provide additional online learning tools, strategies for learning and personal development, and tools for support. In addition to providing online synchronous tutorials as requested, librarians can embed specific lessons or lesson sequences into individual Canvas courses. Students and faculty can access these lessons when they need them, either as a primary learning tool or as a reinforcement of synchronous teaching. In addition, students can also access this One-Stop Canvas resource outside of a class if they would like work on skills independently, such as preparing for a thesis or a dissertation. In this way, the library provides support while also giving students flexibility in how they engage with the material. Faculty also have the opportunity to learn about library resources for themselves and their students, making it easier to plan lessons and access needed tools. This enables users of the One-Stop resource to transfer learning to different contexts and situations. When everyone returns to the F2F classroom, the librarian team will have embraced some of the advantages of online learning, have a better understanding of transitions, the importance of flexibility, and, hopefully, a deeper emphasis on student-centered learning. For librarians, this project was an opportunity to support faculty and students in a new way through enabling equitable learning in a variety of environments, creating content accessible to multiple users, and developing opportunities for students to direct their own learning.

NOTES


17. Lederer et al., “More Than Inconvenienced: The Unique Needs of U.S. College Students During the COVID-19 Pandemic.”


25. Beatty, Hybrid-Flexible Course Design.


28. EDUCAUSE, “7 Things You Should Know About the HyFlex Course Model.”
37. “The Pressure to Retrain Workers Could Be Intense for Colleges. Here’s What They Can Start Doing Now.”