

From Theory to Practice: Using UDL to Move Library Instruction and Support Online

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Abstract:

The declaration of COVID-19 as a global pandemic in March 2020 had significant and immediate impacts on people and institutions around the world. Many institutions of higher education had days or weeks to completely shift instruction to online formats. Our mid-sized public university was no exception, and the University Libraries followed suit, working quickly to transition library instruction and other forms of support to a fully online format. UNC Greensboro (UNCG) is a public, minority-serving institution with a commitment to student success for low-income and rural students. Our students, like many across the United States, struggled with the shift to online learning, which was sometimes accompanied by increased caretaking responsibilities, changes to income, and reduced access to technology. As the Libraries worked to support students online, we prioritized providing inclusive and accessible remote learning and support options. As UNCG prepared to offer a mix of instructional delivery methods in fall 2020, the Libraries made the decision to offer only online instruction in order to keep students, faculty, and staff as safe as possible. This decision came with challenges of its own, as many library personnel had limited experience providing online instruction and other forms of virtual support and as we were all also dealing with many of the same pandemic-related stressors that students and colleagues across the university faced.

Keywords: COVID-19 | online instruction | library instruction | UNCG | UDL

Article:

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CHAPTER 7

From Theory to Practice:

Using UDL to Move Library Instruction and Support Online

Jenny Dale and Samantha Harlow

Introduction

The declaration of COVID-19 as a global pandemic in March 2020 had significant and immediate impacts on people and institutions around the world. Many institutions of higher education had days or weeks to completely shift instruction to online formats. Our mid-sized public university was no exception, and the University Libraries followed suit, working quickly to transition library instruction and other forms of support to a fully online format. UNC Greensboro (UNCG) is a public, minority-serving institution with a commitment to student success for low-income and rural students. Our students, like many across the United States, struggled with the shift to online learning, which was sometimes accompanied by increased caretaking responsibilities, changes to income, and reduced access to technology. As the Libraries worked to support students online, we prioritized providing inclusive and accessible remote learning and support options. As UNCG prepared to offer a mix of instructional delivery methods in fall 2020, the Libraries made the decision to offer only online instruction in order to keep students, faculty, and staff as safe as possible. This decision came with challenges of its own, as many library personnel had limited experience providing online instruction and other forms of virtual support and as we were all also dealing with many of the same pandemic-related stressors that students and colleagues across the university faced.



We—an online learning librarian and an information literacy coordinator—relied heavily on Universal Design for Learning (UDL) as we began to plan for providing all library instruction online for the 2020–2021 academic year. UDL encourages instructional design that provides multiple means of engagement, representation, and action and expression, and the UDL Guidelines give specific examples of how to create accessible teaching.¹ We used the UDL Guidelines to convert face-to-face instruction to an online format and to design and frame internal training for our colleagues, with the goal of empowering and supporting students and colleagues during this shift.

In this chapter, we describe our approach to training library personnel, including teaching librarians and archivists, to adapt library instruction and student research support to online formats. We explain why we encouraged the use of backward design and Universal Design for Learning in both synchronous and asynchronous virtual environments with the goal of making our teaching equitable and inclusive. We also provide specific examples of how we and our colleagues drew on UDL principles and guidelines to design online instruction and discuss the challenges we faced and the lessons we learned providing 100 percent online library teaching for our diverse student population for the 2020–2021 academic year. While the world is beginning to move out of the COVID-19 pandemic as we write this chapter, we believe that our focus on UDL is more important than ever as we look to a future of increasingly hybrid learning environments.

Literature Review

According to CAST, Universal Design for Learning (UDL) “is a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn.”² The UDL framework is applicable in all teaching and learning environments, but we have found it particularly important for creating equitable learning opportunities related to research and information literacy skills. Research in our field indicates that integrating UDL’s multiple means of representation, action and expression, and engagement into synchronous online or face-to-face instruction results in better student learning.³

As a flexible framework, UDL can also be used to guide the design of asynchronous learning, and there is evidence in the literature that using UDL helps librarians create accessible online learning objects.⁴ Case studies of asynchronous tutorials across platforms demonstrate how designing tutorials using UDL creates space for all learning styles or preferences.⁵

Library literature provides numerous examples of how integrating UDL into the design process benefits all learners, including neurodiverse learners.⁶ More recently, librarians have also explored the connections between UDL, inclusive design, representation of diversity, and critical information literacy in the context of creating engaging asynchronous experiences.⁷

Training and Preparing Librarians with UDL

With its focus on engaging learners and its connections to accessibility, UDL provides a useful framework for creating internal training for library personnel. We relied on the

UDL principles of providing multiple means of engagement, representation, and action and expression when we designed our training materials. Most of the literature about using UDL for employee training focuses on fields other than academic librarianship, but there are studies on using UDL within higher education to train teaching faculty and other personnel.⁸ When COVID-19 forced many institutions online, preparing all employees to effectively work from home was crucial. At UNCG Libraries, we offered a series of asynchronous and synchronous remote work training to accommodate a variety of employees during a stressful time. These sessions were accessible to all library employees and included training on the use of synchronous platforms like WebEx and Zoom (we had licenses for both at the time but have since moved to Zoom only), as well as asynchronous tools like Canvas (our learning management system), Google Drive, and Trello.

Library employees at UNCG—like those at most other institutions of higher education—found themselves in the position of needing to very quickly create online learning to demonstrate service and resource access options for users who were virtually entering the library. Applying UDL to this process was key to creating engaging and accessible online content that made the transition to virtual library services more seamless. UDL principles guided us through the initial push in March 2020 to create videos, text-based guides, flyers, infographics, learning management system (LMS) modules, and other learning objects focused on accessing and using library resources virtually. As we created these learning objects, we were careful to provide the same or similar information in different media formats (checkpoint 2.5); to share the materials through email, social media, on our website, and on our research guides (5.1); and to highlight the ways in which our users could still communicate with us and seek help and support (4.1). We knew that we were likely to be creating online learning objects at a much higher rate, especially after UNCG decided to move all library instruction online for the 2020–2021 academic year. We began developing and implementing a training plan to make sure that any library employee who wanted to be able to create online learning objects had the tools and skills needed to do so.

UNCG's online learning librarian has hosted monthly library instructional technology training sessions since 2017. The slides and materials for the training are stored on a UNCG Libraries SpringShare LibGuide that was shared internally, allowing employees to return to the materials as needed and learn at their own pace (checkpoint 7.1).⁹ Because so many library colleagues were going to be developing online learning that could benefit from the use of tools covered in these training sessions, we wanted to be able to highlight the guide as a resource. Before we promoted it in this way, this guide was revamped with UDL in mind. We checked accessibility in all the slides and materials, and resources in a variety of formats (text, videos, slides, infographics, GIFs, and interactive tutorials) were linked or embedded, providing options for perception (guideline 1). There were also new pages added to this LibGuide to respond to new challenges that library employees were facing, like working from home and participating in virtual meetings, which provided options for recruiting interest (guideline 7) and for self-regulation (guideline 9).

Using UDL to create asynchronous training for library employees is crucial, but true UDL means including synchronous learning to create connections and give learners choices in how they approach new materials. With this in mind, the UNCG Libraries

information literacy coordinator created a series called University Libraries Virtual Learning Community (ULVLC) where library employees could share training and learning opportunities internally, which provided options for sustaining effort and persistence (guideline 8) with a particular emphasis on fostering collaboration and community (checkpoint 8.3). This series is hosted synchronously on Zoom, and most sessions are recorded and placed on YouTube for captioning, providing options for perception (guideline 1) and giving participants the ability to choose how to participate (checkpoint 7.1) and to select the sessions that had the most relevance and value to them (checkpoint 7.2). Recordings and materials for training and sessions reside on an internal SpringShare LibGuide.¹⁰ This series has been running since March 2020 (over two years at the time of writing) and averages about ten employees attending per session (out of approximately eighty total library employees), with YouTube recording views sometimes reaching one hundred or more. In addition to adhering to UDL principles, the ULVLC has also included peer professional development opportunities on UDL and related topics.

Online Synchronous and Asynchronous Instruction and UDL Examples

Training library personnel to use UDL led to the development of numerous asynchronous and synchronous learning experiences for students, including information literacy instruction by UNCG liaison librarians. While liaison librarians have always offered synchronous online instruction, the pandemic provided an opportunity to be more intentional about designing these sessions, and internal training on UDL principles and guidelines encouraged liaisons to focus on providing multiple means of engagement, representation, and action and expression in online classes. Between July 2020 and the time of writing (May 2022), liaisons have taught nearly 700 online library instruction sessions. There is no standard lesson plan or outline to which our liaisons are required to adhere, but there are several commonly used techniques among our liaisons that draw on UDL.

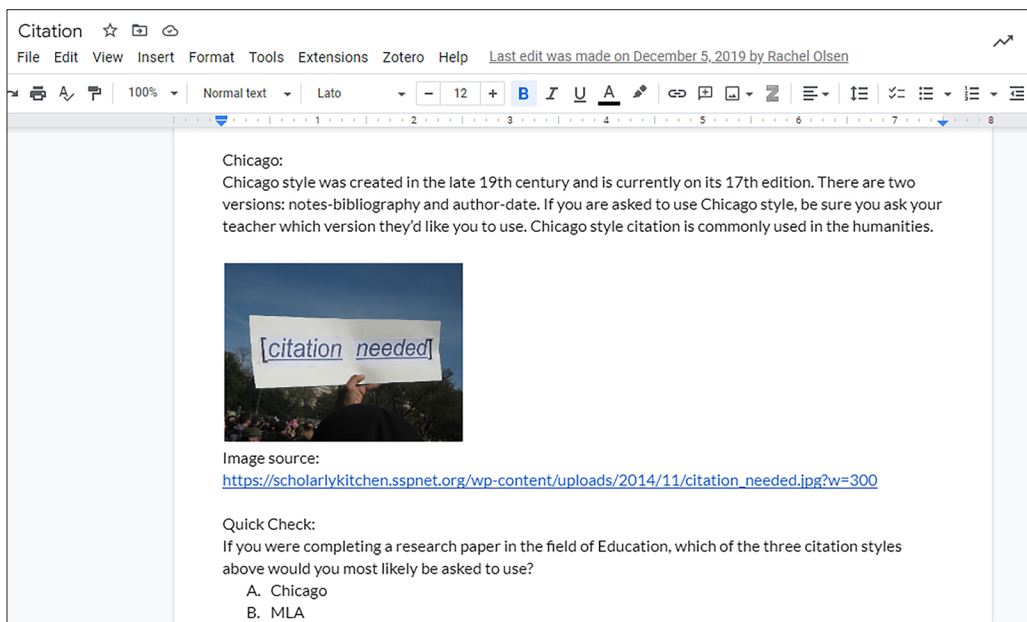
Many of our synchronous online sessions begin with some kind of poll, survey, or reflective prompt to get students immediately engaged in the session by providing options for recruiting interest (guideline 7). Tools used for this purpose range from Zoom's chat function to Mentimeter to more in-depth Google Forms.* Two examples of reflective prompts for students are: "What's something you already know about research?" and "Complete the following statement: Research is..." Both open-ended prompts serve to activate background knowledge (checkpoint 3.1), and the second one can provide insight into students' affective experiences with research. After this opening activity, most synchronous sessions involve a mix of demonstration or modeling of resource use and interactive activities. Moving between different modes of instruction provides opportunities to integrate UDL intentionally. For example, in a session focused on source evaluation, the librarian instructor might engage students in a large group Google Docs activity in which they are asked to brainstorm evaluation criteria, then introduce an evaluation framework relevant to the course level and

* UNCG is a Google Apps for Education campus, so students are typically familiar with Google Docs, Sheets, Forms, and more.

content, show a short video, ask students to apply what they have learned by evaluating sample sources in small group breakout rooms and Google Docs, and then debrief through share-outs. This sequence varies demands on individual students (checkpoint 8.2), uses several types of media to provide instructional content (checkpoint 2.5), and allows students to respond and communicate in different ways (checkpoints 4.1 and 5.1).

While synchronous online has been a popular option for our library liaisons, there is always a need for asynchronous, on-demand learning objects to teach users about library services and resources at their point of need. In 2018, we began the process of revamping the UNCG Libraries research tutorials to be more accessible, modern, modular, and reflective of the UDL framework. The former research tutorial, which was created in 2010, was a linear suite of ten modules about the research process with no room for additions, which meant that liaisons frequently created supplementary content for specific courses, topics, or resources. As a result, our tutorial content was decentralized for users and challenging to navigate. The main research tutorial also needed to be updated to HTML5, be more mobile friendly, and revamped to be more accessible and multi-modal; this included creating more opportunities for multiple means of representation, action and expression, and engagement.

We worked with our colleagues in the Libraries' Electronic Resources and Information Technology (ERIT) department to determine the best options for housing the tutorial and ended up with an in-house online platform that allowed us the flexibility we needed to develop accessible, UDL-friendly content. A workflow was developed by the online learning librarian and information literacy coordinator within the Libraries' Research, Outreach, and Instruction (ROI) department of liaison librarians to allow for the collaborative creation of tutorial content. Liaison librarians, Library and Information Science



The image is a screenshot of a Google Doc titled "Citation". The document content includes:

Chicago:
Chicago style was created in the late 19th century and is currently on its 17th edition. There are two versions: notes-bibliography and author-date. If you are asked to use Chicago style, be sure you ask your teacher which version they'd like you to use. Chicago style citation is commonly used in the humanities.




Image source:
https://scholarlykitchen.sspnet.org/wp-content/uploads/2014/11/citation_needed.jpg?w=300

Quick Check:
If you were completing a research paper in the field of Education, which of the three citation styles above would you most likely be asked to use?

- A. Chicago
- B. MLA

Figure 7.1. Example of a collaborative Google Doc used to create modules in the UNCG Libraries research tutorial platform.

(LIS) interns and capstone students, and colleagues from other units within the library can all create modules and tutorials in this flexible system.* We also developed a decision tree to determine if a concept or idea should be a module or a standalone online learning object that exists outside of the tutorial platform. Creators develop a script or template in Google Docs and the online learning librarian puts the modules in the online system, with another librarian adding the content to Canvas Commons (the UNCG Canvas learning management system repository of materials).¹¹

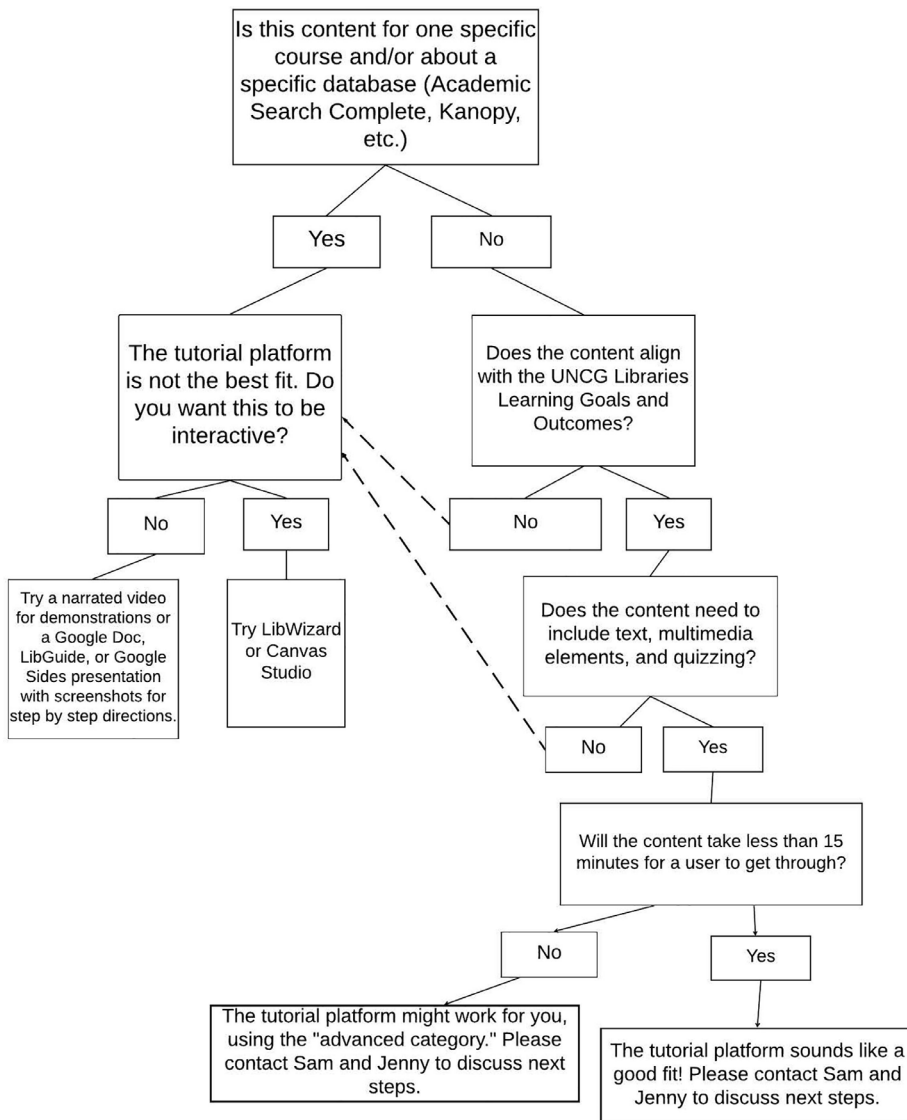
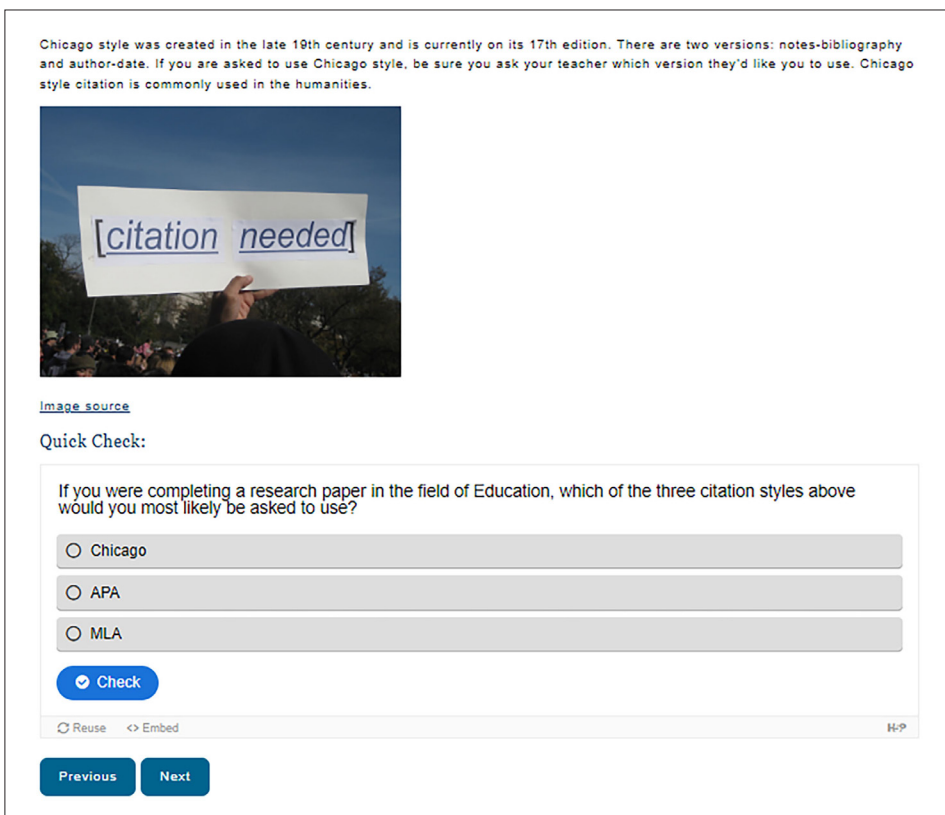



Figure 7.2. Tutorial flowchart or decision tree to determine if a research concept should be a tutorial, module, or stand-alone online learning object.

* In our tutorial platform, each tutorial is made up of modules. For example, our “Finding Sources” tutorial includes modules about understanding source types, using the catalog, using databases, and more.

In summer 2020, this suite of research tutorials and modules was live and ready to be marketed to instructors. The new system consists of tutorials and modules on various aspects of research and is split into two sections: “Introduction to Research” and “Advanced Research.” For example, there is a tutorial in “Introduction to Research” on “The Research Process,” which consists of ten modules on research. Users can log in to the tutorial system, and if they take all modules in a tutorial (in any order), they receive a certificate of completion. Every module includes accessible interactions and design and is multi-modal in its design and flow. Modules consist of individual pages that always include text and at least one visual element, which can be in the form of an image, embedded video, infographic, or slide show. Every module includes “quick check” interactive questions, such as multiple-choice, true or false, matching, and more. These “quick checks” are created with H5P (an open source, HTML5-based interaction creation tool) and are not tracked or graded but are meant to keep the user engaged. Each module ends in an online quiz that is tracked if the user is logged into the system; users get multiple attempts to complete the quizzes, and the quizzes lead to the certificate creation if the user finishes each module in a tutorial.



Chicago style was created in the late 19th century and is currently on its 17th edition. There are two versions: notes-bibliography and author-date. If you are asked to use Chicago style, be sure you ask your teacher which version they'd like you to use. Chicago style citation is commonly used in the humanities.



[Image source](#)

Quick Check:

If you were completing a research paper in the field of Education, which of the three citation styles above would you most likely be asked to use?

Chicago

APA

MLA

Check

Reuse Embed H5P

[Previous](#) [Next](#)

Figure 7.3. Screenshot of UNCG Libraries research tutorials homepage and a page from the Citation module, displaying the example of “Modules consist of individual pages that always include text and at least one visual element, which can be in the form of an image, embedded video, infographic, or slide show.”

The UNCG Libraries research tutorials adhere to the UDL guidelines in many ways. These modules exemplify multiple means of engagement as well as action and expression, including recruiting interest through individual choice and autonomy (checkpoint 7.1) and providing multiple options for physical action by varying the methods for responses and navigation (checkpoint 4.1). Users can take the modules in any order they want, and the system tracks their progress (checkpoint 6.4). This tracking leads to certificate creation through our tutorial platform. There is also alternative access to the same content through Canvas Commons, where quizzing is employed in the LMS for either formative or summative assessment, depending on the instructor. This is an example of providing multiple means of action and expression, specifically in executive function (guideline 6), as it supports goal-setting and enhancing capacity for users and teachers to monitor progress. It is an accessible and mobile-friendly platform, which provides multiple means of representation, specifically options for perception (guideline 1) by offering alternatives for auditory and visual information and allowing customization of how the content is displayed.

Our focus on UDL when designing synchronous and asynchronous learning also frames our thinking about how we incorporate assessment. With the availability of a wide variety of online tools that can be used to create assessments, we have found it easy to integrate formative and summative assessments in different formats into our synchronous online sessions. Formative assessment can be integrated throughout class sessions, ideally with different options for students to submit responses (checkpoint 4.1). For example, in a Communication Theory course, a multiple-choice Google Form is used to check understanding of primary research articles in Communication Studies by asking students to choose which of three articles is primary. Later in the session, after a database searching demonstration, students are asked to use the Zoom chat to share a permalink to a primary research article, providing another opportunity for them to show that they understand this core concept using a different method for response (checkpoint 4.1). Synchronous online teaching environments make sharing links easy for both library instructors and students, and the ability to skim responses quickly makes it possible for the library instructor to restate content about key concepts or to show a video or other type of visual aid to provide the information in a different format. The ease of sharing links is also a benefit when directing students to assessment instruments at the end of a session. Sharing direct links to assessment forms that students can click on has led to overall higher response rates; in face-to-face sessions, students have to type a shortened link or navigate to a LibGuide and click an assessment link there. Being able to share links through chat in online teaching platforms like Zoom removes some of the barriers that might discourage some students from filling out assessment forms. While our synchronous assessment focuses primarily on student learning, the flexibility of online forms also allows the inclusion of questions about format and teaching methods to evaluate the impact of UDL on the student's experience.

Our research tutorials include assessment for users through a Google Form on the homepage and at the end of each Canvas Commons module. As of April 4, 2022, 3,679 people have filled out this assessment form, with mostly positive feedback, with over 63

percent giving the tutorials a 5 on a Likert scale of “does this tutorial meet your needs,” with 5 being “exceeds my needs.” There is an open box for comments or concerns, and this has been a useful tool for identifying issues with content, links, and more. For example, it was here that we found out our “Navigating the Library Website” module became outdated when many services and resources changed at the beginning of the COVID-19 pandemic.

Challenges and Future Directions

It came as no surprise that our quick transition to a fully virtual environment was accompanied by a variety of challenges. Using UDL as a framework to structure our internal training for library employees went well, but due to the speed with which COVID-19 forced us to go completely virtual, assessing the virtual training was not always possible. We have continued to use UDL when structuring training and plan to continue to do so, and we are still offering ULVLC sessions and hope to develop ways to assess them. We continue to offer the library instructional technology training sessions on a variety of topics live via Zoom, and they are also available asynchronously, but attendance has currently been low. Moving forward, we need to consider how we can market these training sessions and increase interest and buy-in from our colleagues.

Another challenge with UDL and library instruction and training is advocacy. Since fall 2021, the university has been pushing for more face-to-face programming and instruction, but many of our students and other library users still value the flexible, accessible nature of online learning and training designed with UDL in mind. We will need to find ways to advocate for students by communicating with librarians, faculty, and staff at the university on the advantages of using UDL principles and guidelines to deliver instruction and share information. This could mean advocating for a virtual option at in-person events and continuing to create more asynchronous tutorials and online learning objects on library resources and services.

Students and instructors are feeling “Zoom fatigue” and are continuing to feel the negative impacts of the pandemic on mental health,¹² but our Libraries are positioned to continue to offer webinars, instruction sessions, and tutorials that use UDL to engage students and patrons in a variety of ways. For example, in spring 2022, we piloted a series of drop-in online workshops created for an undergraduate audience. These sessions focused on information literacy topics that our liaisons rarely have time to explore in-depth during course-integrated one-shot sessions. The first series included three workshop topics: the psychology of misinformation, source- and fact-checking with Mike Caulfield’s SIFT method, and how algorithms shape our online experiences. While each workshop was different, all three were designed with UDL in mind and included a mix of lecture (supported by Google Slides), video content, discussion, individual activities, and small-group activities (checkpoints 2.5, 4.1, and 8.2). The flexibility of the UDL framework is critical for us moving forward, as we anticipate increased interest in virtual and hybrid options, even for face-to-face classes. The options we have offered for asynchronous instruction during the pandemic have been popular and well-received, and we anticipate a continued interest in asynchronous learning objects.

Conclusion

Academic libraries are positioned to help students, faculty, and other library users as they navigate our systems, resources, and services. Library personnel provide training on effective research strategies, evaluating and crediting sources, finding materials, and many other skills related to information literacy. To provide high-impact instructional content for our diverse users in an increasingly digital world, academic libraries should prioritize UDL principles when designing all training and instruction, including online, hybrid, or face-to-face and for internal and external audiences. The goal of UDL is to improve the learning experience of *all* users. At UNCG, we have worked hard during a pandemic to employ UDL in training and instruction (asynchronous and synchronous) for our colleagues within the Libraries and for all our library users. Moving forward in an increasingly hybrid workplace and higher education environment, we will continue to center UDL to ensure that *all* users have optimal learning experiences.

Notes

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