Building Community College Library Capacity for Supporting Students' Data Literacy Needs

The University of North Texas (UNT) Department of Information Science seeks $249,998 in grant funding from the **Institute of Museum and Library Services (IMLS) Laura Bush 21st Century Librarian Program**. This grant will be used to facilitate a **two-year implementation project** in partnership with Association of College & Research Libraries (ACRL) Community and Junior College Libraries Section (CJCLS). The project aims to empower community college librarians to be literacy leaders, fostering data literacy success for community college students. To achieve this objective, the project will develop an accessible and comprehensive toolkit for community college libraries, facilitating the integration of data literacy principles and practices into their services and programs. Additionally, it will offer webinar-based workshops as part of its initiatives.

The project seeks to enhance the capacity of community college libraries and librarians to contextualize and implement data literacy for their institutions. This will enable them to better serve their communities in today's digital world, where abundant data and associated tools present both opportunities and challenges. By providing resources and training opportunities tailored to the needs of community college librarians, this project directly contributes to Goal 3 of the Laura Bush 21st Century Librarian Program, which aims to enhance library professionals' training and professional development. Furthermore, by focusing on Objective 3.4, which emphasizes the advancement of digital inclusion, the project aligns with the broader mission of promoting equal access, opportunities, and skills for all community members to benefit from data and its applications.

This project will build on our prior planning project, *Student Data Literacy Needs in Community Colleges: Perceptions of Librarians, Students, and Faculty*[1], which was funded by the IMLS (RE-252374-OLS-22); the project explored the current perspectives and capacities of different stakeholders within community colleges regarding data literacy.

PROJECT JUSTIFICATION

The importance of data literacy in higher education

In an ever-evolving world characterized by the ubiquity and impact of data, data is seen as a new language of communication (Ghodoosi et al., 2023; Schuff, 2018). Data invades every facet of our lives, shaping industries and guiding decision-making processes. As data complexity rises, the need for data literacy expands to encompass workers in every job. Thus, data literacy development in higher education can equip students with a spectrum of advantages in today's highly competitive labor market. Furthermore, data literacy has transitioned from merely a work skill to an essential life skill. As an integral facet of information literacy, students must learn how to identify, process, analyze, manage, evaluate, and effectively use data. This understanding places data literacy in higher education as core, cross-disciplinary, and critical for students.

Ghodoosi et al. (2023) found that undergraduate faculty have higher expectations regarding students' perceived data literacy skills than their actual abilities, thereby creating a data literacy gap. This gap is a space that libraries can ideally fill. In fact, academic libraries have adapted to the information age by providing data services, particularly in four-year institutions. These services are often designed to teach data literacy competencies for academic and professional success and can include training in research data

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[1] https://dlcc.ci.unt.edu

management through online modules, outreach workshops, embedded librarians, and librarians as faculty. Indeed, these services, combined with librarians' broad expertise across disciplines, can help fill the gap (Pothier & Condon, 2023). However, it has become clear that higher education's role in teaching data literacy to undergraduate students is essential for research and critical thinking (Condon et al., 2023). Given the escalating complexity of data and technology, early exposure to data literacy skills in higher education will enable students to "develop a solid foundation and have more time to refine their skills throughout their academic journey" (Taş, 2023, p. 13).

Thus, as noted by Burress et al. (2020), "data literacy has joined information literacy to become a core component of undergraduate education" (p. 1). Their subsequent interview with faculty in 2021 regarding how librarians can support data literacy in undergraduate students revealed a consensus among faculty that "becoming data literate demands the same pedagogical attention and recursive practice" as information literacy (Burress et al., 2021, p. 13). In fact, this discourse is not new. It has been proposed that the specialized knowledge librarians have in the domain of information literacy, which has led to collaborations and partnerships with faculty to incorporate information literacy into assignments, is a similar pathway that data literacy can follow with the additional complexity of technological tools (Hogenboom et al., 2011). Nevertheless, educators often struggle to make abstract and complex data literacy concepts relatable to real-life situations and share the proper knowledge with their students due to a lack of supporting resources and tools.

A critical need: Bringing data literacy to community colleges

While much discussion on data literacy has centered on four-year institutions, it's important to note that community colleges are not exceptions. Community colleges represent the most promising institutional candidates for a national workforce system in the United States. They offer workforce education for a diverse group of Americans, including recent high school graduates seeking to transition to the workforce, individuals of any age aiming to acquire skills for employment, and working adults seeking to enhance their existing skills (Jacobs & Worth, 2019). This assertion is reinforced by the recent announcement from the U.S. Department of Labor, allocating $65 million to enhance community colleges' capacity to provide equitable access to training to meet employers' and workers' skill development needs for in-demand industries[2].

According to a federal policy brief published by the Community College Research Center (CCRC) (2021), employers are increasingly seeking employees with a diverse set of skills. These include strong foundational skills, such as basic math, reading, and writing, and non-technical human-centered skills like communication, collaboration, critical thinking, and customer service. Additionally, generalized data literacy skills are in high demand as employers look for individuals comfortable using various software or platforms to input, find, evaluate, communicate, and interpret data. Employers often seek data-literate, adaptable generalists rather than narrowly trained specialists. In response to this change in the workplace, community colleges are modifying their curricula and instruction to incorporate more data and digital technologies to meet the evolving demands of technology-rich environments (Cormier et al., 2022). Many institutions have broadened their course offerings to accommodate students pursuing data-related degrees (e.g., Glantz et al., 2023), and some have launched data literacy programs for the entire campus as part of their strategic institutional planning goals.

Regardless of these efforts, it should be noted that community college students may still face challenges in accessing and mastering data literacy. Community college students are diverse based on age, race, ethnicity, and socio-economic status. They have a variety of goals, different educational backgrounds, and

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[2] https://www.dol.gov/newsroom/releases/eta/eta20230817-0

different readiness levels for college-level work. Existing literature also confirms the diversity of their literacy skills and needs (Nelson, 2017). Moreover, their information literacy skills are not sufficiently developed; students often struggle to identify relevant sources for their information needs and to distinguish among different information genres (Contrada, 2019). They also face challenges in recognizing reliable sources (Hamlett, 2021). Some nontraditional students, including those who hold a general education diploma instead of a high school diploma or those who delayed college entry, maintain part-time enrollment status, are financially independent, are single parents, and have dependents, often exhibiting insufficient basic computer skills (Graham, 2021). The data literacy assessment survey, conducted as part of our planning project (RE-252374-OLS-22), also confirms that, in particular, younger students and high school graduates enrolled at community colleges do not feel proficient in data literacy to the level required for college and the workplace (Evans et al., 2023; Kim et al., 2023; Kim et al., 2024).

Community college faculty and librarians' perspectives on data literacy

Community colleges enroll diverse students with varying backgrounds, skill levels, and academic readiness, which poses a challenge for faculty and librarians adapting teaching methods to meet their diverse needs. This challenge extends to the realm of data literacy education within community colleges. In our planning project (RE-252374-OLS-22), interviews with community college faculty revealed a prevalent sentiment: many faculty stated that community college students have only a rudimentary level of data literacy and most faculty believe that students need to attain competency in data literacy. They noted that their students strive to acquire the basic skills of navigating a college environment. During discussions, certain faculty members mentioned intentionally giving assignments addressing data literacy. These assignments include research projects that involve gathering and synthesizing data, as well as tasks that require the use of data. Furthermore, some faculty members acknowledged incorporating data literacy into their curricula, even though they have not labeled it as data literacy. While community college faculty routinely assign tasks requiring engagement with data within their respective disciplines, a collective desire exists for additional guidance on preparing students better to thrive in a data-driven world (Evans et al., 2024).

Our interviews with community college librarians also yielded interesting insights. Librarians recognized the significance of data literacy for students' academic success and professional development, especially the importance of critical thinking skills related to data literacy, and they argued for the value of data literacy across disciplines. Librarians presented a few exemplary practices of enhancing data literacy in their current librarianship, but they were not sure where to start incorporating data literacy into their current literacy instructions and services. One librarian expressed her concern about teaching data literacy, stating: "*I am fairly comfortable using data and have a basic understanding, but it is not my focused area… I do actually engage and use data in my work but coaching people on data literacy is more than I do. It is intimidating.*" Many librarians called for methods to enhance their preparedness to provide data literacy-related support, which included formal and informal education opportunities for professional development (Kim et al., 2024).

While there is certainly a burgeoning awareness of the importance of data literacy, community college faculty and librarians, who frequently contend with time management challenges and limited resources for professional development, find themselves without a clear starting point when wrestling with incorporating education on data literacy into their schedules.

PROJECT WORK PLAN

The proposed project would accomplish the following project goals:

- **Project goal 1**: Empower community college librarians to develop proficiency in data literacy, enabling them to navigate data in their professional roles more effectively;

- **Project goal 2**: Enhance the capacity of community college librarians to provide data literacy instruction and intervention to their communities; and
- **Project goal 3**: Develop a community of practice for community college librarians, facilitating knowledge sharing and best practices in data literacy education and support within the broader library community.

To achieve these goals, we will adapt the format of toolkit development and webinar outreach modeled by Davis and Subramaniam in their ConnectedLib[3] program to support librarians.

We will develop a "Data Literacy Toolkit for Community College Libraries," designed to educate and empower community college librarians, equipping them with the necessary knowledge and skills required to enhance their support for students and faculty in data literacy. It also aims to prepare librarians to embed data literacy principles and practices into their programs and services.

Additionally, we will develop and host the webinar series. The webinar series will be conducted in Year 1 and Year 2 of the project period, designated as the first and the second webinar series, respectively. The first webinar series, "Foundational Webinar Series: Navigating Data Literacy Needs and Trends," will take place before the toolkit development, while the second webinar series, "Advanced Webinar Series: Integrating the Data Literacy Toolkit," will follow after the toolkit development. Through these webinars, librarians will gain valuable insights and resources to enhance their ability to support students and faculty in developing data literacy competencies. Also, the webinars will provide opportunities for librarians to participate in collaborative discussions to deepen their understanding of data literacy principles and applications.

Project Activities

Phase 1: Initiating the Project (August 2024)

During this project's initiation, the PI and Co-PIs will convene a project advisory board, which will mainly provide advice or counsel to the project and make recommendations for project activities. Additionally, we will hold a kick-off meeting with our project partners – including the webinar coordinator and toolkit design team – to outline the development/design process and timeline and solicit their input on forthcoming project activities related to the webinar series and toolkit development. Please refer to the *Project Team* section of this narrative for the names of our project partners and advisory board members.

During this phase, we will hire a graduate student assistant to assist with project administration and documentation. We'll repurpose the project website previously developed for our planning project to act as a platform for disseminating new project information and providing regular updates, ensuring the public stays informed.

Phase 2: Planning the First Webinar Series (September 2024-December 2024)

The project team will collaborate with ACRL CJCLS to develop a series of webinars on data literacy. We will arrange an informal focus group discussion with the webinar coordinator and CJCLS Executive Committee to determine topics to be covered in the webinar series and select presenters. The objective of the first "Foundational Webinar Series" is to enhance awareness among community college librarians. Additionally, we aim to utilize this webinar as a platform to introduce our project and enlist participants for our forthcoming design sessions.

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[3] https://connectedlib.github.io/

Drawing upon the diverse expertise of our project team, partners, and presenters, our goal is to provide timely, research-based, and instructionally sound webinar sessions. Two or three speakers with subject expertise and experience will be invited to each webinar session to provide multiple perspectives and enhance the learning experience for participants. Additionally, we will create an open call for presenters to further diversify the voices and insights represented in the webinar series. Webinar speakers will be incentivized for their participation and contributions.

The following is a list of tentative topics for the first "Foundational Webinar Series: Navigating Data Literacy Needs and Trends":

- Webinar Session 1: Unveiling the significance of data literacy in community colleges

This webinar will showcase presentations by the project team focused on examining the importance of data literacy in community colleges. Drawing from the insights gained during our planning project, team members will present conceptual frameworks of data literacy and the students' data literacy assessment scale developed through the project. Additionally, they will share findings from community college students' self-assessment of data literacy and perspectives from community college faculty on the subject.

- Webinar Session 2: Data-driven teaching: Enhancing student success in community colleges

This webinar will feature community college faculty and instructors who will share insights into using data in the classroom and strategies for supporting students with diverse needs. The project team interviewed numerous faculty members and instructors from various community college institutions as part of our planning project. Many provided examples of class activities and assignments incorporating data to address fundamental data literacy competencies essential for community college students. We plan to invite faculty and instructors from different disciplines to present their practices and offer insights on how libraries can support these efforts.

- Webinar Session 3: Empowering data literacy: Best practices from academic librarians

This webinar will feature presentations by academic librarians who have successfully integrated data literacy training into their programming and outreach efforts. This includes publishing self-training resources, reference services, one-on-one training sessions, involvement in for-credit courses with and without instructor cooperation, and embedded instruction within disciplinary courses. We identified such cases through environmental scanning during our project's planning project.

Phase 3: Delivering the First Webinar Series (February 2025)

The first "Foundational Webinar Series: Navigating Data Literacy Needs and Trends," will be delivered in March 2025. We will conduct a dry run with webinar speakers in February 2025 to ensure smooth execution.

To promote the webinar, we will share our webinar events with various regional, national, and international associations, including ACRL, the American Association of Community Colleges (AACC), and statewide community college associations, such as the Texas Community College Teachers Association and Massachusetts Association of Community Colleges. We will also create a forum hashtag to cultivate and sustain conversations via CJCLS's Twitter/X[4] account and other social media platforms. Notably, the PI brings a track record of hosting similar webinars with nearly 1,000 attendees[5], underscoring the significant potential impact of this initiative.

We have elected to host webinars open to anyone interested in the topic instead of in-person events, as webinars are a great tool to reach and engage with a broader audience of practitioners. We will use Zoom

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[4] https://twitter.com/acrl_cjcls
[5] https://ohforum.ci.unt.edu/webinar-information

webinar, which scales up to 50,000 attendees, as our forum platform for delivering live sessions. UNT has a Zoom webinar license, and the Division of Digital Strategy and Innovation at UNT[6] offers support and assistance for running Zoom webinars. Each webinar session will feature presentations by speakers followed by a Q&A session. It is anticipated to take between one hour and one hour and fifteen minutes. As webinar coordinator, Jill Sodt from ACRL CJCLS is responsible for introducing the speakers, facilitating question-and-answer sessions in collaboration with the presenters, and ensuring that presenters are briefed on the session's structure, flow, and timing. The webinars will be recorded and archived for later access on our project website. Webinar attendees will also be encouraged to participate on CJCLS's Twitter/X account to continue the discussion and connect with other attendees and speakers.

After the completion of the first webinar series, attendees of the webinar series will receive a digital certificate of attendance. The project team will send a follow-up email containing a link for attendees to access their digital certificate. Such a certificate will be a testament to their participation and engagement in the event. A post-event survey will be sent to attendees to collect feedback on the speakers, content, and audience satisfaction.

Phase 4: Co-designing and Revising the Toolkit (September 2024 – April 2026)

We envision the toolkit comprising a series of modules that introduce data literacy concepts and applications through short videos, activities, use cases, and tools. Additionally, it will include recommended practices, instructional activities, and resources for teaching data literacy. The list of potential learning modules to be included in the toolkit is provided below. For detailed descriptions of each module, please refer to "Supporting Doc2: Potential Modules for the Toolkit."

- Introduction to data literacy
- Building an organizational data culture
- Assessing data literacy needs
- Supporting fundamental data literacy competency
  - Understanding data and data sources
  - Harnessing data for decision-making
  - Upholding ethics and quality of data
- Integrating data literacy into library services
- Professional development and continuing education

The project team will first compile evidence from our planning project – i.e., gathering insights from interviews with community college faculty and librarians, as well as examples of assignments and instructions shared by those faculty and librarians. Additionally, the team will collect data literacy resources, including instructional materials, case studies, sample assignments, tutorials, and templates for librarians to adapt to support foundational data literacy competency. Based on these inputs, the project team will develop a toolkit prototype outlining the key components, structure, and organization of the resources by Winter 2024.

To develop a toolkit, the project team will adopt a community-based participatory design approach. Participatory design operates as a feedback loop where designers generate prototypes, engage with the community, integrate received feedback, and iteratively redesign. This methodology has been widely embraced to create culturally relevant and reusable learning artifacts for, with, and by those who will utilize them (DiSalvo et al., 2012). We will host virtual participatory design sessions to decide on the specific topics, modules, and organization of the toolkit content to ensure it meets the needs of

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[6] https://digitalstrategy.unt.edu/

community college librarians. Additionally, the sessions will delve into how existing information literacy instructions can be adapted or improved to better support data literacy competency.

The project team will conduct a series of participatory design sessions divided into two stages during Spring 2025. Each stage will consist of online sessions, with each session lasting an hour. In the initial stage, participants will engage in a user persona exercise. In this exercise, participants will craft three distinct user personas, each representing various levels of librarians who will utilize the toolkit, namely Literacy, Fluency, and Mastery. Using an online whiteboard, such as Miro[7], a brainstorming session will be facilitated, where participants collaboratively identify the key attributes, goals, motivations, challenges, and behaviors of these personas. Participants will be provided with a digital persona card template to input details, such as name, age, job title, background, goals, and other relevant information. Within this exercise, they will address the following questions: What challenges do librarians encounter regarding data literacy? What specific skills or resources are necessary to enhance their data literacy instruction? The expected outcome of this exercise is profiles detailing different types of users who may interact with the toolkit being developed, such as librarians proficient in data literacy versus those with limited data literacy skills.

Moving to the second stage, participants will receive a prototype of the toolkit, featuring module lists and contents/concepts covered in each module. Through a dynamic card-sorting exercise, they will organize and prioritize the toolkit's components, thereby contributing to the enhancement of its structure and usability. The outcome of the card sorting exercise is a clear understanding of how users conceptualize and organize content. Moreover, participants will be encouraged to actively contribute their ideas and content pertinent to the learning modules. Discussions will extend to various considerations, such as the optimal sequence of modules, the seamless integration of videos, activities, and tools, and how these elements synergistically reinforce one another to maximize learning outcomes. Such deliberations ensure that the final product reflects the collective expertise and preferences of the participant group, resulting in a toolkit that is not only comprehensive but also tailored to meet the specific needs of its users.

Our goal is to enlist approximately 30-40 librarians who will engage actively in the design process. Each session will include a group of four to five librarians representing diverse institutions nationwide. Participants for the design sessions will be recruited with the assistance of our design team members. Additionally, we will leverage our network of professional contacts, attendees of first webinar series, and outreach channels, including ACRL CJCLS, to ensure a diverse and qualified pool of participants. Through our participatory design sessions, we aim to engage a diverse range of voices, including community college librarians from diverse ethnic, racial, socioeconomic, and geographic backgrounds, particularly those from underrepresented communities. The project team is committed to ensure that their perspectives and insights shape the development of the toolkit.

Members of the toolkit design team will oversee the participatory design sessions in collaboration with the project team. Before the sessions, the design team members will undergo training on tips and strategies for facilitating effective and collaborative design sessions. This training will be conducted by a Co-PI of this project who has extensive experience moderating participatory design sessions in her other projects[8].

Once the first version of the toolkit is ready in November 2025, both the toolkit design team and project advisory board will be contacted for their feedback on the toolkit. This will involve members walking through the toolkit from a user's perspective and assessing the toolkit's content, usability, relevance, and

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[7] https://miro.com/
[8] https://rurl.ci.unt.edu/ and https://multipleliteracieslab.unt.edu/data-literacy

overall quality. Feedback will be solicited through a Qualtrics questionnaire, and the toolkit will be revised based on such feedback. The final toolkit is expected to be launched in April 2026.

Phase 5: Disseminating the Toolkit and Delivering the Second Webinar Series (May 2026-July 2026)

The final version of the toolkit will be developed online using Course-in-a-Box[9], an open-source tool for constructing and publishing online courses hosted on GitHub. A PDF version of the content will also be freely available, allowing an alternative option for accessing the toolkit.

The second webinar series, "Advanced Webinar Series: Integrating the Data Literacy Toolkit," will be delivered in June 2026 to introduce the toolkit to a wider audience. This webinar will explore practical approaches for integrating data literacy into library services and programs. Participants will learn how to develop and implement data literacy initiatives tailored to the needs of their faculty and students. Best practices and innovative ideas for promoting data literacy in libraries will be shared. Presenters will comprise project team members, including the design team, alongside the invited speakers who possess expertise in relevant subject areas.

The following is a list of tentative topics for the second webinar series "Advanced Webinar Series: Integrating the Data Literacy Toolkit":

- Webinar session 1: Understanding data sources

This webinar will delve into the various sources and types of data available to community college librarians, faculty, and their students. Participants will learn to identify, evaluate, and access different data sources, including databases, repositories, and open data platforms.

- Webinar session 2: Harnessing data for decision-making

This webinar will focus on the practical aspects of using data for decision-making purposes. Participants will explore strategies for analyzing and interpreting data to derive meaningful insights. Case studies and examples will be shared to illustrate real-world data applications in various contexts.

- Webinar session 3: Upholding ethics and quality of data

This webinar will delve into the ethical considerations and quality measures associated with data. Participants will explore data privacy, confidentiality, bias, and transparency issues. Strategies for promoting ethical data practices and upholding data quality will be discussed.

- Webinar session 4: Integrating data literacy into library services

This webinar will explore practical approaches for integrating data literacy into library services and programs. Participants will learn how to develop and implement data literacy initiatives tailored to the needs of their faculty and students. Best practices and innovative ideas for promoting data literacy in libraries will be shared.

As with the first webinar series, participants in this second webinar series will receive a certificate of webinar attendance, providing them with credentials to enhance their resumes or professional portfolios.

Project Team

The research team includes the following investigators:

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[9] https://course-in-a-box.p2pu.org/

- Dr. Jeonghyun (Annie) Kim, Professor of Information Science at UNT, will serve as the PI on this project. She was a Co-PI on an IMLS-funded project from 2011 to 2015 that built a Graduate Academic Certificate program in Digital Curation and Data Management. Since then, she has directed and coordinated that program at UNT.

- Co-PI Dr. Lingzi Hong is an Assistant Professor of Data Science at UNT, where she teaches Introduction to Data Science and Data Visualization. Her research interests fall in the intersection of machine learning, community information studies, and data-driven decision-making. She has five years of experience teaching data science introduction courses for undergraduate students and supervising the Data Science practicum.

- Co-PI Dr. Sarah Evans, Assistant Professor of Library Science at UNT, is Coordinator for the Children's and Young Adult Librarianship Program and a Co-Director of UNT's Multiple Literacies Lab. In these roles, she uses her background in educational psychology and information science to examine learning across settings.

- Graduate research assistants (students) with expertise in or a research focus on data literacy will be recruited from the diverse pool of Ph.D. and/or master's students of UNT.

ACRL CJCLS is a formal partner of this project. The project team will collaborate with the CJCLS Executive Committee to develop and host the data literacy webinar series. The Executive Committee will also assist in disseminating and promoting the toolkit.

- Jill Sodt, Director of Library Services at Mott Community College, Michigan, currently serves as vice chair (July 2023-June 2024) and will assume the role of chair (July 2024-June 2025) of CJCLS. She will serve as a representative of the Executive Committee of CJCLS for the project and will coordinate the webinar series sessions.

Additionally, the following individuals will serve on our design team. They were involved in our prior planning project as interviewees and demonstrated enthusiasm for data literacy. They have agreed to serve on the design team, assisting the project team with coordinating the design sessions and contributing to the review of the initial version of the toolkit. Please refer to "Resumes" for project partners' experience and expertise essential to the success of the project.

- Marinella Sanchez, Campus Librarian II, South Texas College, TX

- Kevin Michki, Digital Librarian, Trocaire College, Buffalo, NY

- Laura Mondt, Instruction and Research Librarian, Northern Essex Community College, Haverhill, MA

- Nathasha Alvarez, Instruction Librarian at East Los Angeles College, Monterey Park, CA

- Darlene Johnson-Bignotti, Campus Librarian, Oakland Community College, Royal Oak, MI

- Lee L. Blanc, Director of Library and Technology Services, San Antonio College, San Antonio, TX

The following scholars have agreed to serve on our project's advisory board, bringing their knowledge and experience from projects in information literacy/digital literacy, literacy education, and student learning. These members will be invited to review the toolkit and offer feedback for revision. Additionally, we will consult with members individually at the project's outset and as needed throughout its duration. Refer to "Supporting Doc 1: Letters of Support."

- Heidi Julian, Professor of Information Science, University at Buffalo Graduate School of Education

- Mega Subramaniam, Professor, College of Information Studies at the University of Maryland

- Katie Davis, Associate Professor at the University of Washington Information School

PROJECT RESULTS

Across the United States, there are 1,026 community colleges (AACC, 2024). These colleges have experienced significant growth over the years; according to a CCRC analysis, community colleges enrolled 8.9 million students in the 2020-21 academic year, representing 41% of undergraduates (CCRC, n.d.). Given the central role of community colleges in workforce development and the diversification of student bodies, as reported by the AACC (2024) and CCRC (2021), integrating data literacy in these institutions is paramount. Community college libraries, serving as vital hubs for academic support, can play a crucial role in this endeavor. This raises pertinent questions regarding how they can contribute to enhancing students' data literacy.

In light of this, the toolkit developed through the project will emphasize the distinctive yet crucial contribution of community college libraries to the education and training of students enrolled in these institutions by tailoring it to meet their specific needs. As no toolkits addressing this specific need have been developed or implemented within the practice of community college libraries, the impact of introducing such a resource, along with its subsequent webinar series, could be transformative, fostering a culture of data literacy and empowering students to navigate an increasingly data-driven world with confidence and proficiency. Particularly, considering that most community college librarians have continuing education needs but struggle with heavy workloads (House, 2018), this toolkit can fill a significant gap in supporting their professional development and enhancing their ability to serve students effectively.

The toolkit developed through the participatory and iterative process in this project will be released under CC BY-SA 4.0. This license will facilitate widespread dissemination and collaborative adaptation of the toolkit's resources. It will serve as a valuable asset for information professionals, educators, and learners alike. This toolkit will be easily accessible to the public so that community college librarians across the nation are able to easily access and adapt the resources in the toolkit to fit their specific needs and contexts. The companion webinar recording will also be available to those unable to attend the live session, as well as those who would like to revisit it. Additionally, we will offer comprehensive documentation and tutorials to ensure users can efficiently utilize the toolkit's features and functionalities. For long-term preservation and accessibility, both a PDF version of the toolkit and recordings of the webinar series, along with their transcripts, will be deposited into the UNT institutional repository.

Furthermore, as part of our dedication to continuously maintaining and improving the toolkit, the project team will employ a strategy to seamlessly integrate the toolkit into the curriculum of INFO5330 Academic Libraries or INFO5841 Data Curation and Management, an elective course in the UNT master's degree program in library science. By incorporating the toolkit into the course framework, students who will become future literacy leaders can engage with its content firsthand. Moreover, this integration ensures that the toolkit remains current and relevant, with the project team assuming responsibility for regular updates and maintenance, thus ensuring its continued efficacy as a resource for the academic community.

Schedule of Completion

Year 1

Activity	8	9	10	11	12	1	2	3	4	5	6	7
Project initiation												
• Establish a detailed work plan	▓											
• Hire a research assistant	▓											
• Convene project advisory board/design team		▓										
• Update project website		▓										
Webinar Series Phase 1												
• Conduct informal focus group with CJCLS			▓									
• Disseminate a call for proposals				▓								
• Finalize webinar speakers					▓							
• Set up logistics for webinars						▓						
• Develop/disseminate promotion materials						▓						
• Conduct a dry run with webinar speakers							▓					
• Host a webinar series								▓				
• Disseminate webinar evaluations									▓			
• Publish recordings of webinars										▓		
Toolkit												
• Compile/collect resources		▓	▓	▓								
• Develop a blueprint for toolkit					▓							
• Conduct design session I							▓	▓				
• Conduct design session II									▓	▓		
• Develop the first version of toolkit											▓	▓

Year 2

Activity	8	9	10	11	12	1	2	3	4	5	6	7
Toolkit												
• Develop the first version of toolkit	▓	▓	▓	▓								
• Collect feedback from project advisory board and design team					▓							
• Revise toolkit						▓	▓	▓				
• Release the final version of toolkit									▓			
Webinar Series Phase 2												
• Finalize webinar speakers							▓					
• Set up logistics for webinars								▓				
• Develop/disseminate promotion materials									▓			
• Conduct a dry run with webinar speakers										▓		
• Host the webinar series											▓	
• Disseminate webinar evaluations												▓
• Publish recordings of webinars												▓

Digital Product Plans

This project will create the following digital products:

- A toolkit comprising a series of modules introducing data literacy concepts through short videos, activities, use cases, and tools.
- Webinar materials, including webinar speakers' presentations and slides.

A toolkit will be accessible through an open-access platform such as GitHub. Additionally, it will be offered in a printable PDF format and published under Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) to allow sharing and attribution. As such, these digital resources can be freely shared but require proper attribution when reused.

Webinar speakers' presentations and slides will be released as archival PDFs, and presentation recordings will be converted into standard MP4 format.

Both a PDF version of the toolkit and webinar presentation slides/recordings will be deposited to the UNT institutional repository, UNT Scholarly Works (https://library.unt.edu/scholary-works), for long-term preservation and access. All content in the UNT Scholarly Works has a permanent URL for each item and will be visible on all major search engines. The URL for the items in the UNT institutional repository will be available on the project website.