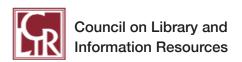
National Institute for Technology in Liberal Education

An Assessment

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Executive Summary

n 2001, the National Institute for Technology in Liberal Education (NITLE) was created to "stimulate collaboration between selected liberal arts colleges and to act as a catalyst for the effective integration of emerging and newer digital technologies into teaching, learning, scholarship, and information management." In July 2015, NITLE migrated its operations from Southwestern University to the Council on Library and Information Resources (CLIR). In conjunction with this migration, CLIR initiated a rigorous analysis of NITLE's current condition and the needs of its constituents. CLIR engaged a six-member team of consultants—all current or former CLIR Postdoctoral Fellows—to conduct the assessment under the direction of CLIR Senior Program Officer Alice Bishop, and Director of Research and Assessment Christa Williford.

Methodology

CLIR's assessment of NITLE comprises three interrelated activities: composing a history of NITLE and setting it in the larger context of organizations devoted to technology in liberal education; conducting interviews with key stakeholders in NITLE's past, present, and potential future; and designing, administering, and analyzing a survey of current and former NITLE members and interested parties. These activities resulted in a rich, textured picture of the organization and the many ways in which it engaged with its members over the years.

Throughout this white paper the authors use the term *liberal education*—a phrase embedded in NITLE's name—in the broadest possible sense. It encompasses the four facets outlined by former NITLE Executive Director Jo Ellen Parker in her 2006 article, "What's So 'Liberal' about Higher Ed?" These facets are: (1) the study of the liberal arts and sciences; (2) a pedagogical methodology that

http://www.nitle.org/about/

emphasizes active learning, faculty/student collaboration, independent inquiry, and critical thinking; (3) preparation for democratic citizenship and civic engagement; and (4) an association with institutions that regard themselves as liberal arts colleges—small, residential, privately governed bachelor's granting colleges.²

In composing a selected history of NITLE's major projects and initiatives, Annie Johnson and Elizabeth A. Waraksa consulted a wide variety of resources, including some of NITLE's administrative archives, its website and other online output, scholarly and trade publications, and the annual reports of The Andrew W. Mellon Foundation, NITLE's largest funder. These sources helped place the organization within its larger context and revealed significant shifts in NITLE's business model, target audience, and services, particularly between 2008 and 2015.

Morgan Daniels and Sarah Pickle interviewed eight people with various professional backgrounds who had worked for or with NITLE. The purpose of the interviews was to learn about the interviewees' and their organizations' goals and needs regarding technology and liberal education. Interviewees also discussed what they believe is required to move liberal arts colleges forward in these areas. Finally, Daniels and Pickle asked interviewees to consider if and where NITLE could fit in this vision.

With a purpose similar to that of the interview team, Jason Brodeur and Natsuko Nicholls designed, administered, and analyzed an online survey that explored needs in technology and liberal education among a broader audience of individuals working in these areas. The aim of the survey was to identify institutional and individual needs while also soliciting information about experiences with liberal arts-focused consortia and organizations, including NITLE. The 32-question survey asked how professional organizations and programs might address identified needs. Open-ended questions allowed survey participants to share specific experiences and views on issues related to liberal arts education, information technology, and NITLE.

Summary of Findings

Based on the analysis performed for this report, the authors believe that a future organization seeking to serve constituents similar to those served by NITLE should:

• Maintain a liberal arts college focus. As NITLE sought economic sustainability, it broadened its membership to include schools and organizations that were not, in the strictest sense of the term, liberal arts colleges. However, in both interviews and in the online survey, respondents mentioned the need for an organization that would focus specifically on the challenges facing liberal arts colleges.

² Available at http://www.academiccommons.org/2014/11/13/whats-so-liberal-about-higher-ed/.

- Perform market research to determine how a future organization should support members at the local and/or national level. The interviews and survey revealed that NITLE members appreciated the regional connections they were able to make during NITLE's early years. They especially valued local opportunities for practical skill sharing, professional development, and project collaboration. The assessment also found that NITLE members welcomed opportunities to participate in national conversations surrounding technology and liberal education, including receiving regular updates on trends and technologies and attending annual meetings. Since this study is of a necessarily limited scope, the authors recommend that more data gathering and market research be carried out to identify gaps that might best be addressed through regional initiatives, and those that might require national coordination.
- Clearly articulate the organization's mission, primary audience, and value proposition. An organization such as NITLE cannot be all things to all people. Going forward, any organization or program serving NITLE's constituents must establish a clear mission statement to meet the needs of a defined audience and make sure that all programs support such a mission. Particular attention should be paid to whether faculty members will be an important part of the organization's audience. Faculty are not only vital to the mission and culture of liberal arts colleges, but are also key players in the ongoing adoption and evaluation of educational technologies.
- Ensure that membership fees are in line with members' perceived return on investment. Although a number of early NITLE members were drawn to the organization because membership was financially supported by the Mellon Foundation, the survey revealed that respondents did not mind paying a yearly membership fee. Members left NITLE during its later years not because of the membership fee per se, but because they did not feel they were benefiting from their membership. This finding underscores the importance of a robust and well-communicated business plan for any organization seeking to serve NITLE's constituents in the future.
- **Develop a culture of ongoing assessment.** To demonstrate the return on investment for members, the organization should put resources toward a thorough and regularized assessment program.
- Regularly communicate with members. Both the interviews and the survey revealed that members became frustrated when they felt that NITLE stopped communicating with them. To emphasize its value to members, a future organization should develop a passionate, communicative leadership that regularly reports on its various projects, activities, and their outcomes through means appropriate to the organization's scope. Social media platforms such as Twitter are an easy mechanism for doing this, though more traditional modes of communication remain valuable to prospective members. In addition, staff should check in with individual member representatives at least once a year to address needs or concerns.

• Distinguish the organization from others with similar audience or mission. Since NITLE was founded, a number of similar organizations have launched, including a host of regional consortia. In addition, some older organizations have begun to take up many of the same issues that NITLE once did. It is critical that a future organization consider the various other entities serving the liberal education and technology landscape and clearly explain to potential members why it is different. A future organization may even wish to position itself as a national umbrella organization that coordinates the many regional organizations, a role not unlike NITLE's early charge.

Conclusion

There are many different paths forward for a future organization interested in supporting the use of digital technologies in liberal education. First, the organization could keep the name NITLE but be reconceived and relaunched with a clearer focus and mission. The biggest challenge with this option would be convincing members, new and old, that NITLE has carefully considered its past and adjusted its mission to fit the current landscape. Based on the interviews and survey, it appears that regaining the trust of many members would not be easy, and continuing with the name "NITLE" would bring with it a fair amount of negative baggage.

A second option would be to discontinue the organization known as NITLE, and look to other entities to fill the gaps. Overall, however, interview and survey respondents believe there is still a need for national-level attention to the technological and pedagogical strategies of liberal arts colleges. Thus, a third option would be to rename and reconfigure NITLE as a national, member-sponsored program that documents, assesses, and improves teaching and learning practices in member institutions, facilitates collaboration across those institutions, and helps develop multi-institutional projects that address shared needs. This program could be run by a parent organization or institution while retaining its own governance apparatus, ensuring that its priorities remained attuned to its membership. In this model, the program might remain fairly lean, with only a limited number of full-time staff. Alternatively, as noted above, it could function as a parent organization itself, charged with coordinating a national conversation.

Whatever shape a future initiative may take, its endurance would rely on its ability to help its constituents adapt to rapid change. The shifts and turns that have characterized NITLE's history to date have reflected a revolutionary period in higher education. Mobile technologies, online learning tools, social media platforms, cloud computing services, interactive gaming, augmented reality, and more have shaped student expectations of what a liberal education should offer, while transforming the social, economic, and cultural contexts in which students live and work. The critical thinking, reflection, and personal attention that have been the strengths of liberal arts colleges remain vital for preparing students to make

intelligent choices about their future. These institutions will continue to seek ways to build on these strengths, incorporating new technologies creatively and efficiently.

We hope that this report helps guide NITLE's advisory council as it considers approaches toward shaping the organization's future. By understanding NITLE's history, the current landscape, and the needs of its stakeholders, we are confident that the advisory council will chart a course forward that benefits the liberal arts community.

History of NITLE, 2001–2015

Annie Johnson and Elizabeth A. Waraksa

his chapter presents a brief history of NITLE, focusing on shifts that have taken place over the years in its audience, its business model, and its value proposition. (A value proposition is a marketing term referring to the unique, added-value services that a business or organization provides that its competitors do not.) In preparing this chapter the authors consulted a wide variety of resources including but not limited to: NITLE administrative archives provided to CLIR by Southwestern University; previous and current versions of NITLE's website (http://www.nitle.org); NITLE publications; scholarly and trade publications; the websites of other organizations devoted to technology and liberal education and/or those with audiences, value propositions, and business models similar to NITLE's; annual reports of The Andrew W. Mellon Foundation; and information supplied by the stakeholders interviewed for this project and by those who responded to the project's survey.

The authors have tried to summarize NITLE's activities as accurately as possible using the sources available to them. However, NITLE has no official archive, so for many early initiatives the authors could find only limited or fragmentary information. In this chapter the authors give a general overview of NITLE's activities and provide context for both the interview and survey chapters. A comprehensive history of NITLE remains to be written.

Overview

NITLE's history provides an excellent case study of the promise and challenge of using digital technologies for teaching and learning in liberal education in the first 15 years of the twenty-first century. Although it is difficult to summarize the activities of an organization as active and diversified as NITLE, what follows is an attempt to distill its trajectory between 2001 and 2015.

Over the years, NITLE's primary audience evolved from faculty, librarians, and technologists working in the liberal arts college

classroom, especially those working in foreign languages and area studies, to library and college administrators. At the same time, NITLE's value proposition shifted from being a provider of venues for training, development, and discussions surrounding technology in the liberal arts college classroom—particularly in a regional context—to a national organization devoted to thought leadership, leadership development, and collaboration at the highest levels of the college or university. Although NITLE consistently supported and launched national research and development initiatives throughout its history (from the NITLE Semantic Engine to Anvil Academic Publishing), these project-oriented activities slowed in later years, when NITLE leadership focused on offering consulting services to institutions.

Perhaps most significantly, NITLE's business model underwent a major shift in 2007 as the organization went from being fully supported by The Andrew W. Mellon Foundation to generating its own income. NITLE leadership sought to make the organization self-sustaining through a series of shifting and often overlapping business strategies. These included charging annual membership dues, charging registration and consulting fees for events and services (and opening these to non-NITLE members), seeking new institutional members outside the traditional realm of liberal arts colleges and universities, and pursuing and obtaining external grants. Because the evolution of NITLE's audience, value proposition, and business model falls into two distinct phases—2001–2007 and 2008–2015—these phases are discussed, in turn, below, after some context about NITLE's origins.

NITLE's Pre-history

The Mellon Foundation began offering grants to liberal arts colleges to support teaching with technology in 1993. In so doing, the foundation discovered that colleges needed three things to more effectively integrate technology into the classroom: equipment, technology support, and faculty development. Foundation officers also came to believe that collaboration among multiple institutions was one approach to effectively manage the costs involved. To that end, Mellon programs supported a number of collaborative projects, including Project 2001, which was launched by Middlebury College's Center for Educational Technology in 1997. Project 2001 aimed to create a self-sustaining network of faculty and staff from more than 60 liberal arts colleges interested in teaching foreign languages with technology (Emerson and Duffy 1997). In many ways, NITLE was an outgrowth of this project.

2001-2007

Business Model. In 2001 Mellon supported the creation of three regional educational technology centers: The Associated Colleges of the South (ACS) Technology Center at Southwestern University, the

Center for Educational Technology (CET) at Middlebury College, and the Midwest Instructional Technology Center (MITC) in Ann Arbor, Michigan. That same year it also helped launch a national organization called the National Institute for Technology in Liberal Education, or NITLE, that would oversee these regional centers (Mellon Foundation 2001, 26). Based at Middlebury College, NITLE's first director was Professor of Linguistics Clara Yu. The organization's original mission, according to Yu, was "to serve as a catalyst for innovation and collaboration for national liberal arts colleges as they seek to make effective use of technology to enhance teaching, learning, scholarship, and information management" (2004, 25). Through its various programs and initiatives, NITLE sought to serve faculty, librarians, and information technologists.

Thanks to its grant support, NITLE did not charge a membership fee until 2007. However, the foundation's original vision was for NITLE to become self-supporting (Mellon Foundation 2001, 27). Mellon's support of NITLE allowed it to gain attention and momentum among liberal arts institutions as it grew alongside similar, more established organizations such as the New Media Consortium (founded in 1993) and EDUCAUSE (founded in 1998), both of which relied on membership fees. Around 80 liberal arts colleges joined NITLE during its first year. In 2004, Clara Yu stepped down and Jo Ellen Parker, the former president of the Great Lakes Colleges Association, became NITLE's executive director. As a result, NITLE's operations moved to Ann Arbor, Michigan. In 2006 NITLE began to operate as part of the Mellon-funded organization, ITHAKA. The thought was that both organizations would benefit financially from one another (Mellon Foundation 2003, 32).

Audience and Value Proposition. True to its Project 2001 roots, NITLE's earliest projects focused on language and culture. In response to the September 11th attacks of 2001, NITLE launched the Al-Musharaka initiative to help liberal arts faculty develop a collaborative curriculum around Arab and Islamic studies (Toler 2005). That initiative led to the creation of the Arab Cultures and Civilization website, which features educational materials on the Middle East for college and university students.3 NITLE also worked with its regional technology centers to create the REALIA (Rich Electronic Archive for Language Instruction Anywhere) Project, a searchable database of images designed to aid in foreign language teaching. Another of NITLE's early curriculum-focused initiatives was the Sunoikisis Project. Originally run by the Associated Colleges of the South Technology Center, the Sunoikisis Project aimed to enhance undergraduate instruction in Classics through inter-institutional collaborative courses taught online (Frost and Olsen 2005). NITLE took over the project in 2006.⁴ Before long, however, NITLE began to broaden its scope.

³ The site continued to be updated through 2007, and is now hosted by the Middle East Policy Council.

⁴ In 2009 the Sunoikisis Project was moved to Harvard's Center for Hellenic Studies in Washington, D.C., where it continues to operate today.

NITLE provided funds to support the development of the History Engine project. A database of historical episodes created by undergraduate students using primary source material, the History Engine was conceived and launched by Edward L. Ayers at the University of Virginia. NITLE also arranged for the website to be used in several of its members' undergraduate history classes.⁵

Between 2001 and 2008 NITLE staff devoted significant time to research and development. The reasoning was that, unlike large research institutions, most liberal arts colleges did not have the resources to develop new technologies on their own. NITLE could do the development work in house and then share the resulting technologies with members (Yu 2004, 26). The first of these projects was the NITLE Semantic Engine (now defunct), which NITLE developed from 2003 to 2007 (Yu 2003). The NITLE Semantic Engine was an early data-mining tool designed to help scholars see patterns in large amounts of text. It also featured a desktop application that generated visualizations. Another initiative, the BlogCensus Project, was an outgrowth of the Semantic Engine. Begun in 2003, the Blog Census Project attempted to index all of the blogs on the Internet and analyze their content. After two years, however, the number of blogs grew too quickly for the census to keep up with, and the project was ended.⁶ The NITLE Prediction Markets (now defunct) was an online game launched in 2008 that aimed to predict the next big trends in educational technology. Created by NITLE staff member Bryan Alexander, the game was hosted on the Inklings Markets platform.⁷ Players bet virtual money based on their own ideas about the future (Alexander 2009).

During its early years, NITLE was also charged by the Mellon Foundation to act as a national coordinator for the three existing regional technology centers. With help from these organizations, NITLE sponsored workshops and symposia to get faculty, librarians, and instructional technologists talking to one another and sharing ideas about using technology in the liberal arts classroom. The Latitude Initiative, for example, aimed to teach NITLE members through a series of workshops how to use and integrate GIS into teaching and learning. Out of this initiative came a book, *Understanding Place: GIS Mapping Across the Curriculum* (2007) by Diana Stuart Sinton, a NITLE staff member, and Jennifer Lund.

NITLE also experimented with offering its members managed technology services. In 2004, NITLE partnered with ARTstor on a pilot project that provided seven member colleges an institutional hosting and image management service managed by ARTstor. In 2006, NITLE worked with four member organizations—Carleton College, Dickinson College, Middlebury College, and Trinity University—to

⁵ The project is currently run by the University of Richmond with help from the University of Toronto Scarborough. See Benson et al. 2009.

⁶ Email correspondence between Annie Johnson and Aaron Coburn, former NITLE developer, April 3, 2016.

⁷ Inkling Markets has since been acquired by Cultivate Labs. See http://inklingmarkets.com.

offer a more comprehensive managed institutional repository service using DSpace. The pilot project ultimately included 26 liberal arts colleges. NITLE hosted the DSpace software on its server, and also offered fellowships to help college staff learn how to use it (Richison 2008).

2008-2015

Business Model. In 2008, as NITLE navigated the shift from grant to membership support under the leadership of Jo Ellen Parker, the organization began to seek new members and new revenue streams. As one of its first steps, NITLE leadership rebranded its membership as "the NITLE Network, a virtual network supporting collaboration and innovation across professions, disciplines, and institutions," open to "independent not-for-profit colleges and universities." A pricing structure was also introduced whereby NITLE Network members would pay an annual membership fee (\$2,500 in 2008) for a base set of services. These services included managed access to the Moodle and Sakai course management systems, seats in an online videoconferencing "room," and regular programming updates. Members also had the option of registering for additional NITLE offerings on a pay-as-you-go basis.9 This rebranding and reframing of NITLE expanded the range of institutions eligible to join. The changes also helped member staff provide basic library and computing services on their campuses while allowing NITLE to continue conducting research and offering workshops addressing the needs of faculty and technologists.

In spring 2009, Jo Ellen Parker stepped down and W. Joseph (Joey) King became NITLE's executive director. NITLE headquarters were relocated to Southwestern University in Georgetown, Texas. At the time of King's appointment, NITLE had 139 institutional members. Beyond liberal arts colleges, universities, and consortia in the United States, these included American universities abroad, nonprofit organizations such as ITHAKA and the United Board for Christian Higher Education in Asia, and a federally funded initiative called Project Kaleidoscope.¹⁰

One strategic initiative launched by Parker and continued under King was NITLE's annual conference, the NITLE Summit. To keep the event financially sustainable over time, King sought external funding and corporate sponsorships (King 2010). First held in 2007 and last held in 2012, the NITLE Summit featured keynote lectures, presentations, poster sessions, and networking opportunities. While summit sessions were originally open only to NITLE Network members, by fall 2009 NITLE expanded access to its offerings—in

⁸ https://web.archive.org/web/20080515111619/http://www.nitle.org/index.php/nitle/the_network

⁹ https://web.archive.org/web/20080515111619/http://www.nitle.org/index.php/nitle/the_network

¹⁰ https://web.archive.org/web/20090614025618/http://www.nitle.org/www/institutions.

particular, its virtual seminars—by charging non-network participants higher fees to attend, thus creating an additional source of revenue.¹¹

As NITLE leaders explored various revenue streams after 2007, they also sought additional funding from grant-making agencies. Between 2012 and 2014, NITLE received three grants from The Andrew W. Mellon Foundation for programming and operational costs. These grants helped cover the costs of holding online seminars and in-person workshops, researching and writing publications, and organizing the NITLE Summit. In addition, NITLE recruited two American Council of Learned Societies Public Fellows: Sean Johnson Andrews was director of NITLE's Shared Libraries initiative from 2011 to 2013, and Korey Jackson was program coordinator for Anvil Academic Publishing from 2012 to 2014 (King 2011; NITLE 2012a).

NITLE reduced operating costs in its later years by decreasing its full-time staff. This plan was first noted by Joey King in his March 2010 update to the membership, in which he remarked that, "As a result of restructuring, a smaller, leaner staff is now fully focused on and aligned with NITLE's new organizational objectives" (King 2010). In September 2013, King's successor, Michael Nanfito, reported to Mellon that NITLE had "decreased investments in staffing, from 12 full-time positions at the beginning of the reporting period [i.e., June 2012] to 3.5 positions as of August 2013.¹²

Audience and Value Proposition. Between 2009 and 2015, NITLE's events and services became more oriented toward the sharing of expertise at the administrative level. This shift was gradual and paralleled numerous initiatives targeting the concerns of on-the-ground teachers and other learning support staff. NITLE launched its online open publication space, The Academic Commons, "a platform for sharing practices, outcomes, and lessons learned," and hosted a steady stream of (fee-based) online workshops, webinars, and symposia focused on topics such as data visualization, Omeka, MOOCs, crowdsourcing, flipped classrooms, and project management.

Other projects introduced during these years heralded NITLE's strategic focus on inter-institutional collaboration. These efforts targeted institutional administrators such as chief information officers. For example, NITLE Labs, launched in 2010, was "a virtual laboratory to test new technologies and collaborative relationships" (King

¹¹ https://web.archive.org/web/20090922110635/http://www.nitle.org/www/events.

^{12 &}quot;Grant Report: Digital Humanities, September 2013 copy." Final Report to The Andrew W. Mellon Foundation, dated September 31 [sic], 2013. Unpublished NITLE document provided to CLIR by Southwestern University.

¹³ Academic Commons was also the name of a previous online platform launched in January 2005 and hosted by the Center of Inquiry in the Liberal Arts at Wabash College. It aimed to provide "a forum for academic professionals interested in investigating educational technologies within a liberal-arts context, advanc[ing] opportunities for collaborative design, open development, and rigorous peer critique of such resources, and connect[ing] technology to the outcomes of liberal arts education." https://web.archive.org/web/20040925150251/http://www.academiccommons.org/?page=about. The Wabash platform and NITLE joined forces for the first time in September 2009, https://web.archive.org/web/20090924083450/http://www.academiccommons.org/ and by May 2010 the site appeared to draw mainly from NITLE activities, https://web.archive.org/web/20100610073355/http://www.academiccommons.org/.

2010; 2011). The Shared Libraries program, which aimed to negotiate reduced-cost, consortial access to electronic resources, was launched in January 2013. Finally, the Texas Language Consortium, a still-vibrant collaboration of five small colleges, provided shared language courses in French, German, Spanish, Portuguese, and Mandarin.¹⁴

NTLE continued undertaking new research and development projects after 2010, most often in collaboration with other organizations. In 2012, NITLE became a founding member of the AIR.U project, which aimed to bring high-speed wireless connectivity to rural universities and, in a joint venture with CLIR, NITLE co-founded Anvil Academic, an early attempt at creating a peer-reviewed publishing platform for born-digital projects in the humanities.

NITLE signaled a shift in its target audience away from front-line educators and technologists toward college and university leadership by introducing its Shared Academics program. Launched in fall 2012 and directed by Georgianne Hewett, Shared Academics was concerned with "the development of high-level events for the NITLE Network that connect member colleges with leader experts in fields otherwise inaccessible due to cost and logistics" (NITLE 2012b). Likewise, the Innovation Studio, also launched in 2012, marked the first of several leadership development programs that NITLE would offer to campus decision makers (Spiro 2012).

As NITLE's leadership moved the organization toward a flatter structure at the end of its first decade, it was NITLE's senior staff, such as the program directors mentioned previously, and its fellows (affiliates drawn from Network member libraries, IT departments, and administration, as well as from industry) who produced and offered most of its services. By 2013, NITLE was a full-fledged consultancy, offering the services of its senior leadership and subject experts to upper-level campus administrators under the banner of NITLE Shared Practice, directed by staff member Arden Treviño.

In June 2013, Michael Nanfito was appointed NITLE's executive director. From 2013 to 2015, the organization focused even more on leadership development, thought leadership, and consulting activities, promoting in particular its Shared Practice program. These services became geared almost exclusively toward the concerns of library and college leadership. A second iteration of NITLE's consulting practice, its Collaboration Consulting Program, was funded by Mellon and initiated in 2014. In January 2015, NITLE published, on the Academic Commons Platform, *Collaboration: A Primer*, jointly authored by Amanda Hagood of the Associated Colleges of the South and Grace Pang of NITLE (Hagood and Pang 2015). That same month, Michael Nanfito ended his tenure as executive director of NITLE, and in April 2015 Southwestern University announced that NITLE would migrate its operations to CLIR. ¹⁵ At the time, NITLE had about 75 member institutions.

¹⁴ http://www.schreiner.edu/news/2012/news12_apr17_texas-language417.aspx_

¹⁵ http://www.southwestern.edu/live/news/10495-nitle-to-migrate-operations-off-campus.

Competitors

Today several organizations focus on the use of technology in higher education. The organizations that NITLE stakeholders most often cite as offering services similar to NITLE's (as reported in this study's survey and interviews) fall into four distinct groups, based on audience and mission:

- For IT/educational technology concerns, stakeholders mention EDUCAUSE and the EDUCAUSE Learning Initiative (ELI), the Northeast Regional Computing Program (NERCOMP), and Edu-ISIS.
- For advancing liberal education, they cite the Consortium of Liberal Arts Colleges (CLAC), the Oberlin Group, Council of Independent Colleges (CIC), and the Association of American Colleges and Universities (AAC&U).
- For thought leadership, peer networking opportunities, and collaborative initiatives, stakeholders reference CLIR, the American Library Association (ALA), the Association of College and Research Libraries (ACRL), the New Media Consortium, and the Digital Library Federation (DLF).
- Numerous consortia and grassroots organizations exist to address regional concerns, including some of the consortia from which NITLE evolved such as the Associated Colleges of the South (ACS), as well as groups like the New York Six Liberal Arts Consortium and Northwest Five Consortium (NW5C).

Recently, a new Mellon-funded organization, the Digital Liberal Arts Exchange (DLAx), was launched, though it remains to be seen how the DLAx will operate and what services it will offer. ¹⁶ See Appendix 1 for a complete list of NITLE competitors that were reviewed by the authors, together with brief statements of the organizations' current audience, value proposition, and business model.

Summary

Between 2001 and 2015 NITLE leaders made numerous attempts to adjust the organization's focus, value proposition, and business model within a rapidly evolving educational technology landscape. They did so to provide a wide variety of stakeholders with tools to better serve liberal arts college students of the early twenty-first century. Other adjustments were made in response to a change in the organization's funding around 2007, when full operational funding from Mellon was no longer available. As a result, NITLE shifted from a regionally minded organization that catered to faculty, librarians, and IT staff to a national consultancy in dialog with library and campus administrators.

¹⁶ For more on DLAx, see the group's recent report: "Digital Liberal Arts Exchange Survey Analysis" (December 8, 2015). Available at https://dlaexchange.files.wordpress.com/2015/12/survey-analysis.pdf.

Findings from Interviews on Institutional and Sector Needs for Technology in Liberal Education

Morgan Daniels and Sarah Pickle

s discussed in the previous section, in the past 15 years NITLE has cycled through various missions, tested multiple business models, and courted different audience groups. Its scope, however, has consistently focused on the intersection of technology and education in a liberal arts college setting. Over four months in 2015, we interviewed eight people of different professional statuses who had worked for or with NITLE at various points. We used a single protocol with these interviewees, asking what the respondents expected and hoped to gain from their involvement with NITLE and seeking to understand their current goals and needs. To avoid weighing down a forward-looking conversation with thoughts about the past, we encouraged respondents to articulate what they believe is required to move liberal arts colleges (LACs) forward in these areas. We then closed by asking respondents to reflect on what kind of organization would be useful to support LACs in these goals and where NITLE could potentially fit in this vision for the future. The semi-structured interviews allowed us to gather detailed and nuanced information, to probe for further explanations as needed, and to tailor the wording of questions slightly to reflect each interviewee's relationship with NITLE.¹⁷ The time-consuming nature of this method, however, limited the number of interviews that could be conducted over the course of the project.

Following are the interview questions and summaries of participants' responses. Where appropriate, we have indicated when individuals of like professional status or experience with NITLE had similar answers to prompts.

¹⁷ Holding semi-structured interviews enabled us to slightly tailor questions in the interview protocol based on the current and past roles of each respondent. For example, when former NITLE staff members were asked about their involvement with NITLE (question 1), it was explained that we were interested in their time as staff at NITLE as well as any other engagements they had with NITLE (e.g., as staff at NITLE member institutions, as consultants to NITLE).

Personal Experience with and Perception of NITLE

When did you first become involved in NITLE? How did you first get involved, and in what capacity?

The eight interviewees all had longstanding associations with NITLE, having first become involved with the organization between 1997 and 2002. The four with the longest relationships connected with the organization through the regional centers such as the Midwest Instructional Technology Center (MITC) and the Center for Educational Technology (CET), which eventually merged under the NITLE organizational umbrella in 2005. Four interviewees had once been NITLE staff members, filling leadership roles in the organization, expanding institutional membership, and developing services for members. Three participants now work in administrative roles at institutions that are current NITLE members, and another two are affiliated with former NITLE member organizations. One interviewee provided two perspectives: he is an administrator at an institution that had been a NITLE member and a former NITLE staff member.

What did you initially want to get from your involvement with NITLE, and were your expectations met? Did that change over time?

Interviewees' initial expectations for their engagement with NITLE centered largely on community building and knowledge sharing around technology and liberal arts education. Several saw great value in the professional network fostered by NITLE, already in place when they became involved with the organization. One interviewee recalled that her immediate impression of NITLE was, "Wow, this is a really great network of people." The opportunity to meet and learn from others working on technology-related issues in a liberal arts educational context was a core motivation and benefit of participation. In these individuals' experience, this expectation was met, and they formed relationships that several interviewees noted still benefit them in their work today. One interviewee commented that the strength of networks built through NITLE was due, in part, to the relatively small size of both the organization (compared to other similar groups) and the liberal arts campuses involved. The interviewees highly valued the opportunity to learn from others facing similar challenges in similar institutional settings. For many, this opportunity helped create a close-knit community.

The exchange of ideas in a liberal arts college context was an important feature of NITLE participation for many interviewees, but two respondents mentioned that the organization gave them access to cutting-edge initiatives and strategies they would not otherwise know about. As one put it, NITLE was an "opportunity for us in the liberal arts environment to get a little taste of what was going on at the R1 level in instructional technology" and to assess what could be translated to the LAC environment. NITLE's efforts to expose liberal arts college leaders to these conversations, such as when the organization sent a group of NITLE affiliates to a Coalition for Networked

Information (CNI) meeting, enabled these leaders to gain access to a broader discussion of technology in education that they found inspiring. Those who attended CNI were also invited to participate in a conversation with their peers during which they discussed the meeting's relevance to the LAC context.

For three respondents, the potential for collaboration was a key motivation for becoming involved with NITLE. With the acknowledgement that, by and large, liberal arts colleges are under-resourced compared to larger universities, they saw collaboration as an opportunity for LACs to do more with their limited resources. For one senior administrator at a former NITLE-member college, the in-person and highly collaborative environment fostered by NITLE in its early days was "by far the most valuable thing that was ever offered." As another respondent observed, liberal arts colleges are caught in a competitive spiral of increasing costs. They are battling challenges to the relevance of a liberal arts education in today's world. By collaborating in a community dedicated to thoughtful, strategic development around technology, these respondents witnessed gains not only in their institutions' capacities to innovate for liberal arts colleges—gains that went beyond what an individual LAC might be able to achieve—but also in the sustainability of those initiatives. Interviewees cited NITLE's facilitation of opportunities for people in their community to learn from one another (e.g., acting as a clearinghouse of information about who had what kinds of expertise) as a particularly valuable function in the group's early days, when the regional centers still had significant influence. This deep local knowledge was diminished somewhat when the national organization took responsibility for overseeing those centers, according to one interviewee who had a great deal of exposure to the regional organizations during that earlier era.

The organization's emphasis on information technology within the liberal arts college context was singled out by several respondents as a unique and compelling offering. Interviewees identified training opportunities and access to strategic thinking in this area as key NITLE traits that benefited member colleges. One senior administrator noted that his institution contracted with NITLE for support as it initiated an innovative technology project with other schools. Referring to the collaboration project, he said they "could not have done it without NITLE helping us."

Some institutions were motivated to participate in NITLE because of its relationship with The Andrew W. Mellon Foundation. According to one administrator in a member LAC, many institutions participated in NITLE as "an investment in keeping Mellon happy." Four interviewees spoke at length about the value of the resources NITLE was able to make available to members because of Mellon's support. By sponsoring workshops and paying for a group of staff at member institutions to attend them, NITLE helped LACs supplement their limited professional development budgets by giving them access to high-quality training that they might not otherwise be able to afford. In this way, Mellon facilitated the advancement of staff at

these institutions and helped foster a sense of community, collaboration, and knowledge sharing.

When asked if their expectations of NITLE were met, interviewees provided a range of responses. An emphatic "yes" from one college administrator was based on the support he felt his school had received from NITLE. The organization had helped his institution successfully develop and promote a major initiative and position it for the future. Two other interviewees said their expectations were met when the organization was still a loose confederation of regional centers, but that their attitudes changed once NITLE took the reins. For these individuals, the change in the organization and its new national scope greatly diminished their ability to make personal connections with colleagues at other institutions. Another respondent's disappointment with NITLE stemmed from its ambition to make a large impact on liberal arts colleges and, in this employee's words, be a "game changer" in that world, which she felt the organization did not achieve. An administrator at a former NITLE-member LAC was disappointed by NITLE's shifting emphasis away from on-theground employees and toward senior administration at a time that his college sought to increase staff support for technology. In his opinion, it seemed that NITLE leaders were always saying, "'We're about to work on that,' [but] months would go by and we'd never hear from them." In the end, he confided, "it felt like we couldn't get their attention." Another interviewee characterized the situation as "a complete leadership vacuum" that left the organization inattentive to members' needs.

Why did your organization leave NITLE? What needs did you have that NITLE was no longer able to address? [For former members]

We asked interviewees affiliated with campuses that had given up NITLE membership why they left and learned that three of the participants felt that the cost of membership ceased to provide a worthwhile return. One interviewee stated, "It was clear that workshops could have been done by and at the member institutions for cheaper, so the ROI/return on membership didn't seem positive."

Three interviewees cited communication challenges with NITLE. One senior administrator felt that "the board would ask members their opinion on the direction of the group, but that the board and NITLE would do whatever they wanted anyway." These members were unclear about with whom at their institutions NITLE was expected to engage and how these individuals were expected to do that. As a former member stated, "There was always confusion about what needed to come top-down from the leadership of our colleges and what needed to be bottom-up from where the teaching and learning was happening."

Two respondents reported that their colleges canceled NITLE membership because changes in the organization made membership less valuable to their institutions. As one interviewee said, "To us they kind of lost that liberal arts focus. It petered away. As the

membership became more diverse, programs were not as homed in on the interests of the liberal arts colleges." NITLE's move away from facilitating conferences and workshops in the late 2000s diminished the organization's value in the eyes of another respondent. Several interview participants felt that in recent years NITLE has lacked a clear scope and mission. As one administrator put it, "[I] don't know that they ever defined [what success looks like]."

Present-day Need

What are your institution's goals in the overlapping area of technology and liberal education?

Two interviewees noted that their chief goal today is the same as it was when their institutions first connected with NITLE: to find effective ways to help faculty use technology in teaching. One respondent stated that, in response to faculty members showing more interest in using a variety of technological tools, her college is adding staff in instructional technology, but that she is continuing to find new needs that her staff cannot yet meet. Her goal is to determine how she can address those needs in sustainable ways. Only one respondent indicated that it would be valuable to facilitate faculty-led conversations around the "changing nature of scholarship" and how technology can support it.

Two other interviewees said they have aspirations of using technology to help improve areas such as student recruitment, retention, and success. One commented that his school has to "figure out how to leverage technology to be a robust institution." His college is located in a relatively remote setting near a large city with many competitor schools. Consequently, his institution has had to develop a value proposition that expands beyond traditional liberal arts offerings. "In order to offer that education," he continued, "we need to marshal technology [so that students] can have the rich and robust educational experience we want and [we can] reach students where they are."

The second interviewee focused on student academic success, though she prefaced her comment by saying that the "student success agenda" currently in place at many institutions does not resonate with liberal arts colleges, since the latter's students are generally more successful than most. She then shared that some colleges that invested in attracting a more diverse population have found that not all entering freshmen are equally prepared for what lies ahead. A goal for these institutions is to "augment and supplement (perhaps on a co-requisite basis) the skills and knowledge expected of incoming students," and online learning might help with that. This interviewee also remarked that online education in its myriad forms is becoming "a more normal way for institutions to operate."

Finally, a handful of respondents highlighted a few goals related to technology in liberal arts colleges. Two mentioned libraries and the opportunities that might exist to create shared programs among them. One brought up NITLE's Shared Academics, and another pointed to IT security.

To help you meet your goals in this area, what does your institution need in terms of activities and support? What does the greater liberal arts college community need in this area?

Several interviewees identified a need for knowledge sharing, practical advice, and opportunities to challenge their staff to think differently about how to help faculty incorporate technology into their teaching. To this end, more support is required for training staff who, because of small institution size, sometimes wear many hats. Librarians, for instance, are often tasked with picking up new responsibilities in instructional technology and learning management systems, and IT staff rarely have the chance to consider how to be more creative in their management and day-to-day work. To help determine where their colleges should invest their staff time, these respondents want to hear which efforts have and have not been successful for their LAC colleagues.

These interviewees were expressing a desire for a community of practitioners that could influence both staff and faculty thinking about technology in teaching. Two people in this group also mentioned that funding to help convene such a community would contribute to its success, stressing that face-to-face interactions are far more valuable than those that take place at a distance.

Four senior administrators and a former NITLE employee emphasized that help with crafting a vision for technology in LACs would be useful. They indicated that they would like to see thought leadership and gatherings around big-picture questions such as how LACs can address topics ranging from scholarly research in the digital age to the possibilities for shared libraries. For example, one interviewee acknowledged that conversations around the digital humanities must happen at a high level and must be faculty-driven, because "in most LACs there is not a faculty corpus large enough to have a rich conversation about ... the changing nature of scholarship." Although one respondent wanted access to information about the inspiring and cutting-edge ideas in IT and education being explored at research institutions, in general these respondents asked for help staying on top of and working through emerging trends as they apply to the LAC context.

One senior administrator bridged the two groups of responses, underscoring that, along with vision-level work, practical training and planning would be required to help implement any new ideas LACs might eventually decide to investigate. Another two administrators emphasized the value of having some kind of coordinator or facilitator who would help determine which ideas in the overlapping area of liberal education and technology are worth pursuing, help figure out how best to pursue them as a community, and then help implement the most promising ideas. Some interviewees cited the work NITLE did to support the Texas Language Consortium as a model of an organization meeting the dual needs of thought leadership and practical action.

Addressing Needs

Where does your institution find support to address these needs? What other organizations or resources do you find helpful?

Interviewees cited the following organizations:

- American Council of Learned Societies
- The Andrew W. Mellon Foundation, as it supports the following consortia:
 - Associated Colleges of the Midwest
 - Associated Colleges of the South
 - -Great Lakes Colleges Association
 - -New York 6 Liberal Arts Consortium
 - -Northwest Five Consortium
 - Consortium of Liberal Arts Colleges
- Council of Independent Colleges
- Council on Library and Information Resources
- Council on Library and Information Resources' Chief Information Officers of Liberal Arts Colleges
- Digital Library Federation's group focusing on the LACs
- EDUCAUSE
- EDUCAUSE Learning Initiative
- Edu-ISIS
- Liberal Arts Consortium for Online Learning
- National Association of Independent Colleges and Universities
- New Media Consortium
- Northwest Academic Computing Consortium
- Oberlin Group
- Professional and Organizational Development Network

Interviewees also mentioned the following:

- Bryan Alexander's work
- Hired consultants, such as those from Gartner and Education Advisory Board
- Local TEDx presentations

Do you know of any other organizations or resources that exist in this area but that your institution may not rely on?

Several interviewees answered this question at the same time as they replied to the previous one, not clearly distinguishing between organizations to which their colleges turn for help and those to which they do not. However, interviewees did reference the following groups:

- EDUCAUSE Learning Initiative: (They run "some good programs and workshops. If we had the budget, that's something I'd love to send people to." One interviewee stated that its members tend to be wealthier schools.)
- New Media Consortium: (Its members, one interviewee felt, tend to be wealthier schools.)

• Miscellaneous for-profit workshops: ("Occasionally a for-profit group will offer a workshop on a certain type of technology [and] it would be nice to send someone to [it], but we don't have the funds to do it.")

Given the context you just provided, both for your institution and the liberal arts college community, does there need to be a group to organize support for the overlapping area of technology and liberal education? If so, how do you think such a group could be most useful and effective for the institutions it serves? What would be the most desirable and effective ways for a national program or organization to meet those needs? What are possible target audiences, value propositions, and business models for such a program or organization?

One respondent, a former instructional technologist, did not think there is necessarily a need for a group to organize support in this area. She argued that technology itself is merely a tool. Just as it would be silly to call for organized support for the overlapping area of books in education, it would be silly to call for an organization to support technology in education. For an organization to be useful in this area, she stressed, it would need to dedicate itself to the liberal arts college tradition, rather than to technology.

The remaining interviewees indicated that an organizing entity would, indeed, be helpful. Rather than illustrating possible operational models, several referred to their previous responses. On multiple occasions, interviewees further emphasized how critical it would be for an organization of this type to limit its scope to what liberal arts colleges can reasonably expect to do with technology or to lessons that can be drawn from the experiences of larger institutions. As one respondent put it, "Getting people who are participating and creating the content coming from a liberal arts [college] background—[this] is of paramount importance because they understand what we're all about and what we're trying to do."

Another interviewee said that it could be useful for people who deeply understand the needs of LACs to once again create a community of practice with programming that would help to open lines of communication among schools. But, she warned, the organization would have to be lean and would simply exist to steer the ship in interesting directions. She lamented, "The thing that would help is probably the thing we can't have: a lot more money" to facilitate that programming.

In reply to the prompt about which audience(s) such an organization might target, three interviewees mentioned librarians and technologists in the same breath; one also included faculty. Another interviewee saw the possibility for an organization to help on-theground staff and faculty who need support for exploring innovative approaches to their work, as well as senior administrators who need assistance working through big-picture challenges and developing inter-institutional partnerships.

Two other respondents suggested that LACs that are not in the top tier might benefit most from this kind of organization, given

that they tend not to have the funds to hire significant numbers of instructional technology staff or to expose those they do have to new ideas. Another concurred, noting, for example, how hard it is for less elite and less resourced institutions to join some of the more innovative organizations such as EDUCAUSE. It will be critical, this interviewee added, for any organization with this membership to be "sensitive to the on-the-ground financial and operating realities of liberal arts colleges today," as many in that community are under significant financial stress and are forced to make tough decisions about what organizations they join.

A handful of respondents offered more concrete organizational models. Two interviewees referred to the strength of NITLE's earlier, regional organizational model. One person described how valuable it is to be able to travel easily to nearby partner institutions to learn from them and collaborate. For this approach to take hold again, he said, start-up funding from Mellon might be needed, followed by member dues potentially based on institution size and level of participation. Others who liked the regional model admitted that such an approach would probably work only for regions that are already dense with LACs, making it relatively easy to find area peer institutions. Some interviewees believed that in order to be effective, the organization would likely need to function not only on the regional level, by offering training and support for staff and faculty, but also on the national level, by offering thought leadership for administrators. They feel the bigger scale conversations could piggyback on established events such as the EDUCAUSE Learning Initiative conference. The regional centers could function with only a "thin layer coordinating across [them]."

Two administrators hoped for a body that would identify promising ideas for shared library or academic projects. That organization could then serve as a connector among institutions, bringing schools together to work through the details of piloting new ideas and then widely implementing those that are successful. One interviewee noted that it would be important for this organization to be external to the collaborating institutions, so that it could manage the projects and absorb any potential frustrations from participants while allowing the colleges to maintain their goodwill toward one another. Another interviewee felt this approach could potentially draw grant funding and investments from colleges attracted to the prestige of such innovative undertakings. Yet another interviewee had a similar vision, saying that it would be useful to have an organization thinking about the future of technology in liberal education, but that the organization should have a board made up of member institutions charged with reviewing proposals to test new ideas in the community. She also stressed the need for "resource carrots" to encourage participation.

Two other interviewees indicated that the relationship the Digital Library Federation (DLF) has with CLIR is an attractive approach. The organization's brand, one said, could appear to be independent, as DLF's does, but it would be a CLIR program with a small

membership of about 70 institutions. The other suggested the cost of membership for LACs could simply be a supplementary fee added to the contributions they already make to CLIR.

Finally, one interviewee who has a long history with NITLE was not convinced that any formal, top-down organization is needed to address challenges and opportunities around technology in LACs. Instead, the most effective approach, she said, would likely be a grassroots movement made up of educators who all pitch in to work through those challenges and opportunities. Because this loose confederation would only be beholden to those involved in it, it would be able to set its own agenda, and it should have a permeable membrane that allows it to stay open to learning from others, rather than excluding any "non-members" from the conversation.

NITLE's Future

With all we've covered in mind: Should NITLE exist in the future? If yes, why? What should the mission of NITLE be in the future? If no, why not?

All of the interviewees voiced strong opinions about NITLE's future. Those who felt it should continue described many visions, from coordinator of information-sharing among institutions to provider of professional development opportunities. One former member who had benefited from the early regional-center organization wanted to see NITLE resume its role as a coordinator of regional activities. Along similar lines, another lamented the loss of the hands-on support his institution had received during NITLE's early, regionally focused days, when collaboration was fostered among members in geographic proximity. However, he also saw the value of a centralized organization with dedicated staff to provide support. A third interviewee saw a role for NITLE as a provider of professional development webinars, and two others wanted to see the organization re-establish itself as a thought leader at the intersection of technology and LAC education. One of them said, "I could see a benefit from bringing together a more loosely knit and less hierarchical group of innovation leaders drawn from liberal arts colleges who would really be dedicated to looking at liberal education from a non-self-interested perspective."

While several respondents were regionally minded, many interviewees saw the value of NITLE as a national organization. According to one interviewee with a long-standing knowledge of the liberal arts community, "There are many special-purpose regional organizations, but we need someone to work across the country." Admittedly, she said, "That needs to be accompanied by an appropriate level of resources to support the work. I don't know how to do that in the current climate." Another interviewee advocated for NITLE to reactivate relationships with national organizations interested in technology and learning and collaborate across these groups to serve the LAC sector.

Interviewees identified an additional role for a future NITLE as convener, project developer, and project implementer for testing new ideas for using technology in LACs. One participant suggested that NITLE convene meetings of thought leaders and stakeholders on issues like deep collaboration on campuses between libraries and IT. These meetings would be followed by a standardized process to identify the most promising ideas explored, report them back to stakeholders, and begin working through the details of what it would take to get those ideas off the ground. He saw value in NITLE assuming a coordinating role in these kinds of collaborations, including, for example, being an agent in organizing the financial side of cross-institutional collaboration.

Those who felt that NITLE should not continue believed the organization had faced too much reputational damage to recover and that the NITLE brand may no longer be viable. As one former member said, "There's a lot of baggage with [the NITLE name] and I'm not sure it's the right thing to move forward. [...] It feels a lot like an organization that's ready to be put on the shelf. It was fun; let's move on. But I'm often wrong and I'd be happy to be proved wrong on this one." Another worried that the substantial "doubt and confusion about the NITLE brand [would] be a drag on an effort to accomplish whatever it is that they'd want to accomplish" in keeping the organization alive. In contrast, a third interviewee—a current NITLE member—offered a suggestion about how the name might remain viable: If NITLE were to continue in some new form, it would benefit from an elaborate reboot to ensure the community knows the organization has become something markedly different. He then pointed to NITLE's current relationship with CLIR as one possible way to rehabilitate its standing and to distinguish from the old NITLE whatever new NITLE might emerge.

One interviewee who did not see a future for NITLE argued that liberal arts colleges today might not have the same need to dramatically develop their capacity to work with technology that they had when NITLE was created. He explained that NITLE was founded to introduce small liberal arts colleges to the "latest technology options available for higher education," since these institutions did not have the human or financial resources or exposure to stay on top of those developments themselves. While "that problem still exists," he conceded, "I also think the disparity is not as great as it was 10 or 15 years ago." Though there may still be more to learn, instructional technology, he feels, is "more accessible than it used to be" and has more or less become a "regular part of the institution and an expectation."

What did/do you most value about NITLE?

In explaining what they most value about NITLE, four interviewees emphasized the community it fostered and how that community impacted their own growth and the growth of their institutions. A current member said, "There's no question, both for me personally and

the institution. Being involved was helpful in building connections across the community of liberal arts colleges, among folks involved in information services, [and] in IT and libraries as well. That was a real benefit of the NITLE project: becoming more engaged with other colleges and thinking about the role of technology, how it will change the shape of higher education." Another participant stressed the rarity of community-building opportunities in the liberal arts college sector, making this function of NITLE all the more valuable. "At liberal arts colleges there is less opportunity than at R1s to meet colleagues with whom one can collaborate, to find people who share your mission and have related interests and problems that can be worked on together," she said. "It's really important to have an organization that can bring people together from like institutions in the sector."

Two interviewees stated that they most valued NITLE's professional development opportunities for member institution staff. NITLE provided opportunities beyond what was already available to staff at their own colleges, and staff members brought new ideas home, helping to move their institutions forward.

Finally, two respondents said they found the most value in NITLE's special initiatives such as those collaborations built around GIS and Shared Academics. They felt that those initiatives positively influenced their institutions, hoped that those efforts would continue, and offered their opinions about the most vital topics to address in their sector. As one senior administrator said, GIS was one of several "areas where [NITLE] did make a difference and helped colleges get into this stuff when they didn't have the capacity individually." She went on to suggest that "maybe the same could happen now with big data." A current NITLE member stressed that he has "seen some of the most value of NITLE and some of the most excitement across the nation" in the conversations and projects that have blossomed around its efforts to combine and leverage the modest resources of small, private institutions via Shared Academics. "So, if [this kind of collaborative undertaking] isn't the only project NITLE pursues, I hope it will be a central one," he said.

While the eight interviewees' past engagements with NITLE and visions for its future vary, they all felt that NITLE had been quite valuable to their work at some point. As the organization changed over time, however, so too did these interviewees' assessments of its value. Nevertheless, in its many functions over the years—from facilitator of professional development and community builder to thought leader and coordinator of inter-institutional collaborations—NITLE, our interviewees agreed, made a meaningful contribution to the liberal arts college community. As the advisory council continues its work to chart a path for NITLE, we hope these stakeholders' experiences and opinions, along with those of the broader stakeholder group surveyed and presented in the next chapter, will serve as a guide.

Findings from a Survey on Institutional and Individual Needs for Technology in Liberal Education

Iason Brodeur and Natsuko Nicholls

s part of its assessment of NITLE, CLIR conducted a survey in December 2015 to identify institutional and individual needs in technology and liberal education, and collect information about individuals' experiences with liberal education-focused organizations, including NITLE. Survey results were also used to identify target constituencies, value propositions, and business models that could help any organization serve respondents' needs in an efficient, sustainable manner.

To facilitate a broad, multifaceted assessment of needs at the intersection of technology and liberal education, we designed and administered a 32-question online survey instrument using the SurveyMonkey platform. Survey participants were recruited through an email message sent by CLIR President Charles Henry on behalf of CLIR's assessment team. Invitations were sent to more than 600 individuals involved in liberal arts education and likely to have been affiliated with—or knowledgeable about—NITLE.

At the start of the survey, respondents provided information about their current roles and years of experience with liberal education. Subsequent survey sections gathered information about institutional and individual needs in the area of technology in liberal education, as well as about individuals' past and current experiences with NITLE, and its membership, programming, and services. The survey included a number of open-ended questions that invited participants to share their experiences and views on issues related to liberal education, information technology, and, most importantly, NITLE. Given that respondents may have had no affiliation with NITLE (or may have been affiliated in different past or present capacities), we used a series of filtering questions to steer respondents to appropriate subsets of questions (see Appendix 3 for a list of survey questions).

The online survey was made available for about three weeks. During that time, 135 individuals responded, generating a 23 percent response rate. Of the submitted responses, roughly 85 percent completed the entire survey.

In this chapter we discuss survey respondent demographics and summarize survey results and key findings. Results are presented in accordance with our three general areas of interest:

- What are respondents' perceptions of NITLE and their experiences with the organization in the past? What do these individuals believe to be the future direction and focus of NITLE?
- What are the current-day institutional needs and interests in the realm of technology and liberal education? How are these needs being met, and how might an organization, whether existing or new, help address needs that are currently unfulfilled?
- How do individuals interact with liberal arts-focused organizations, and what do they need and expect from them?

Survey Respondent Demographics and NITLE Affiliation

The first section of the survey asked a set of questions about respondents' current institutions and positions, as well as their experience with liberal education. Respondents were also asked to provide information about their involvement and affiliation with NITLE.

Survey responses were received from individuals associated with institutions across the continental United States and with a single Canadian institution (figure 1). Although responses were more numerous from institutions in the eastern United States, all major geographical regions of the country were represented.

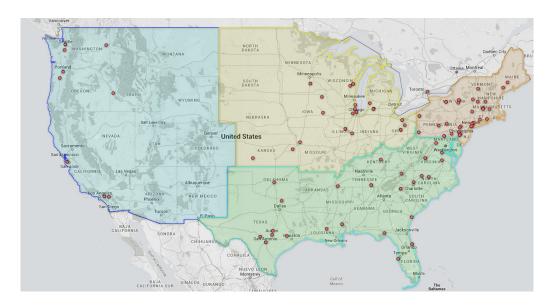


Fig. 1: Geographical distribution of unique locations represented in survey responses for cases where respondents' institution was provided (N=112). Locations are displayed on top of U.S. Census regions: West (blue), Midwest (yellow), South (teal), and Northeast (orange).

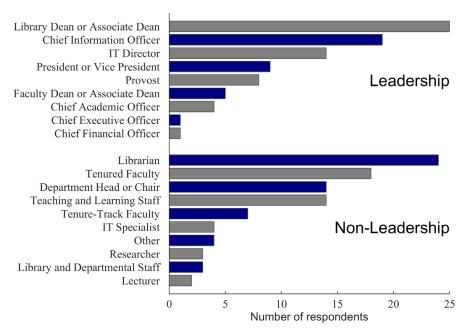


Fig. 2: Distribution of institutional positions represented in the survey responses (N=125). Roles are categorized into the two groups that were established for the purposes of analyses: "leadership" and "non-leadership."

A variety of professional groups and service units—including faculty, librarians, staff from IT or other support units, and institutional leadership—were represented among survey respondents (figure 2). Respondents were predominantly individuals with considerable experience in their current position and a long tenure of involvement in liberal education. Of the 126 respondents who provided such information, 78 percent indicated having more than 10 years of experience with liberal education; 87 percent of these respondents had more than three years of experience in their current position, while 59 percent reported a tenure longer than five years.

To analyze the variation found in survey responses in greater depth, we used respondents' stated professional position(s) to assign them to one of two respondent groups, shown in figure 2. Members of the leadership group—comprising chief information officers, deans, presidents, and IT directors—were identified as people likely to be responsible for decision-making on programs, resources, and memberships at the institutional level. The non-leadership group included people expected to participate less in institutional decision-making but to have more firsthand involvement with instruction and practice in liberal arts education.

Given that each respondent was permitted to report more than one of his or her current professional positions, the total number of positions indicated in figure 2 is larger than the total number of survey respondents. In total, we identified 87 leadership positions and 63 non-leadership positions. To eliminate double counting when analyzing the different responses between respondent groups, we assigned people identifying with both groups exclusively to the leadership category. Following this effort to avoid duplication,

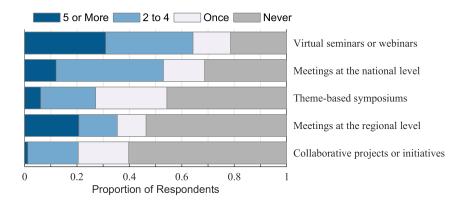


Fig. 3: Frequency of respondent participation in various NITLE-hosted activities (N=104).

71 respondents (61 percent) were assigned to the leadership group and 45 respondents (39 percent) to the non-leadership group. Respondents who did not indicate their position were not assigned to a respondent group, and their responses were not used to examine differences between the two groups.

A large number of respondents indicated previous involvement with NITLE through participation in NITLE-hosted activities, residence at a NITLE-member organization, or involvement with a NITLE committee. In total, 81 respondents reported holding a position at a NITLE-member institution, and 54 of these were at institutions that were still NITLE members as of the end of 2014. An even larger number of respondents (89 of 104 people who responded to this question) reported participating in NITLE-hosted events and initiatives. As shown in figure 3, more than half of respondents had attended national meetings (68 percent), webinars (79 percent), or symposia (52 percent), and most attended more than one event. NITLE collaborative projects or initiatives had the lowest participation rate (37 percent)—a somewhat expected result given NITLE's greater focus on hosting events and supporting research and development over most of its existence. A few respondents indicated participation in "other" types of events such as inviting NITLE consultants or NITLE fellows to lead in-person workshops.

Survey respondents were also asked to list any experience serving on NITLE committees. Of 81 respondents, 26 (32 percent) reported they were currently serving or previously served on a NITLE committee. A breakdown of committee participation is provided in table 1. Of those who indicated experience serving on NITLE committees, almost

Type of Committee	Number of Respondents with NITLE Committee Service
National/Regional NITLE Advisory Board (currently Council)	13 (50%)
Planning committees	5 (20%)
MITC (Midwest Instructional Technology Center) advisory board/committee	3 (12%)
Committee unidentified	5 (13%)

Table 1: Respondent NITLE committee service experience by committee type (N=26).

all reported feeling well-supported within their institutions to participate. This was the case across both leadership and non-leadership groups.

Assessing Perceptions of NITLE Membership and Involvement

Anticipating that many respondents would have had considerable involvement with NITLE over the past two decades, we gathered information from these individuals about their interactions with NITLE from both an individual and institutional perspective.

To explore the institutional perspective, the survey asked respondents involved in their institution's decision to join or leave NITLE to provide reasons for this change in membership. A total of 32 respondents (26 in leadership, 6 in non-leadership) reported being involved in their institution's decision to become a NITLE member. Of these respondents, most indicated that their institution joined NI-TLE in 1997, the year Project 2001 was launched by Clara Yu at Middlebury's Center for Educational Technology (and prior to NITLE's founding in 2001). As shown in figure 4, the services respondents viewed as the most important motivators for institutional NITLE enrollment were collaboration, community, and networking, as well as workshops and conference events. One respondent specifically cited the benefit of travel support, noting that "the big draw was the travel money supplied by Mellon." By contrast, consulting services and leadership programs were weaker motivating factors. Of the respondents who belonged to an institution at the time it discontinued its NITLE membership, three-quarters indicated that this occurred in or after 2011. At least half of these respondents were at institutions with NITLE membership lasting longer than 10 years. In total, 35 respondents (27 leadership, 8 non-leadership) were aware of the factors leading to their institution's discontinued NITLE membership.

As shown in figure 5, a majority of respondents agreed that the perceived value of NITLE's resources and services was an important factor in the decision to discontinue their institutional membership.

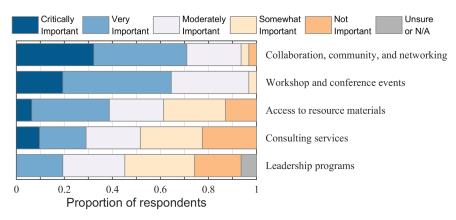


Fig. 4: Perceived importance of various services and activities to institutional enrollment in NITLE (N=31).

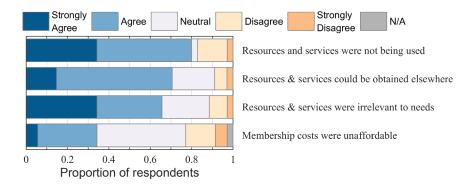


Fig. 5: Perceived importance of factors influencing respondents' institutions' discontinuation of NITLE membership (N=35).

This evidence, which is supported by additional comments provided by several respondents, suggests that many institutions discontinued their memberships because NITLE's services and resources were underutilized, obtainable elsewhere, or irrelevant to the institution's needs. Although membership fees were a less important factor in this decision, in their additional comments a number of respondents cited low return on investment (ROI) as a factor.

To understand individuals' perception of their involvement with NITLE, the survey invited all respondents familiar with the organization to openly reflect on their experiences (see table 2). Some respondents described positive experiences and specific benefits gained through NITLE. Many, however, regretted what they observed to be a gradual shift in the organization's focus and intended audience—away from practitioners in liberal arts colleges and

Issues Addressed	What Current/Past NITLE Members Say About Their Experience with NITLE
Specific benefits received from NITLE	Some NITLE members found training and gathering opportunities most beneficial. Small grants through NITLE were greatly appreciated by some members; these allowed members' home institutions to explore new approaches and initiatives. Some members highly valued NITLE's initial capability to deal with technology, teaching, and learning.
Shift in focus	Many NITLE members acknowledged that over the course of its existence, its target audience shifted from the non-leadership group (faculty and instructional technologists/librarians) to senior leadership. Some respondents said this change made them feel a loss of personal connections, of relevance to their institutional needs, and of a practitioner's frontline perspective. Some respondents felt that the focus on teaching and learning weakened and the lack of programming and support for liberal arts instructional technology became problematic.
NITLE and competitors	Some NITLE members expressed difficulty in balancing the benefits they receive from a liberal arts- only organization like NITLE with efforts not to insulate themselves from non-liberal arts schools and organizations. In contrast to the previous point, some members felt that NITLE's sense of shared mission was diluted as it began to reach out to a more diverse group of colleges and universities. Some respondents felt that the gap left by NITLE was quickly filled by other regional consortia or organizations such as ELI/EDUCAUSE.

Table 2. Summary of respondents' reflections on their experience with NITLE, organized by theme.

toward those in leadership positions in the broader area of liberal education. Comments about NITLE's changing scale and scope over time revealed conflicting viewpoints: Some respondents felt that NITLE had become too narrowly focused and disconnected from broader trends and communities, while others perceived that its broadened focus diluted its sense of shared mission. These contrasting opinions highlight the varying perception of NITLE among the diverse demographic of its membership.

At the conclusion of this survey section, respondents with previous NITLE interaction were asked to comment on its future development and direction (see table 3). Across the nearly 40 open-ended responses, most respondents conveyed generally positive attitudes toward NITLE, and many expressed hope that the organization would provide services in the future. About a dozen respondents identified digital scholarship, digital research support, and digital humanities as potential areas of focus for a future NITLE or a NITLE-like organization. This is consistent with respondents' perceptions that digital scholarship and digital research are currently under-supported by existing organizations. Additional areas for potential development that respondents suggested include advocacy, networking, community-building, and collaboration beyond liberal arts colleges.

Institutional Needs for Technology in Liberal Education

As explored earlier in this report, institutional needs and interests in the realm of technology and liberal education can be complex, wide-ranging, and variable. In an attempt to better understand these needs, in one section of the survey we used constrained and

Mission and Focus	Suggestions from Current/Past NITLE Members
Advocacy	Some at smaller liberal arts colleges still feel they need an organization like NITLE to act as an advocate to seek partnerships and collaborations beyond LACs, particularly with large R1 universities, which are usually able to provide a full spectrum of digital research and skilled technical support.
	A NITLE-like organization can still play a significant role as an advocate or catalyst for LACs to manage and share resources, expertise, and services.
Coordination	Facilitating research opportunities for faculty, staff, and students at LACs to work at R1s would require coordination through an organization like NITLE.
Building constructive and sustainable relationships	A NITLE-like organization should be able to get people together for team-based professional development, networking, and the sharing of ideas that could be brought back to their home institutions.
	NITLE should be able to bring cross-institutional collaboration and sustainability to the planning of ambitious digital pedagogy/digital scholarship projects, although there is always the challenge of balancing the costs and benefits of face-to-face events as opposed to online venues.
Reconsidering focus	It may be productive for NITLE to refocus on pedagogical innovations and initiatives.

Table 3: Respondents' suggestions for NITLE's future development and direction.

open-ended questions to identify the areas of focus and the types of services that respondents believed to be most important to their institutions' needs.

In this section participants were first asked to evaluate the degree to which their institution would benefit from external support in various service areas in technology and liberal education. Summarized results, shown in figure 6, illustrate a strong desire for building communities and simultaneously supporting and coordinating information and expertise within them. Included within this general category are three of the four most favorably viewed services: providing training through workshops, webinars, etc.; coordinating institutional resource sharing of expertise, materials, and courses; and supporting peer networking through email lists, discussion groups, and the like. It is possible to envision a strong organization providing all of these services, because they rely heavily on high-level coordination.

Respondents also indicated considerable need for organizations that provide financial support and sustainability for institutions and their members, namely by providing project grants and scholarships, as well as representing and advocating for liberal education at the state or national level. While these results highlight the ongoing challenges that institutions, their subunits, and their stakeholders face, the responses also raise questions about how external organizations could effectively support projects and engage in advocacy for memberships with acute yet diverse needs.

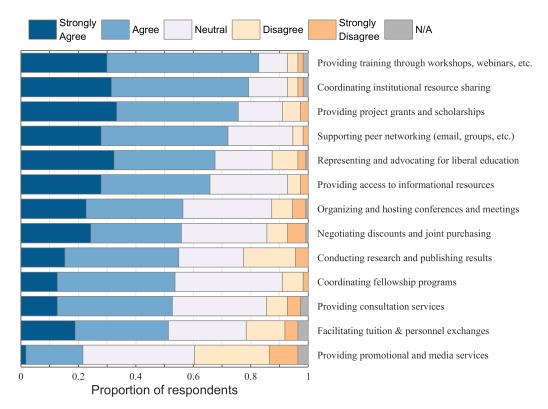


Fig. 6: Distribution of respondents' views of whether their institutions would benefit from external support in various service areas related to technology and liberal education (N=111). Items are arranged according to their relative proportion of overall agreement (strongly agree + agree).

The survey team investigated the different perceptions between individuals in the leadership and non-leadership groups by comparing the percentage of respondents from each group who were in agreement with each statement in figure 6 (i.e., those responding as strongly agree or agree). Overall, the groups responded similarly, with notable divergence in agreement for only a few statements. The most substantial divergence between groups was found for the item "conducting research and publishing results," as agreement among the non-leadership group was 10 percentage points higher than agreement among the leadership group. Also, members of the leadership group showed a 7 percentage point higher preference than did the non-leadership group for supporting peer networking, and a 7 percentage point lower preference than did the non-leadership group for representing and advocating for liberal education at state or national levels.

As a follow-up, respondents were invited to identify all organization(s) providing services to their institution in the areas of technology and liberal education. A total of 76 individuals responded to this question, listing more than 30 distinct organizations. While the aggregated results (shown in figure 7) highlight the prominent role of large national organizations such as EDUCAUSE (and its associated ELI community), CLAC, and CLIR, an equal or greater number of respondents reported receiving support from regional organizations—either those listed in figure 7 or those included in the aggregated other-regional category. Interestingly, eight respondents listed NITLE as an active service provider, though it provided no such services at the time of survey completion. Although

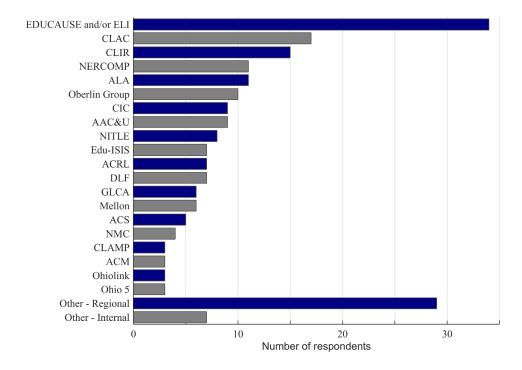


Fig. 7: Counts of the organizations listed by respondents as providing their institution with services in the area of technology and liberal arts education. Organizational acronyms can be found in Appendix 4.

respondents gave no information about the specific services they thought NITLE was providing, this result shows that some respondents continue to be confused about NITLE's current state and its transactional relationship with their institution.

In addition, many respondents identified internal groups such as libraries and campus IT services as the most significant service providers for liberal education-related technology activities at their institution. This arrangement may be particular to only some institutions but it suggests that external organizations like NITLE, as noted by one survey respondent, could reach out to internal service providers that are already viewed as "capable" to more efficiently connect and coordinate expertise across institutions.

The survey also asked respondents to assess the importance of various topics to their institution in the intersecting areas of technology and liberal education. In comparison to the first question set—which considered the potential of professional organizations as service providers—this question sought to identify topics and issues for which organizations might provide informational resources and guidance. As with the previous question, differences between the leadership and non-leadership groups were explored by comparing the percentage of respondents in each group who indicated that certain topics and issues were of high importance (i.e., critically important or very important).

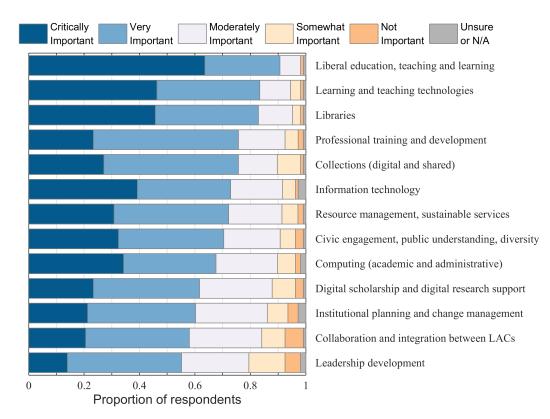


Fig. 8: Distribution of respondent agreement on the importance of various topics to their institution in the areas of technology and liberal education (N=108). Items are arranged according to their relative proportion of high importance (critically important + very important).

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Responses to this question are shown in figure 8. Among the topics considered most important by both groups were those broadly focused on education (liberal education, teaching, and learning; learning and teaching technologies), libraries and collections, and professional training and development. Notably, both groups assigned relatively low importance to the topic of leadership development.

The largest discrepancy between groups was found for institutional planning and change management, where the leadership group's perception of importance was 24 percentage points higher than that of the non-leadership group. The leadership group's perception of importance was also 16 percentage points higher for information technology and computing (academic and administrative). These differences are informative and suggest that professional organizations operating in these areas should carefully adjust their scope or approach when addressing various stakeholder groups within institutions.

This survey section concluded with an open-ended question asking respondents to identify areas of focus (if any) that were currently under-supported by existing organizations. Among the 53 respondents who provided comments, the most frequently cited areas included teaching/learning/pedagogy (21 comments), collaboration (15 comments), and digital research/scholarship (12 comments). Because these under-supported areas generally align with services earlier identified as having highest importance (figure 8), it can be inferred that there is considerable room for an organization, new or existing, to provide meaningful services and support in these areas.

Individual Preferences for Engaging and Interacting with Liberal Arts-Focused Organizations

Understanding individual constituent perspectives and preferences is a critical part of developing a successful organization. To this end, we sought to gather information from respondents about how they, as individuals, interact with liberal arts-focused organizations and how they assign importance to various organizational characteristics.

When asked to identify the modes by which they stay current with developments in technology and liberal education, respondents showed a preference for various forms of personal communication including in-person conversation, personal emails, or email lists (figure 9). Though communication modes such as newsletters and social media scored relatively lower, the fact that all options had greater than a 50 percent preference rating highlights the importance of a multimodal communication approach by organizations servicing audiences similar to those in our study.

Participants were also asked to rate the importance of a variety of organizational characteristics in their decision to join and/or participate in a liberal arts-focused organization. As shown in figure 10, respondents placed very high importance on an organization having a strong sense of community and having strong leadership and governance. Although a considerable proportion of respondents acknowledged the importance of keeping membership and

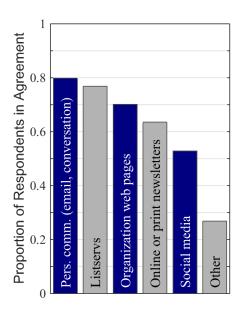


Fig. 9: Respondent preferences for using various means of communication to stay current with developments, activities, and events in technology and liberal education (N=104).

participation costs reasonable, the number of those claiming this to be highly important (i.e., assigning it to be critically or very important) was relatively low compared to other characteristics. In accordance with the previous section's interview results, respondents

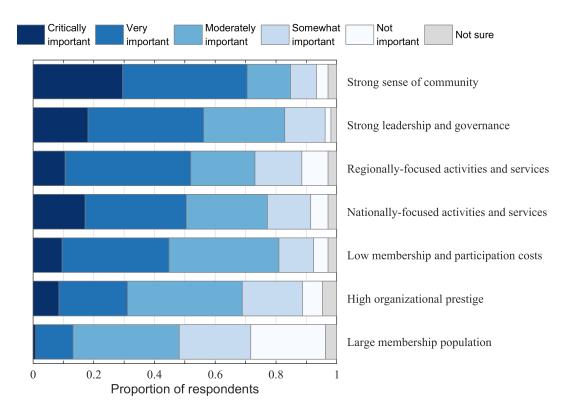


Fig. 10: Perceived importance of organizational characteristics to the respondent's decision to join and/or participate in a liberal arts-focused organization (N=106).

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ascribed nearly equal importance to activities and services being offered at the regional and national scales. These findings suggest that a given organization may have an opportunity to provide more services at both levels. However, it is important to recognize that simultaneously meeting needs at disparate scales may present distinct and considerable challenges.

Notably, respondents in the leadership group placed a substantially higher importance than did the non-leadership group on strong organizational leadership and governance (16 percent points higher) and on nationally focused activities and services (19 percent points higher). In contrast, having a strong sense of community was slightly (5 percent points) more important to the non-leadership group than to the leadership group.

Summary

Several key themes emerged from survey responses. In summary, we found that although a wide assortment of competing organizations currently populate the general area of technology and liberal education, survey responses indicate that promoting training, collaboration, community, and networking present growth opportunities for new and existing organizations. For survey participants, membership cost alone was not the most important consideration when deciding to join or maintain membership in a liberal education organization such as NITLE. Above all else, members have a strong expectation that organizations provide appropriate services and products in return for membership fees. Finally, the different perceptions among institutional decision-makers and other professionals involved in liberal education suggest that an institution's needs may be multimodal. As such, new or existing service organizations should have a clear target audience in mind when determining core services and areas of focus.

APPENDIX 1

NITLE Competitors 1997-2015: Audiences, Value Propositions, and Business Models

Annie Johnson and Elizabeth A. Waraksa compiled the following list of organizations together with each group's audience, value proposition, and business model. The list helps to situate NITLE in the larger context of organizations serving the needs of faculty, technologists, librarians, and administrators in the overlapping areas of technology and liberal education. Johnson and Waraksa selected these organizations on the basis of their research into the history of NITLE; the list also includes organizations mentioned frequently by interviewees and survey respondents. Information comes from these organizations' websites (in some cases, archived on the Internet Archive's Wayback Machine), from which all quotations are derived. The consultants also provide links to related publications and initiatives. However, organizations and initiatives that were spun off from NITLE have been excluded from this list, as these may be considered "children" rather than "competitors" of NITLE.

At a Glance: NITLE "Competitors"

Association of American Colleges and Universities (AAC&U)

Associated Colleges of the South (ACS)

Association of Research Libraries (ARL)

Center for Educational Technology (CET)

Committee on Institutional Cooperation (CIC)*

ConnectNY

Council of Independent Colleges (CIC)

Consortium of Liberal Arts Colleges

(CLAC)

Council on Library and Information

Resources (CLIR)

Coalition for Networked Information (CNI)

Council of Public Liberal Arts Colleges

(COPLAC)

Digital Liberal Arts Exchange (DLAx)

Digital Library Federation (DLF)

EDUCAUSE

EDUCAUSE Learning Initiative (ELI)

The Educopia Institute

Edu-ISIS

Humanities, Arts, Science, and Technology Alliance and Collaboratory (HASTAC)

Ithaka S+R

Liberal Arts Consortium for Online

Learning (LACOL)

Midwest Instructional Technology Center

(MITC)

New Media Consortium (NMC)

Northeast Regional Computing Program

(NERCOMP)

Northwest Academic Computing

Consortium (NWACC)

Northwest 5 Consortium (NW5C)

Oberlin Library Group

Project Bamboo

Professional and Organizational

Development (POD) Network in Higher

Education

*On June 29, 2016, this organization changed its name to the Big Ten Academic Alliance (BTAA)

Association of American Colleges & Universities (AAC&U)

Home page: http://www.aacu.org/

Value proposition: AAC&Us' mission "is to make liberal education and inclusive excellence the foundation for institutional purpose and educational practice in higher education." Member benefits include publication discounts, discounted rates for meetings and institutes, and individual enrollment in AAC&U's Associates Program; access to resources in areas such as faculty development, institutional change, civic engagement, and diversity; engagement with the higher education community via AAC&U meetings and institutes, publications, and projects; opportunities to join in AAC&U-sponsored initiatives such as Liberal Education and America's Promise (LEAP), Shared Futures, VALUE (Valid Assessment of Learning in Undergraduate Education), and other grant-funded projects.

Business model: This is a national association headquartered in Washington, D.C., with some 50 full-time staff members and more than 1,300 members. Members participate in governance through a board of directors. The president leads the organization. AAC&U's operating costs mainly come from sponsorships and grants (35 percent), membership dues (35 percent), and meetings and conferences (20 percent). Revenue also comes from publication sales and subscriptions, and investment income. AAC&U dues are not set at a standard rate, but depend on institution category; dues are calculated based on full-time equivalent enrollment (FTE) for US and non-US degree-granting institutions, and on budget for US college and university system offices, non-degree granting 501(c)(3) institutions, and U.S. higher education agencies that share a compatible mission with AAC&U.

Audience: Higher education broadly speaking, in the United States and abroad; the federal government; foundations; and other nonprofits supporting higher education.

Brief history: In 1915, 150 college executives gathered in Chicago to create the Association of American Colleges (AAC), choosing inclusiveness and "interhelpfulness" as twin themes. The organization withdrew from federal lobbying in 1976. Its focus on liberal education is its unifying force. All schools with a commitment to liberal learning, regardless of institutional type or source of support, can be included as active participants. In 1995 the name changed to AAC&U, the Association of American Colleges and Universities. In 2015 AAC&U celebrated its centenary.

Additional resources: AAC&U Member Institutions, AAC&U Presidential Leadership Profile, AAC&U Brief History.

Associated Colleges of the South (ACS)

Home page: http://colleges.org/

Value proposition: ACS is a membership organization offering a variety of programs for faculty and staff (including administrators) of member institutions. Initiatives include faculty grants, a joint purchasing program, a tuition exchange program, a faculty exchange program, workshops and conferences, email lists and discussion groups, and a newsletter, Palladian (1996-2014). "ACS strengthens and showcases liberal arts education through collaboration."

Business model: Supported by membership dues and outside grants, ACS is a consortium of 16 liberal arts colleges and universities located in the South. ACS has a decentralized management structure, with a central administrator and individual institutions taking the lead on programs offered, as well as a board comprising member presidents and a council of deans mainly consisting of chief academic officers. Annual dues are about \$15,000 for the first year, increasing by \$1,000 each year thereafter. By June 2013 ACS had total assets of \$4,767,371. ACS received its first endowment grant in 2011—\$2.5 million from The Andrew W. Mellon Foundation—to underwrite the positions of chief financial officer and technology director. The consortium has raised some \$28 million in outside support since 1991–1992.

Audience: Faculty and staff at liberal arts colleges and universities in the South, (prospective) students and their parents, and funding agencies.

Brief history: The organization was formed in 1989 and incorporated in 1991. Its number of members has stayed constant to the present; no institution that has joined ACS has ever discontinued membership. (In 2001 Spelman College became the 16th member of ACS.) In 2006 NITLE became the national organization under which ACS, as well as two other regional technology centers—CET and MITC—operated.

Additional resources: *Creative Collaboration: The Associated Colleges of the South* by founding president Wayne Anderson, available at http://colleges.org/creative-collaboration/.

Association of Research Libraries (ARL)

Home page: http://www.arl.org/

Value proposition:

"The Association of Research Libraries influences the changing environment of scholarly communication and the public policies that affect research libraries and the diverse communities they serve...by advancing the goals of its member research libraries, providing leadership in public and information policy to the scholarly and higher education communities, fostering the exchange of ideas and expertise, facilitating the emergence of new roles for research libraries, and shaping a future environment that leverages its interests with those of allied organizations."

"As a community, member directors and library staff benefit from:

- Creating and influencing the national and international library and higher education agenda
- Sharpening and expanding the sphere of influence at the institutional level in policies and operations
- Developing strategies to define the research library of the 21st century
- Engaging in forums from which to learn and discuss common goals and interests
- Sharing expertise and collaborating on collections, services, and projects"

Business model: ARL is a nonprofit membership organization comprising 124 research libraries in the United States and Canada, including universities, public libraries, national libraries, and special libraries. A board of directors is ARL's governing and policymaking body. Membership is by invitation, on the recommendation of the ARL Board of Directors and approval by vote of the membership. Annual membership dues in 2004 were about \$20,000. Membership dues in 2015 are not publicly available. ARL's operating costs come from membership dues and outside funding.

Audience: The research library community and higher education, broadly speaking, the federal government and policymakers, funding agencies, and partner organizations.

Brief history: The group was established at a meeting in Chicago in December 1932 by the directors of 42 major university and research libraries as a forum to address common problems. The association incorporated in 1961 under the laws of the District of Columbia. In 1962 the association established a full-time secretariat with a paid executive director and staff in Washington, D.C. In 1990, ARL, together with EDUCOM and CAUSE (now EDUCAUSE) established the Coalition for Networked Information (CNI).

Center for Educational Technology (CET)

Home page (archived at the Internet Archive Wayback Machine): https://web.archive.org/web/19981205041817/http://www.cet.middlebury.edu/

Value proposition: The mission of CET was "to serve present and future educators—at Middlebury and in the educational community at large—who wish to explore the use of technology for more efficient and effective learning. The Center combines a strong technological infrastructure with a dedicated staff to provide training and support for the design, dissemination, and assessment of pedagogy-based and technology-enhanced methods and materials." The goal of CET's Project 2001 was "to facilitate the collaborative development of technology-enhanced language instruction among 62 liberal arts colleges."

Business model: CET's Project 2001 was funded by The Andrew W. Mellon Foundation.

Audience: Professors, librarians, and technologists.

Brief history: Clara Yu founded CET at Middlebury College in 1997. CET eventually became part of NITLE.

Committee on Institutional Cooperation (CIC)*

(Not to be confused with the Council of Independent Colleges, also CIC, summarized below)

Home page: http://www.btaa.org/about/history

Value proposition: Established as the academic counterpart to the Big Ten athletic league, the CIC consortium – now the Big Ten Academic Alliance (BTAA) - offers members' faculty and students benefits such as a shared digital repository, reciprocal borrowing, shared courses, and leadership development. The BTAA engages in collaborative initiatives such as consortial purchasing and licensing primarily through its Center for Library Initiatives (CLI). The CIC (now BTAA) is a founding partner of HathiTrust.

Business model: The CIC (now BTAA) is governed by member university provosts, who act as a "board of the whole" to lead, guide, and fund the enterprise. The BTAA currently has 14 member universities and 22 staff members including an executive director. It is based in Champaign, Illinois. Its two major sources of revenue are member dues and programs. Membership dues are not publicly available.

Audience: Major (Big Ten) research universities, U.S. higher education, and the research library community as a whole.

Brief history: The CIC was established by the presidents of the Big Ten Conference members in 1958 as the athletic league's academic counterpart. As universities were admitted to the Big Ten throughout the 1990s and 2000s, they were likewise welcomed into the CIC. The consortium's name was changed to the Big Ten Academic Alliance in June 2016 in order to better reflect the composition of the member institutions and relieve confusion with other educational organizations whose acronym is CIC.

Additional resources: CIC 2013-2014 Annual Report

ConnectNY

Home page: http://connectny.org/

Value proposition: ConnectNY's mission "is to share collections, leverage resources, and enhance services through cooperative initiatives and coordinated activities." ConnectNY offers services such as a common union catalog, borrowing among consortium members, and shared ebook collections.

^{*} On June 29, 2016, it was announced that this organization had changed its name to the Big Ten Academic Alliance (BTAA), in part to prevent the confusion noted here with the Council of Independent Colleges (CIC). See http://www.btaa.org/news-and-publications/news/2016/06/30/the-committee-on-institutional-cooperation-is-now-the-big-ten-academic-alliance.

Business model: A membership-driven nonprofit consortium of 18 independent academic institutions in New York state, ConnectNY is led by a full-time executive director, and governed by an executive committee and a library directors' council that is drawn from the membership. The council meets twice a year. ConnectNY holds two regional meetings a year. Membership is by application; annual dues are not publicly available.

Audience: Independent colleges and universities in New York state, as well as their faculty, staff, library administrators, and students.

Brief history: ConnectNY started out with Andrew W. Mellon Foundation funding in 2003. It was a grant-driven project for several years, then evolved into a more formal organization as membership grew from 5 to 10 libraries from 2003 to 2005. In 2006 the Mellon Foundation funded a governance summit that helped to facilitate the establishment of a more formal organization and governance structure. By 2010, CNY had grown to 15 libraries and became incorporated as a 501(c)3 nonprofit in New York state. In 2011 the CNY council approved the hiring of a full-time executive director.

Additional resources: ConnectNY Strategic Plan 2015-2020: http://connectny.org/strategic-plan-1025-2020/

Council of Independent Colleges (CIC)

Home page: http://www.cic.edu/Pages/default.aspx

Value proposition: "CIC is an association of nonprofit independent colleges and universities that has worked since 1956 to support college and university leadership, advance institutional excellence, and enhance public understanding of private higher education's contributions to society." CIC is the major national service organization for all small and mid-size independent liberal arts colleges and universities. It provides services to campus leaders through seminars, workshops, and programs that assist institutions in improving educational offerings, administrative and financial performance, and institutional visibility. CIC offers members scholarship and grant opportunities (in particular through its State Fund Program), networking opportunities, statistics and reports, media contacts, a tuition exchange program, news and publications, workshops and other events, and a forum for college leaders. It hosts the largest annual conference of college and university presidents. Its *Making the Case* service provides data on the benefits and effectiveness of CIC institutions.

Business model: CIC is a nonprofit association led by a president and board of directors. It is headquartered in Washington, D.C. Its main sources of revenue are foundation grants and corporate support, membership dues, endowment distribution, and registration fees. Eligibility for CIC membership is open to all small and mid-size private U.S. liberal arts colleges and universities and to those located outside the country. Two-year independent institutions and nonprofit organizations that support the purposes of independent higher education are also eligible to be CIC members. Annual membership dues are based on undergraduate full time enrollment (FTE), and range from \$2,884 to \$9,355 for 2015-2016. Currently, more than 620 colleges and universities and more than 80 associations are members of CIC.

Audience: Leaders and administrators of small and mid-size independent liberal arts colleges and universities; other organizations supporting independent higher education; faculty, staff, (prospective) students and parents; and alumni of member colleges.

Brief history: In 1956 representatives from some 80 colleges met in Chicago and formed the Council for the Advancement of Small Colleges (CASC), a service organization designed to help colleges improve their educational programs, thus enabling them to obtain accreditation. CASC changed its name to the Council of Independent Colleges in 1981. As membership expanded in the 1980s and 1990s, CIC became the primary association for helping presidents and other top leaders of small, independent colleges. Since 1990 CIC has nearly doubled its membership. In October 2010 the Foundation for Independent Higher Education, the recipient of a \$4.2 million endowment from the UPS Foundation (in the 1970s), merged

with CIC, enabling CIC to expand its role in supporting independent colleges by working with and providing grant support to state consortia of private colleges and universities.

Additional resources: CIC's 50th anniversary publication, 2006, *Meeting the Challenge: America's Independent Colleges and Universities since* 1956.

Consortium of Liberal Arts Colleges (CLAC)

Home page: http://www.liberalarts.org/; (see also http://www.oberlingroup.org/clac)

Value proposition: An organization comprising many of the top U.S. liberal arts colleges, CLAC is chartered to explore and promote the use of information technology in the service of liberal arts educational missions. CLAC's website notes:

"CLAC has focused on the uses of computing and related technologies in the service of the liberal arts mission. Academic computing, administrative computing, library automation, web services, telecommunications, and campus-wide networking all fall within the scope of the Consortium's interest...CLAC activities include an annual conference, collection and sharing of benchmark data through the EDUCAUSE core data survey, active list serv discussion of best practices and advice, opportunities for staff exchange, and representation of the interests of liberal-arts institutions on information-technology issues at the national level when appropriate."

Business model: CLAC is a parallel organization to the Oberlin Group (see below). While the Oberlin Group is an independent, non-profit, unincorporated association of liberal arts college libraries, CLAC is a not-for-profit organization incorporated in Oregon in 1993. CLAC is administered by a governing board of directors comprising six institutional-member representatives whom the members elect. Membership is by invitation and is currently limited to 70 institutions. New members may be invited to join only if the number of current members falls below the designated limit. Membership dues do not appear on the CLAC website.

Audience: At the beginning, CLAC's audience was liberal arts college and university administrators, especially those overseeing science and technology and grant-seeking activities. The current audience is IT professionals at all levels at liberal arts colleges and universities

Brief history: CLAC was founded in 1986 to address the support and development of undergraduate science education, and to enhance academic computing facilities, including library automation. In April 1993, after six years of informal activities the steering committee and governing board agreed to change CLAC from a pilot project to a permanent, incorporated organization.

Additional resources: For a detailed history of CLAC, see http://www.liberalarts.org/about/history.

Council on Library and Information Resources (CLIR)

Home page: http://www.clir.org/

Value proposition: "The Council on Library and Information Resources is an independent, nonprofit organization that forges strategies to enhance research, teaching, and learning environments in collaboration with libraries, cultural institutions, and communities of higher learning... The organization advances its mission through project initiatives and partnerships, publications, the DLF program, and award and fellowship opportunities. Through CLIR Connect, CLIR provides a forum for discussion, exchange, and collaboration." Since 2002 CLIR has facilitated a semiannual forum of directors of organizations that have merged their library and IT units on the campuses of liberal arts colleges and small universities. The directors who participate in this forum are known as the CLIR Chief Information Officers of Liberal Arts Colleges.

Business model: CLIR has a staff of twelve. It is funded in part by sponsorship dues from various colleges and universities. It costs \$1,020 to \$4,550 a year to be a CLIR sponsor. CLIR also receives financial support from the Alfred P. Sloan Foundation, The Andrew W. Mellon Foundation, EDUCAUSE, the Institute of Museum and Library Services, the Library of Congress, the National Endowment for the Humanities, the Samuel H. Kress Foundation, David Rumsey, and Howard and Mathilde Rovelstad.

Audience: Libraries, cultural institutions, communities of higher learning.

Brief history: CLIR was created in 1997 through the merger of the Council on Library Resources (CLR) and the Commission on Preservation and Access (CPA). CLR dates back to 1956. "CLR's early programs focused on bibliographic structure, automation of library operations, preservation, and international activities aimed at helping European libraries recover from the devastation of World War II." CPA was founded in 1986, and focused on microfilming projects. CLIR's Digital Library Federation was founded in 1994.

Coalition for Networked Information (CNI)

Home page: https://www.cni.org/

Value proposition: CNI is a membership organization and joint initiative of ARL and EDUCAUSE that "promotes the use of digital information technology to advance scholarship and education." It hosts twice yearly membership meetings, produces publications and reports about higher education and technology, and offers consulting services to members.

Business model: CNI has a staff of six. It is entirely funded by membership dues. It costs \$7,960 a year to join CNI, and each member institution is allowed to bring two representatives to meetings.

Audience: Colleges and universities, publishers, scholarly organizations, libraries, government agencies, foundations, and tech companies.

Brief history: CNI was founded in 1990. CNI Executive Director Clifford Lynch has led the organization since 1997. Joan Lippincott, CNI's associate executive director, has served since fall 1990.

Further reading: Lippincott 2010.

Council of Public Liberal Arts Colleges (COPLAC)

Home page: http://www.coplac.org/

Value proposition: "The mission of COPLAC is not just to provide higher education for students who otherwise could not afford it, but a transformative liberal arts education commensurate with that offered by North America's finest private colleges."

Affiliated with AAC&U, COPLAC serves both external and internal constituencies, communicating the importance and benefits of a comprehensive public higher education in the liberal arts and sciences to state and federal policymakers. The group also collaborates with other higher education organizations to promote liberal learning in a global society. COPLAC facilitates member collaborations, including multicampus faculty and student research projects, professional development opportunities for faculty and staff, and information sharing through its interactive web portal. It also develops undergraduate conferences and publishes an online, peer-reviewed undergraduate research journal called Metamorphosis. It facilitates campus exchanges and shared summer study abroad programs, as well as shared courses in Native American Studies in a distance hybrid format. It hosts meetings and conferences for college administrators, faculty, and students.

Business model: COPLAC is a membership consortium of 29 small (5,000 or fewer students), primarily public liberal arts colleges and universities in 27 states and one Canadian province, with a home office at the University of North Carolina/Asheville for the director and four staff members. Its governing

board comprises its member institutions' 29 presidents/chancellors or their designees. The board elects a president for a two-year term and the full board meets twice a year. The board also elects a five-person executive committee whose members oversee the director's administrative work. Membership is by application. Operating costs appear to come from member fees (annual membership dues were \$9,500 in 2014) and nonprofit foundational support such as the Teagle Foundation's support of multi-campus courses in Native American Studies, and a grant from the Conference on Undergraduate Research.

Audience: Public liberal arts colleges that offer more than half of their degrees in traditional liberal arts fields; their leaders, faculty, students, and staff; higher education policymakers, especially in state and federal government; and nonprofit foundations.

Brief history: Established in 1987 with the initiative of UNC/Asheville Chancellor David G. Brown, COPLAC has achieved steady growth and aims to continue growing.

Additional resources: "COPLAC-The Evolution of a Vision 1987-2014" at http://w.coplac.org/resources/HistoryPamphlet.pdf.

Digital Liberal Arts Exchange (DLAx)

Home page: https://dlaexchange.wordpress.com/

Value proposition: "The Digital Liberal Arts Exchange is a collection of leaders and practitioners from the field of digital scholarship working to create collaborative solutions to meet the needs of our faculty and students who are engaged in the creation, dissemination, and preservation of digital scholarship." DLAx recently conducted a survey about digital scholarship practices on college and university campuses and launched a crowdsourcing platform to gather more thoughts on community needs. Despite its name, it is not focused solely on liberal arts colleges.

Business model: DLAx received a planning grant from The Andrew W. Mellon Foundation in 2015. In the future, DLAx hopes to evolve into a membership organization that is self-sustaining and offers various services to members.

Audience: Faculty, librarians, information technologists, and administrators interested in digital scholarship.

Brief history: Established in 2015, DLAx is based at Middlebury College. Members of the project team come from Brandeis University, Brown University, CLIR, Hamilton College, Lafayette College, Northeastern University, University of Connecticut, University of Nebraska-Lincoln, and University of Southern California.

Digital Library Federation (DLF)

Home page: https://www.diglib.org/

Value proposition: "...a robust and diverse community of practitioners who advance research, learning, and the public good through digital library technologies. DLF serves as a resource and catalyst for collaboration among its institutional members and all who are invested in digital library issues." The DLF promotes work in open digital library standards, software, interfaces and practices; digital stewardship and curation; digital humanities and related services; education, professional development, lifelong learning, and growth of the field; connections among digital library practitioners and those in related fields; and in community-driven frameworks for policy, advocacy, professional standards, issues of representation and diversity, and related issues of concern for the profession. DLF's major annual event is the DLF Forum. Since 2012, with CLIR, DLF has cosponsored postdoctoral fellowships in data curation.

Business model: Formed in 1994, DLF is a program of its parent organization, CLIR. It has its own director and dedicated staff and its own institutional members, many of whom overlap with CLIR sponsor

institutions. DLF reports to the CLIR board and the DLF Advisory Committee. Membership is by application and is open to any organization engaged in building or using digital libraries including archives, libraries and library service organizations, publishers, museums, and vendors. The annual membership fee is \$6,000. Any institution that is also a CLIR sponsor receives a discounted fee of \$4,500. Liberal arts colleges may join at a rate of \$2,500. DLF initiatives are funded by both membership fees and grants.

Audience: Any institution or professional working in the digital library sphere, from libraries and museums to publishers and vendors; also, other organizations involved in the creation and maintenance of digital libraries (e.g., DPLA).

Brief history: According to CLIR's website, "The DLF grew out of informal discussions among eight librarians (called the LaGuardia eight in honor of the meeting site—LaGuardia Airport). The group soon grew to include 12 institutions that were committed to looking at the broader implications of digital technology. In 1994, the group called for a planning strategy for the development of digital libraries and began to organize themselves to continue local efforts while also sharing their findings." In 2005 DLF became an independent organization, and in 2009 DLF re-joined CLIR.

EDUCAUSE

Home page: http://www.educause.edu/

Value proposition: EDUCAUSE's mission is to advance higher education through the use of information technology. "EDUCAUSE helps those who lead, manage, and use information technology to shape strategic decisions...[and] actively engages with colleges and universities, corporations, foundations, government, and other nonprofit organizations to further the mission of transforming higher education through the use of information technology..."

EDUCAUSE member benefits include publications, advocacy, teaching and learning initiatives, career development, conferences, data, research, analytics, special interest communities, awards, and extensive online information services. EDUCAUSE's focus areas include IT policy and cybersecurity, learning technologies, and IT leadership.

EDUCAUSE also offers membership- and subscription-based programs that provide research, opportunities for professional collaboration, and a forum for advancing teaching and learning through IT innovation. (See also the EDUCAUSE Leaning Initiative below.)

Business model: A nonprofit 501(c)(3) and membership organization with offices in Louisville, Colorado, and Washington, D.C., EDUCAUSE is led by a board of directors, member-based committees, and program development and operations staff. Membership is open to institutions of higher education, corporations serving the higher education information technology market, and other related organizations including international institutions. The current membership comprises more than 2,300 colleges, universities, and educational organizations, including over 300 corporations and more than 68,000 individuals. Annual membership dues for educational institutions are calculated based on Carnegie Classification and FTE, and range from \$545 to \$9,045, with reduced rates for campus systems. Corporations may join EDUCAUSE for a flat annual fee of \$2,700. Associations, state and federal agencies, university system offices, and other nonprofit organizations may join EDUCAUSE for a flat annual fee of \$1,380, and colleges and universities outside the United States and Canada, for a flat annual fee of \$1,175.

Audience: Institutions of higher education, corporations serving the higher education IT market, and other related organizations. "EDUCAUSE members...address a spectrum of challenges including enterprise systems, strategic leadership, teaching and learning, cybersecurity, identity management, and more."

Brief history: EDUCAUSE was formed in 1998 through a merger between CAUSE (founded in 1962) and Educom (founded in 1964), two professional associations serving the higher education information technology community. The new organization was intended to offer a coordinated set of programs to serve all

dimensions of campus IT, develop comprehensive and timely services to support professionals within the community, and provide unified leadership on key policy issues affecting higher education.

Additional resources: EDUCAUSE Focus Areas and Initiatives http://www.educause.edu/focus-areas-and-initiatives.

EDUCAUSE Learning Initiative (ELI)

Home page: http://www.educause.edu/eli

Value proposition: A strategic initiative of EDUCAUSE, "ELI is a community of higher education institutions and organizations committed to the advancement of learning through the innovative application of technology." ELI's initiatives support the teaching and learning community by addressing key issues in higher education including the Seeking Evidence of Impact program, the annual Content Anchor survey, and the Learning Space Rating System.

ELI offers professional development events, online resources including white papers and briefs, and aims to foster a community with a common goal. Membership includes access to annual meetings, webinars, case studies, publications, and opportunities to serve on committees and boards.

In an effort to avoid duplicate efforts, ELI establishes partnerships with related organizations. Current partners include CNI, the New Media Consortium, the Committee on Institutional Cooperation, and the IMS Global Learning Consortium.

Business model: Members are institutions. The annual membership fee is \$2,500, with discounts for campus systems.

Audience: Campus leaders, especially in IT, information and educational technologists, faculty, library staff, and corporations.

Brief history: ELI began as the National Learning Infrastructure Initiative (NLII), started in 1994. The NLII first focused on creating a technology infrastructure to improve higher education access and quality while reducing costs, in addition to new tools and standards, institutions needed principles, practices, and partnerships to ensure that the infrastructure supported high-quality, affordable education.

A strategic planning group met in 2005 to anticipate and adjust NLII's direction for its next 10 years. The resulting strategic plan moved beyond infrastructure to advancing learning through IT innovation. As part of this transition, the NLII became the EDUCAUSE Learning Initiative, to better reflect its emphasis on learning, learning principles and practices, and the use of learning technologies.

Additional resources: ELI Initiatives http://www.educause.edu/eli/initiatives

Educopia Institute

Home page: https://educopia.org/

Value proposition: "The Educopia Institute's mission is to build networks and collaborative communities to help cultural, scientific, and scholarly institutions achieve greater impact."

Educopia primarily acts as a host for its three "communities": MetaArchive, the Library Publishing Coalition, and the BitCurator Consortium. As host, Educopia provides administrative, legal, financial, and other services. Educopia also conducts its own research on topics such as continuing education, digital preservation, and scholarly communication. Finally, Educopia provides consulting services on issues such as collaborative network building, digital preservation, digital curation, digital scholarship, and digital publishing.

Business model: Educopia has a staff of five. Its work is overseen by an all-volunteer five-member board. Communities pay an unknown amount for support from Educopia. Educopia presumably generates revenue from its consulting services.

Audience: Libraries, museums, research centers, and publishing groups. It is important to point out that individuals and institutions cannot join Educopia. They can, however, join one of Educopia's three communities.

Brief history: Educopia was founded in 2006. In 2007 MetaArchive became an Educopia community. In 2014 Educopia helped launch the Library Publishing Coalition and the BitCurator Consortium, both of which also function as Educopia communities.

Edu-ISIS

Home page: https://sites.google.com/a/edu-isis.org/isis/

Value proposition: Edu-ISIS is "a community dedicated to collaborative professional development, networking, and peer-mentoring for academic technologists and reference librarians at small, residential liberal-arts colleges." Edu-ISIS is an online community that meets via monthly drop-in sessions and circulates questions on its listserv. It also plans programs (talks) on topics similar to those offered by NITLE in the past, e.g., digital humanities, flipped classrooms, MOOCs, and data curation.

Business model: Edu-ISIS is a Google group that is free to join. The current membership hails from 69 U.S. institutions, most located in the Northeast. The group has no membership fee nor formal staff, but does have a different programming committee each academic year comprising three or four members.

Audience: Academic/instructional/educational technologists, digital humanities librarians, reference librarians, and library administrators at small Liberal Arts colleges.

Brief history: Edu-ISIS has been in existence since the 2010–2011 academic year.

HASTAC (Humanities, Arts, Science, and Technology Alliance and Collaboratory)

Home page: http://www.hastac.org

Value proposition: HASTAC is an alliance of individuals interested in technology in higher education. The HASTAC website provides a place for people to share ideas. HASTAC also sponsors a yearly conference and workshops.

Business model: HASTAC's administrative center is split between Duke University and the Graduate Center at the City University of New York. The group has sixteen full- or part-time staff members. The University of California Humanities Research Institute, too, provides infrastructure support. Joining HASTAC is free. HASTAC has received funding from the Digital Promise Initiative (now the National Center for Research in Advanced Information and Digital Technologies), the National Science Foundation, and the John D. and Catherine T. MacArthur Foundation.

Audience: Scholars, students, technologists, and librarians.

Brief history: "HASTAC was co-founded in 2002 by Cathy N. Davidson, then Vice Provost for Interdisciplinary Studies at Duke University and David Theo Goldberg, Director of the University of California Humanities Research Institute (UCHRI)."

Ithaka S+R

Home page: http://www.sr.ithaka.org/

Value proposition: Ithaka S+R is a nonprofit organization that researches issues in higher education. S+R, JSTOR, and Portico are all part of the larger organization called ITHAKA. Ithaka S+R conducts research, but also offers consulting services and workshops to help colleges, universities, museums, and scholarly societies "effectively navigate the digital landscape."

Business model: Ithaka S+R has a staff of 14. All research that Ithaka S+R produces is free. Consulting services and workshops are not. Since its founding, Ithaka S+R has received many grants from The Andrew W. Mellon Foundation.

Audience: Colleges, universities, scholarly societies, and academic publishers.

Brief history: In 2003 Ithaka was founded by Kevin Guthrie, then president of JSTOR (which was founded in 1995). In 2009 JSTOR, Portico, and Ithaka S+R merged to create ITHAKA, which is "focused on the shared mission of helping the academic community effectively use digital technologies."

Liberal Arts Consortium for Online Learning (LACOL)

Home page: http://lacol.net/

Value proposition: LACOL is a consortium of eight colleges: Amherst College, Carleton College, Claremont McKenna College, Haverford College, Pomona College, Swarthmore College, Vassar College, and Williams College. The group's aim is to explore "new models of teaching and learning in the service of residential liberal arts education."

Business model: The business model for LACOL is unclear. The website does not indicate whether members pay dues. LACOL seems to have one full-time staff member, Elizabeth Evans, who serves as the director and is based at Haverford College. The group does not seem to be open to new members.

Audience: Faculty, administrators, librarians, and instructional technologists.

Brief history: LACOL was founded in 2014. Its first event was a conference in June 2014 at Pomona College.

Midwest Instructional Technology Center (MITC)

Home page (archived at the Internet Archive Wayback Machine): https://web.archive.org/web/20020830152318/http://www.midwest-itc.org/

Value proposition: The aim of MITC was "to foster innovative, effective, sustainable, multi-campus collaborations that improve teaching and learning through the use of instructional technology." MITC was an initiative of the Associated Colleges of the Midwest (14 colleges) and the Great Lakes Colleges Association (12 colleges). MITC offered symposia, workshops, and consulting.

Business model: MITC was funded by The Andrew W. Mellon Foundation. It had a staff of four.

Audience: Faculty, librarians, and technologists.

Brief history: MITC was founded in 2002 in Ann Arbor, Michigan. In 2006, the organization merged with NITLE.

Further reading: "Building the Midwest Instructional Technology Center"

New Media Consortium

Home page: http://www.nmc.org/

Value proposition: NMC is a membership organization that hosts events, symposia, and workshops. It also puts out technology- and education-related publications such as the NMC Horizon Report.

Business model: NMC has a staff of eleven. It seems to generate revenue through membership dues. Annual dues are \$2,500 to \$5,000 for colleges and universities. Corporate partners pay between \$5,000 and \$25,000.

Audience: Colleges, universities, museums, nonprofits, K-12 administrators, and technology companies.

Brief history: NMC was founded in 1993 by a group of technology companies (Apple, Adobe, Macromedia, and Sony) that wanted to get their products into colleges and universities. Originally, twenty-two institutions were asked to participate. In 1994 the NMC became an independent not-for-profit 501(c)3 corporation. In 2002 the NMC moved its headquarters from San Francisco, California to Austin, Texas.

Northeast Regional Computing Program (NERCOMP)

Home page: http://nercomp.org/

Value proposition: NERCOMP "cultivates communities of practice around information and technology, promotes strategic partnerships, and advances innovation and leadership in educational institutions across the Northeastern United States." NERCOMP regularly holds conferences and workshops for members. It also arranges for consortium license agreements with tech companies.

Business model: Although initially funded by the National Science Foundation (NSF), NERCOMP is currently wholly self-supported. NERCOMP appears to have no full-time employees; it is run by its members through a Board of Trustees elected from member institutions. Membership is open to all accredited higher education institutions in the Northeast US. Members pay annual dues of \$300 to \$3,310, depending on institutions' number of faculty.

Audience: Colleges and universities in New England.

Brief history: NERCOMP's history dates to 1957, when MIT formed The New England Regional Computing Center (NERCC). A few years later, NERCC members received NSF grant funds to establish a new but related organization, the New England Regional Computer Project (NERCP). In 1967 NERCP cut ties with MIT and established itself as NERCOMP. NERCOMP became an associate of EDUCAUSE in 1997.

Northwest Academic Computing Consortium (NWACC)

Home page: http://www.nwacc.org/

Value proposition: "NWACC's mission is to foster communication and collaboration among its member institutions on the development and use of advanced technology for instruction, research, and administrative operations." NWACC's programming includes leadership development, IT, and information security, for which the consortium offers workshops, grants, and awards for innovation. NWACC holds annual council meetings "for formal and informal conversations related to current challenges, opportunities, and innovations in information technology administration in higher education." Keynote speakers include industry leaders as well as scholars, administrators, and thinkers from similar organizations such as EDUCAUSE. NWACC also offers two unmoderated listservs and an online library of member organizations' policy documents.

Business model: Chartered as a 501(c)(3) nonprofit in Portland, Oregon, NWACC is a membership organization. Representatives of its 33 member institutions sit on its council. NWACC is administered by a

president, vice president, and secretary-treasurer, and is governed by a board of directors (the 2015-2016 chair is Lois Brooks of Oregon State University). Admittance of new members is by board invitation. Membership dues (if any) are not publicly available, but based on information available via non-profit FAQ sites, NWACC appears to have a sizeable endowment—more than \$11 million in 2013, the interest from which is used for operations. Programming also generates revenue.

Audience: Academic computing/IT/instructional technology specialists at colleges, universities, and other nonprofit organizations in the Pacific Northwest and nearby areas.

Brief history: NWACC "was founded in 1987 by ten institutions: the Universities of Alaska, Idaho, Oregon, and Washington; Oregon State and Washington State; the North Dakota University System, the Oregon Graduate Institute, the Boeing Corporation, and the Western Interstate Commission for Higher Education (WICHE). Its mission was to promote education, research, and economic development in the Pacific Northwest. It began by creating a high-speed network to link the Northwest to the rapidly emerging Internet."

"NWACC operations were initially housed at the Boeing Company, and later moved to the University of Washington. NWACC's network clientele quickly grew to more than 170 colleges, universities, libraries, hospitals, museums, professional associations, and corporations such as Microsoft, Nile, and Intel. In 1995 the network services component of NWACC, NorthWestNet, was spun off as a for-profit subsidiary, and in 1997, it was sold to Verio, Inc...in 2001, NWACC was designated a 'supporting organization' to provide grants to its member institutions in furtherance of the Consortium's mission and goals."

Northwest 5 Consortium (NW5C)

Home page: http://nw5c.org/

Value proposition: "Working toward the regular sharing of expertise and resources, the mission of the NW5C is to enhance the student academic experience at our five liberal arts colleges through enrichment and development of faculty as teacher-scholars. In service of this mission, the Consortium will provide the infrastructure to support collaborative efforts among its member institutions." The NW5C's "action framework supports Communities of Practice, Collaborative Inquiry Projects, Shared Resources, Joint Programs, and Faculty-led Workshops." NW5C offers grants for interinstitutional faculty collaborations, hosts conferences, workshops and other in-person gatherings, and provides resources including a newsletter and course templates on its website.

Business model: Supported by an \$800,000 grant from The Andrew W. Mellon Foundation, the NW5C has two full-time co-coordinators, based at its administrative office at Willamette University in Salem, Oregon. The group is governed by a steering committee comprising deans and other administrators from its five member colleges.

Audience: Faculty and professional staff at its five member colleges—Lewis & Clark College, University of Puget Sound, Reed College, Whitman College, and Willamette University; colleagues in the Pacific Northwest; and funding agencies.

Brief history: "Since the Consortium's inception in 2012, nearly 400 faculty and professional staff members have participated in Consortium activities. We have developed infrastructures for collaborative meetings, technology coordination, and shared projects that facilitate cross-institutional, cross-disciplinary, and discipline specific activities."

Additional resources: Some NW5C collaborations have their own online communities, e.g., the Environmental Science Collaboration; NW5C Fact Sheet May 2016 http://nw5c.org/sites/default/files/NW5C%20Fact%20Sheet%20May%202016.pdf.

Oberlin Library Group

Home page: http://www.oberlingroup.org/

Value proposition: The Oberlin Library Group is a consortium of liberal arts college libraries. The group holds an annual meeting, conducts an annual survey, and organizes cooperative projects such as group journal subscriptions and reciprocal interlibrary loan agreements. "The opportunity to talk formally and informally with other liberal arts college library directors about current issues in college librarianship is one of the key benefits of membership in the group."

Business model: The Oberlin Group has 80 members; it does not appear to have any full-time staff. Each member institution pays an annual fee, which is not specified on its website.

Audience: Liberal arts college libraries.

Brief history: "The idea for the Oberlin Group grew out of conferences of the presidents of 50 liberal arts colleges held at Oberlin in 1985 and 1986...The first meeting was held at Oberlin in November 1986. The group discussed issues of common concern, including the need for more library funding...The first conference was a success and the directors decided to meet every year at a member institution. They became known as the 'Oberlin Group' because of the site of the first meeting."

Project Bamboo

Home page: http://www.projectbamboo.org/

Value proposition: Project Bamboo was a group dedicated to supporting digital humanities research by creating shared technology services. The group ultimately failed to articulate a shared vision that united all participants. Its most visible accomplishment was the DiRT Directory.

Business model: Project Bamboo was funded by The Andrew W. Mellon Foundation between 2008 and 2012.

Audience: Scholars, technologists, and librarians.

Brief history: In 2008 the Mellon Foundation funded a planning grant proposal for the University of California, Berkeley, and the University of Chicago to create a shared humanities cyber infrastructure. After a series of planning workshops involving interested parties from other universities, the University of Chicago left the project. By 2009, UC Berkeley was managing the implementation of the project with help from several US, UK, and Australian universities. In 2012, Mellon declined to provide additional funding for the initiative, effectively ending the project.

Further reading: Dombrowski 2014.

Professional and Organizational Development (POD) Network in Higher Education

Home page: http://podnetwork.org/

Value proposition: POD is an organization dedicated to improving teaching and learning in higher education. The group holds annual conferences, organizes workshops, issues publications, and offers consulting. It offers grants and awards to members and it advocates nationally for teaching in higher education. Although not focused on liberal arts colleges, POD does have a Small College Committee. Technology is not a particular focus for POD.

Business model: POD is based in Nederland, Colorado, and seems to have one full-time staff member (executive director Hoag Holmgren) and one part-time staff member (administrative assistant Gaye Webb). The rest of the group's work is done on a volunteer basis. POD President Deandra Little, for example, directs the Center for the Advancement of Teaching and Learning and is an associate professor of

English at Elon University. Annual membership dues vary: individuals pay \$115, institutions pay \$95 per person for staff members wishing to join, and students pay \$65.

Audience: Faculty, administrators, and students.

Brief history: POD was founded in 1976 at a workshop on faculty development that was held at the College of Mount St. Joseph and was sponsored by the Council for the Advancement of Small Colleges. The idea continued to develop at the 1977 conference of the American Association for Higher Education. Joan North of the University of Alabama was chosen as POD's first coordinator.

Further reading: North and Scholl 1979.

APPENDIX 2

NITLE Assessment Project: Interview Protocol

Personal experience with and perception of NITLE

- When did you first become involved in NITLE? How did you first get involved, and in what capacity?
- What did you initially want to get from your involvement with NITLE, and were your expectations met? Did that change over time? (probe for expectations/ needs and outcomes)
- [Former NITLE members] Why did your organization leave NITLE? What needs did you have that NITLE was no longer able to address?

Present-day need

- What are your institution's goals in the overlapping area of technology and liberal education? Example topics:
 - To help faculty use technology in the classroom or to facilitate large-scale collaboration
 - To facilitate large-scale collaboration between liberal arts schools on technology
- To help you meet your goals in this area, what does your institution need in terms of activities and support? What does the greater liberal arts college community need in this area? Example topics:
 - Landscape research
 - Funding
 - Community building
 - Etc.

Addressing that need

- Where does your institution find support to address these needs? What other organizations or resources do you find helpful?
- Do you know of any other organizations or resources that exist in this area, but that your institution may not rely on?
- Given the context you just provided, both for your institution and the liberal arts college community, does there need to be a group to organize support for the overlapping area of technology and liberal education? If so:
 - How do you think such a group could be most useful and effective for the institutions it serves?
 - What would be the most desirable and effective ways for a national program or organization to meet those needs? What are the possible target audiences, value propositions, and business models for such a program or organization?

Future of NITLE

- With all we've covered in mind: Should NITLE exist in the future? If yes, why? What should the mission of NITLE be in the future? If no, why not?
- What did/do you most value about NITLE?

Is there anything else you'd like to tell us about NITLE, its purpose, and the needs it helps meet?

APPENDIX 3

Survey Questions

Assessing Institutional and Individual Needs for Technology in Liberal Education

The Council on Library and Information Resources (CLIR) invites you to participate in a needs assessment study focused on the intersecting areas of information technology and liberal education. The purpose of this study is to help CLIR understand institutional and individual needs and explore how such needs could be met by professional organizations and programs. In addition, the project will explore target constituencies, value propositions, and business models that could help an organization serve those needs in an efficient, sustainable manner.

As an individual connected to liberal education, you are encouraged to take this survey to share your experiences with liberal arts-focused organizations, including the National Institute for Technology in Liberal Education (NITLE). Your responses will help CLIR identify areas of focus and evaluate the services offered by these organizations.

This survey consists of several sections; you will be directed to appropriate subsets of questions based upon your experiences with liberal arts education. Demographic questions are included, but in the event that the study results are later published, no individually identifiable information will be shared.

This survey should take between 10 and 20 minutes to complete. It will be available until December 31 at 5:00 pm EST.

Participation in the survey is voluntary, and you may participate anonymously if you wish. If you have any questions, feel free to contact Christa Williford, CLIR's Director of Research and Assessment, at CWilliford@CLIR.org.

Demographic and background information

The purpose of this section is to gather basic information about your current institution, the position(s) you hold, and the amount of experience you have had with liberal education. You are not required to respond to any of the identifying questions in this section, though your responses will help to provide context during the analysis of aggregated results.

Q 1-1 What is your name?

Q 1-2 What is the name of your current institution?

Q 1-3 Which positions do you currently hold at your institution? (Choose all that apply)

President / Vice President

Provost

Chief Executive Officer

Chief Academic Officer

Chief Financial Officer

Chief Information Officer

IT Director

Faculty Dean / Associate Dean

Library Dean / Associate Dean / University Librarian / AUL

Department Head / Chair

Tenured Faculty

Tenure-Track Faculty

Adjunct Faculty

Lecturer

Clinical Faculty

Research Faculty

Researcher

Graduate Student

Research Assistant / Technician

Librarian

Library Staff

Q 1-4 How many years have you served in your current institutional position? (If multiple positions have been identified, complete for your primary position only)

Less than a year

1-2 years

3–5 years

More than 5 years

Q 1-5 In total, how many years have you spent in positions associated with liberal arts education?

I have not been involved with liberal arts education (exit survey)

0-1 years

2–5 years

6-10 years

11-15 years

More than 15 years

Institutional needs at the intersection of technology and liberal education

Institutional needs and interests in the general realm of technology and liberal education can be wide¬ ranging and variable. In this section, you are asked to identify the areas of focus and services that are most important to your institution, as well as consider how organizations (current or prospective) might meet these needs.

Q 2-1 Considering your institution's current needs, what services do you think would provide the most benefit in the area of technology and liberal education? Using a scale of strongly agree to strongly disagree, evaluate the degree to which your institution would benefit from external support in the following categories:

Organizing and hosting conferences and meetings

Providing training through workshops, webinars, etc.

Providing access to informational resources

Negotiating discounts and joint purchasing programs for publications, meetings, etc.

Coordinating institutional resource sharing (expertise, materials, courses)

Conducting research and publishing results

Providing project grants and scholarships

Facilitating tuition exchanges, faculty and staff exchanges among institutions

Supporting peer networking through email lists, discussion groups, etc.

Providing promotional and media services to institutions and individuals

Representing and advocating for liberal education at the state or national level

Coordinating fellowship programs

Providing consultation services

Other (please specify and indicate level or agreement)

Scale: Strongly Agree; Agree; Neutral; Disagree; Strongly Disagree; Not sure / Not applicable

Q 2-2 Which organizations provide your institution with the services listed in the previous question?

Q 2-3 How important are each of the following topics to your institution in the areas of technology and liberal arts education?

Digital scholarship and digital research support

Learning and teaching technologies

Collections (digital and shared)

Libraries

Resource management and sustainability of services

Liberal education, teaching and learning

Professional training and development

Information technology

Leadership development

Computing (academic and administrative)

Institutional planning and change management

Collaboration and integration between liberal arts colleges

Civic engagement, public understanding and diversity

Other (please specify and indicate importance)

 $Scale: Critically\ important;\ Very\ important;\ Moderately\ important;\ Somewhat\ important;\ Not\ at\ all\ important;\ Not\ sure\ /\ Not\ applicable$

Q 2-4 From which organizations does your institution receive support to address the focus areas listed in the previous question?

Q 2-5 What areas of focus (if any) listed previously do you consider to be currently under-supported by existing organizations?

The relationship between NITLE, its members and participants

The following section explores the relationships between NITLE, its member institutions (both present and past), and individuals that have been active within the organization. Prior to beginning this section, you will be asked a series of short filtering questions, intended to identify individuals for which these questions are relevant. Individuals that have not been affiliated with NITLE in the past will be directed past this section.

Q 3-1 Prior to taking this survey, were you aware of the National Institute for Technology in Liberal Education (NITLE) as an organization serving liberal education?

Yes

No (skip to the next section)

Q 3-2 Have you ever participated in a NITLE-hosted activity, used a NITLE service, or been involved in your institution's decision to become a NITLE member?

Yes

No (skip to the next section)

Q 3-3 On how many occasions have you participated in the following types of NITLE events or activities?

Meetings at the national level (e.g., NITLE Summit)

Meetings at the regional level (e.g., MITC, ACS meetings)

Theme-based symposiums (e.g., Digital Asset Management symposium 2006; Inventing the Future 2012)

Collaborative projects or initiatives (e.g., NITLE Network 2008; Digital Humanities Council 2011; Shared Practice 2013)

Virtual seminars / webinars (e.g., NITLE Digital Scholarship seminar series; NITLE Shared Academics seminar series)

Other (please specify and indicate frequency)

Scale: Never; Once; 2 to 4; 5 or more; Not sure / Not applicable

Q 3-4 Have you held a position at an institution during the time when it was a NITLE member?

Yes

No

Very isolated

Not applicable / Not sure

Q 3-5 As of the end of 2014, did you hold a position at an institution that was a NITLE member?
Yes
No
Q 3-6 What year (approximately) did your institution join NITLE?
Q 3-7 Were you involved in your institution's decision to become a NITLE member?
Yes
No
Q 3-8 Using a scale of very important to not important, specify the importance of the following services and activities to your institution's enrolment in NITLE.
Workshop and conference events
Collaboration, community and networking
Consulting services
Leadership programs
Access to resource materials
Other (please specify and indicate importance)
Scale: Critically important; Very important; Moderately important; Somewhat important; Not at all important; Not sure / Not applicable
Q 3-9 Are you currently serving (or have previously served) on a NITLE committee?
Yes
No
Q 3-10 Please list the committees with which you were involved.
Q 3-11 On a scale from very supported to very isolated, to what degree have you felt supported within your institution to serve on and participate with NITLE committees?
Very supported
Somewhat supported
Neutral
Somewhat isolated

Q 3-12 Have	e you held a posit	ion at an institutio	n at the same time	that it discontin	ued its NITLE
membership	p?				

Yes

No

Q 3-13 At which institution did you hold a position when it discontinued its NITLE membership?

My current institution

An institution different than my current one

Q 3-14 Approximately, which year did your current (or previous) institution discontinue its NITLE membership?

Q 3-15 Were you made aware of the reasons why your institution discontinued its NITLE membership?

Yes

No

Q 3-16 Using a scale of strongly agree to strongly disagree, to what degree do you agree that the following issues were important to your institution's decision to discontinue its NITLE membership.

NITLE Membership costs were unaffordable

NITLE resources and programming were not being used

NITLE resources and programming were irrelevant to institutional needs

NITLE resources and services were being (or could be) obtained elsewhere

Scale: Strongly agree; Agree; Neutral; Disagree; Strongly disagree; Unsure / Not applicable

Q 3-17 If other factors were influential to your institution's decision to discontinue its NITLE membership, please list them below and indicate their relative importance.

Q 3-18 Is there anything you would like to express about your experience with NITLE that was not previously covered? Please use the space below to share your thoughts.

Individual needs and considerations for organizational involvement

In contrast to the institutional focus of the previous sections, the following questions inquire how you—as an individual involved in liberal education—interact and participate with organizations. You are also asked to consider how liberal arts-focused organizations might support individuals in their current work.

Q 4-1 How do you stay current with developments, activities and events in the area of technology and liberal education? (Check all that apply)

Organization web pages Listservs

Online / print newsletters Social media

Personal communication (e.g., email, informal conversation)

Other (please specify)

Q 4-2 Using a scale of critically important to not at all important, how important are the following characteristics to you when deciding to join and/or participate in a liberal arts-focused organization?

Low membership and participation costs

High organizational prestige

Large membership population

Strong organizational leadership and governance

Nationally-focused activities and services

Regionally-focused activities and services

Strong sense of community

Scale: Critically important; Very important; Moderately important; Somewhat important; Not at all important; Not sure / Not applicable

Q 4-3 Please elaborate on any other factors that may influence your decision to join an organization or participate in its activities.

Q 4-4 Considering the projects and planning activities that you and others are carrying out at your institution, how might (if at all) a liberal arts-focused organization help support these initiatives?

APPENDIX 4

Organizational Acronyms

AAC&U: Association of American Colleges and Universities

ACM: Association for Computing Machinery

ACRL: Association of College & Research Libraries

ACS: Associated Colleges of the South

ALA: American Library Association

CIC: Committee on Institutional Cooperation

CLAC: Consortium of Liberal Arts Colleges

CLAMP: Collaborative Liberal Arts Moodle Project

CLIR: Council on Library and Information Resources

DLF: Digital Library Federation

EDUCAUSE

ELI: EDUCAUSE Learning Initiative

Edu-ISIS: Integrated Student Information System (ISIS)

GLCA: Great Lakes Colleges Association

Mellon: The Andrew W. Mellon Foundation

NERCOMP: NorthEast Regional Computing Program

NITLE: National Institute for Technology in Liberal Education

NMC: New Media Consortium

Oberlin Group (A Consortium of Liberal Arts College Libraries)

Ohio5: Five Colleges of Ohio

OhioLINK (Ohio's Academic Library Consortium)

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