Laura Bush 21ˢᵗ Century Grant Program Evaluation (Grant Years 2003–2009)
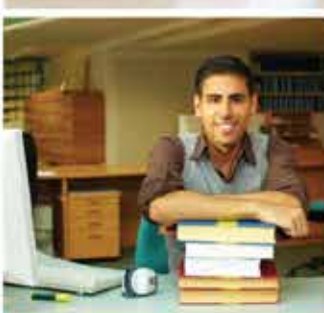
VOLUME I

FINAL PROJECT REPORT

July 5, 2013

Submitted to:
Institute of Museum and Library Services (IMLS)
1800 M Street NW, 9ᵗʰ Floor
Contracts Office
Washington, DC 20036

Submitted by:
ICF Incorporated, L.L.C.
9300 Lee Highway
Fairfax, VA 22031

Contents

Executive Summary

In 2003, First Lady Laura Bush called on the Institute of Museum and Library Services (IMLS) to address a significant challenge facing libraries across the country. IMLS recognized the urgent need for new librarians based on a predicted shortage as well as a large number of impending retirements. IMLS also recognized the increasingly diverse user population and changing technology used in the field as needed areas for changes in educational programs in the field. To address these challenges, the Laura Bush 21st (LB21) Century Librarian Grant Program was launched in 2003 to support projects that recruit and educate the next generation of librarians, faculty, and library leaders; and to support various research efforts.

This report presents the results of an evaluation of the LB21 Program, with a focus on LB21 grants awarded by IMLS between 2003 and 2009. The objectives of the evaluation were to determine the short- and long-term impact LB21 grants have had on education, training, research, and diversity in the LIS field. Additional goals of the evaluation included identifying factors influencing success that could be replicable in other projects, documenting elements of project success, and providing recommendations to help future grant programs and grantees. Key constructs included in the LB21 evaluation were:

- § **Diversity:** Lack of diversity in the LIS program has been a concern
- § **Innovation:** These grants are designed to enhance learning
- § **Partnerships:** IMLS grantees are encouraged to partner with other institutions and have become prevalent among funded projects
- § **Success:** Measured by the accomplishment of grant goals as well as the effect of the project on participants and the institution
- § **Sustainability:** This was examined at the grant project, institutional, and profession-wide levels.

These constructs were evaluated for multiple grant types including grants for LIS Master's programs, LIS Doctoral programs, Early Career programs, Continuing Education programs, Institutional Capacity programs, and Research programs.

Method

The methodology for this evaluation was designed to evaluate IMLS progress toward evaluation objectives, identify specific characteristics of effective grants, and document lessons learned for future programmatic emphasis. Grant projects were divided to separately examine those that emphasized diversity for each grant category. Grants not focusing on diversity were said to emphasize innovation.

For this evaluation, a comparative case study design was used. A total of 109 grant projects were evaluated using information gathered in a one-hour long interview with the grant PI as well as data from the grantees' final reports. The characteristics of projects funded by the LB21 Program differ substantially across the grant categories. Thus, it would be imprudent to treat all grant projects as a homogenous group. The evaluation was designed to identify differences and

similarities within subsets of grant program categories, and where broader thematic comparisons were possible, across grant categories and sub-categories. Research questions identified by IMLS were used as the framework for the analysis.

Qualitative analysis was completed, using a detailed coding system that was developed to organize and categorize responses to interview questions. A team of coders conducted content analysis on the text using the coding scheme.

Benchmarking interviews were used to gather supplemental information from other federal agencies with comparable grant programs. Benchmarking partners included representatives from the following organizations: National Science Foundation, Directorate for Computer & Information Science & Engineering; National Science Foundation, Directorate for Education & Human Resources; and Department of Education, Office of Post-Secondary Education.

Findings and Conclusions

The nine research questions identified by IMLS were separated into six separate areas of inquiry: types of grant activities, effectiveness of grant activities, grant sustainment, grant outcomes on participants, grant outcomes on grantee institution/organization, and grant outcomes on the field. Themes were identified within each of these areas based on the data gathered. The themes identified for each area are described briefly in the following sections.

Types of Grant Activities

Five major types of grant activities occurring with LB21 funding were identified: Coursework Education, Training & Development Opportunities, Research, Funding Supports, and Recruitment Methods. Within these types of activities, emergent themes were identified, and are described below. No specific activity themes were identified for Research activities.

Coursework Education

   Curricula content. Curriculum/course refinement and new development were mentioned across all but three of the grant categories, suggesting this was a common use for the LB21 grant funding. The extent to which funding was used to develop entirely new course content as opposed to modifying existing content varied widely across grant categories. In the development of new course content, grantees also tailored some of their course content to address topics of diversity. The courses developed were used to fill gaps in areas in which LIS students could not receive necessary training or education. Best practices demonstrated by LB21 in certifying learning opportunities include following existing standards when developing courses for librarians at any level and incorporating emerging standards into the courses.

   Course delivery. LB21 students and institutions derived benefits from online delivery of coursework. According to grantees, students appreciated the ability to take advantage of learning opportunities on their own terms (anytime, anywhere). In some cases, online coursework also offered working professionals and paraprofessionals the opportunity to obtain a degree or other training that would not otherwise have been possible due to conflicts with work hours or a

lengthy commute. Exemplary practices with regard to course delivery include providing instructional design support for faculty developing online courses and scheduling face-to-face meetings with students in online classes to help them master the available online learning tools.

Course resources. Grantees in several grant categories indicated that LB21 funding was also used to provide student and faculty resources to aid in course preparation or study. Such resources include funding for textbooks and other course materials.

Training & Development Opportunities

Conferences/workshops/institutes. Workshop, seminar, and conference attendance was mentioned by grantees in eight of the grant categories as professional development activities supported with LB21 funds. Support came in the form of travel funds and registration fees as well as funding to bring in guest speakers and develop conference presentations and workshop materials. Some of these experiences included attendance at existing workshops, while other grant projects developed their own new or modified workshops for the students.

Professional/student association memberships. Another form of support offered by many grantees as a result of LB21 funds was paid memberships for professional and student associations. In fact, since most of the institutions supporting the Ph.D. Innovation participants are well-established higher-education institutions, their use of the LB21 funding was mostly on supporting developmental opportunities such as professional association memberships as opposed to developing new educational materials. These grantees indicated that support for these memberships along with other opportunities (e.g., mentorships, teaching experiences) had a profound impact on student learning and growth.

Mentoring programs. Grantees also spoke of using funds for the development and implementation of mentoring programs. In fact, the most common educational opportunity offered under the Master's Innovation grant projects was a mentorship program. For the Master's Diversity category, over one-third of the grant projects included a mentorship component, though the success and sustainment of these programs varied considerably. Through mentoring programs, LB21 grantees sought to underpin learning with an array of support activities to bolster student confidence and the ability to complete an entire course of study. Advisors and mentors provide information about basic skills and requirements, knowledge of organizational structures and cultures, and support during times of emotional or psychological difficulties (i.e., stress).

Internships/fieldwork. Work experiences through internships or field assignments were also supported by LB21 funds for IMLS grantees. Internship opportunities ranged from single semester internships to a series of semester-long internships at each of several partner organizations, designed to provide a broad range of experiences in the field. The nature of fieldwork varied greatly among grantees. For example, one Ph.D. Diversity grant project provided educational opportunities to doctoral students by placing them out in the field teaching courses, whereas an Institutional Capacity Diversity grantee described ways in which diversity was addressed outside of the university to which the grant was awarded.

Funding Supports

Scholarships. With the exception of two grant categories, providing scholarships to support student development was a defining feature of many of the grant projects. As their primary focus was to fund research among untenured, tenure track faculty rather than students, Early Career Innovation was one of the grant categories that did not include scholarships; these individuals were the grantees. Among the grantees that provided scholarships with LB21 funds, the way the scholarships were structured varied across grantees (e.g., partial vs. full scholarships).

Compensation. LB21 grant funds were also used for compensation in the form of stipends and salary for staff to support the programs or for students. Grantees in more than half of the grant categories evaluated indicated using LB21 funds in this way. Administrative support was often mentioned as being an important element of supporting the logistics of the grant projects. Some grantees used their funds to provide a salary to instructors or other responsible for program administration. While it is important to have professors or other program directors to provide technical and content area guidance, grantees also said that having administrative support was beneficial.

Recruitment Methods

Recruitment strategies were specifically addressed as they pertained to the diversity projects but were also brought up by several of the Ph.D. Innovation grantees. There was not consistency in the type of methods used; rather, a variety of recruitment techniques and methods were noted. Recruitment methods included a wide range of techniques with no one particular technique mentioned more than others. In terms of traditional approaches, interviewees noted that they relied on broadcast mailings to reach potential applicants. Interviewees also reported using other traditional techniques such as advertising during industry meetings, posting program announcements on the host agency's webpage, and referrals to past and current training participants, as well as utilizing personal networks to directly call potential applicant sources and get the word out. Further, grantees indicated listservs were particularly useful in cases where valid mailing or email addresses were not available and the grant program wanted to be certain a specific group was made aware of the training opportunity.

Reaching diverse groups. Grantees indicated that funding was often used to promote diversity in schools as well as the LIS field. One common diversity recruitment strategy was to build connections or partnerships with organizations that could help to recruit diverse populations. While many of the grantees indicated that diversity was a priority for their programs, their recruitment strategies varied based on the way in which the grantee defined diversity. Many grantees indicated difficulty recruiting diverse students (e.g., ethnicity, race, gender, underserved populations, physically challenged), though some did not. Other projects broadened the definition of diversity to obtain the desired number of participants.

Effectiveness of Grant Activities

This section describes the most effective grant activities and reasons they were seen by grantees as being effective for accomplishing the goals of the grant. Additionally, this section includes information on factors that best help students achieve academic success as well as recruitment strategies that were identified as most effective in recruiting a diverse audience.

Reasons behind Effective Grant Activities

Student support and focus through scholarships/financial assistance. Scholarships and financial assistance to students were mentioned as an effective component of the grant projects. In fact, scholarships were often described as a project cornerstone. Scholarships were thought to be particularly effective and important for minority students. One grantee indicated that the scholarships were especially effective for helping any students who were vulnerable or had family issues outside of school that impact their time, which was often the case for their racial and ethnic minority students.

Developmental and networking opportunities through conference/workshop attendance. Several of the grantees interviewed indicated they believed attendance at conferences, often including both regional and national conferences, was important to the success of their minority students in particular. Additionally, conference attendance was seen as an effective enhancement of the grant projects, as it allowed the students to be active in their professional fields and learn about current and relevant topics affecting the field. In addition to developing students new to the field, attending conferences or workshops was also seen as effective in successfully enhancing the skills of seasoned library professionals. To effectively use conferences as a developmental activity for students, some best practices include: providing multiple opportunities for students to interact with colleagues on a professional level, encouraging those who attend conferences to reflect on the conference and share that with students unable to attend, and having students participate in LIS events held locally.

Building relationships through mentoring. Several grantees across various grant categories indicated that creating mentorship relationships for program participants and matching them with appropriate mentors was an effective grant activity. Mentors included faculty members, graduate assistants, librarians, program alumni, and peers. These mentorship relationships were effective because of the time that the mentors were willing to devote to the mentees and the relationships that are developed. These relationships and the ability of the mentor to relate to the mentees regarding work in the field and problems experienced outside of the workplace were the reason behind the highly effective nature of the mentorship programs that were implemented through LB21 grants.

Hands-on experience through internships and practical experiences. Internships or practical, hands-on experiences were often believed to have contributed to students' ability to obtain employment upon graduation. Some features of these programs that help lead to success are: thinking more broadly about the function and nature of internships; exposing students to the

full operational spectrum of the library; and designing structured assignments that take advantage of student subject matter expertise.

Instruction on cutting edge issues through classroom enhancements. Classroom enhancement made available through the design of new curriculum, courses, or student research projects were also seen as effective by LB21 grantees. Interviewees in three of the six grant categories asked about the effectiveness of classroom activities indicated that these enhancements to curriculum or courses were effective. Some grantees indicated that they were effective because they allowed for a focus on cutting-edge issues in the curriculum that was critical to preparing students for the workforce.

Support through partnerships/advisory panels. Several grantees mentioned that community partnerships with stakeholder organizations had a positive impact on the success of the grant program. The partners' role in the grant projects often depended on both the type of partner (e.g., association, institution) and the extent to which the partner was dedicated to the grant project. Sometimes, these partnerships were used to advertise the program and get volunteer support during the event as well as to build relationships with both the program and its students. Partnerships contributed much to an institution's ability to deliver quality programs as well. Exemplary practices regarding effective advisory board or partner use include: avoid having too many organizations represented on an initial project development advisory board; at the outset, make sure that all share the same goals and will share the workload, particularly grant writing and recruiting; and add partners to your project as you determine that the current collaboration lacks needed skills.

Factors for Success in Academic Achievement

Education achievable with scholarships to students. In terms of factors for academic success, the most commonly mentioned factor across both Master's Diversity and Master's Innovation grants was the scholarships. While some respondents stressed the importance of full scholarships, others advocated for partial scholarships because they felt that students were more invested in the program if they were partially responsible for paying for it. Funding for books and supplies was also mentioned as a factor for success, as many of the students who benefitted from the program were often unable to afford their books. Because of the cost of tuition and the fact that people going into this line of work typically are not earning large salaries, scholarships allowed students to focus on their studies and not need an additional job to pay for tuition.

Support systems developed when using a cohort model. Interviewees indicated that the cohort structure helped students develop strong relationships and support systems, create a professional network that could lead to job opportunities, and allow students from underrepresented backgrounds to support one another. Keeping students in a consistent cohort was seen as one of the biggest things helping them succeed academically in their program. LB21 grants that employed a cohort approach provided evidence that the bond created among learners lasted beyond the formal learning opportunity, forming a community to rely on for professional assistance and advice.

Valuable faculty relationships developed through mentorship programs. Some of the grant interviewees mentioned a mentorship program as a factor for student success. Grantees that provided this information focused on the need to allow the students to build strong relationships with mentors among the faculty. Mentorships promoted success because they gave advisors or faculty members an opportunity to get to know students and develop close relationships. As such, these mentorship relationships provided an avenue for students to develop valuable and supportive relationships with faculty members in their desired field.

Techniques for Successful Diversity Recruitment

Personal contact and connection. Grantees in three of the four diversity grant categories emphasized that personal contact was the most important factor in recruiting students. They indicated recruitment techniques that created a personal connection with potential students were more successful than those that did not. For example, personalized recruitment emails typically received better response rates than mass emails. Further, recruitment efforts that combined several individual strategies into one interrelated campaign were most effective in initially establishing this personal connection and attracting the target to pursue the training opportunity.

Working with minority-focused organizations. Interviewees in half of the diversity grant categories indicated that partnerships with other stakeholder organizations, when possible, were a key factor in achieving their goal to reach more diverse populations. The partnerships brought awareness to grant activities, provided additional resources to grant efforts, and allowed grant programs to establish their credibility with the community as well as their target applicants.

Grant Sustainment

The extent to which grant projects have been able to sustain themselves and continue serving the field after the grant period ends is an important measure of the effectiveness of IMLS grant investments. This section discusses the sustainability of programs after the end of the grant period, which parts of the grants were sustained and why, and what funds were used to sustain them.

Level of Project Sustainment

Projects fully or partially sustained. Slightly less than half of all grant projects were sustained, either fully or partially, following the completion of the LB21 grant period. Specifically, 17 percent of the grant projects were fully sustained while 31 percent of the grant projects were partially sustained. Grants within different categories varied with regard to how many of the grant programs were sustained following the expenditure of the LB21 grant funds.

Projects not sustained. Projects that were not sustained following the completion of the grant typically included activities that required a continual input of money. As such, project components were often discontinued when grantees no longer had funding support, but this did not compel grantees to describe the programs as unsuccessful. Overall, grantees thought that they

were able to meet the goals of their grant and be effective even if the grant projects were not sustained.

Sustainable Project Types

Classroom education. When discussing the types of projects that were sustained following the completion of the LB21 grant period, interviewees in five of the ten grant categories indicated that elements related to classroom education were able to be sustained. Because courses were developed and were recent enough as to not require updating, they were able to be continued even after all funds from the LB21 grant were expended. An important aspect for continued sustainment is having someone responsible for and willing to champion developed projects in order sustain usage of developed products.

Training and development events. Projects of these types were identified as being sustained by grantees in six of the ten grant categories. Grantees pointed to conferences and workshops that were developed or utilized in the grant projects as examples of training and development events able to be sustained beyond the grant period. Mentoring was also indicated by multiple grantees as a project activity that was able to be sustained beyond the grant period.

Developed partnerships. Partnerships developed under the grant project were another commonly sustained feature for Master's Diversity grant projects, Master's Innovation grant projects, and Institutional Capacity Innovation grant projects.

Scholarships not typically sustained. Of the six grant categories that were asked about sustaining scholarship programs following the grant period, grantees in four categories indicated that scholarships were not sustained at all following the completion of the LB21 grant. A small percentage of Master's Diversity and Master's Innovation grantees were able to sustain scholarships. Often, these were sustained temporarily through additional LB21 grants and or through other funding sources.

Resources to Sustain Projects

Additional grant funding. One resource that has been effectively used to sustain grant projects is the use of additional grant funding. Interviewees in six of the ten grant categories indicated that further grant funding was utilized to continue grant projects following the completion of the LB21 grants under discussion. Some grantees said they looked to other grant-giving institutions and associations within the field for funding, while others sought additional LB21 grant funds.

Partnerships. Interviewees in three grant categories indicated that forming partnerships with other organizations was beneficial in working to sustain programs. Partial sustainability of projects has been possible because of partnerships with other institutions or associations that contributed to activities developed or the research being conducted. Examples of partnerships that were beneficial in sustaining grant programs included consortiums with other universities,

partnerships with internship sites, partnerships with a large network of mentors in working libraries, and collaboration with the state to gain approval of courses for a certification program.

Integration with existing courses or curricula. Another means by which LB21 grantees worked to sustain grant projects was to incorporate things created using grant funds into existing courses or curricula that will continue to be offered by their institution. Grantees in four of the ten grant categories identified this as an important sustainability resource.

Program revenue. Revenue generated through the programs themselves is another means by which projects were sustained following the completion of LB21 grant period. Grantees in three different grant categories indicated this revenue as a resource to continue programs.

Institutional support. Institutional support was also identified as an important resource for sustainability by grantees in three of the grant categories. Projects that were partially sustained were often sustained through the institution itself, especially the course and curricular elements that were sustained.

Grant Outcomes on Beneficiaries

In this section, the themes discussed are those that emerged related to outcomes of the grant programs on beneficiaries. Themes about beneficiary outcomes are organized as follows: nature of placement opportunities, mechanisms by which the grant programs facilitated placements, variation in placement rates of program beneficiaries compared to non-beneficiaries, and impact on the field.

Nature of Placement Opportunities

New positions. Interviewees in three grant categories indicated that LB21 program activities produced new employment opportunities in academia and in the field. Graduates of projects in the Master's Diversity grant category now work in a variety of settings. The most common employment opportunities were obtained in academic libraries or institutions, school libraries, and public libraries. Less common post-graduation employers included urban public libraries, rural public libraries, and museums. Similarly, most of the program beneficiaries in Master's Innovation grant projects received placements in the field, with some also advancing in their current fields. Typically, the reason cited for the improved placement rates is the extra experiences that were available to the LB21 program beneficiaries, such as mentorship relationships and internships.

Advancement opportunity. Where interview questions were posed related to advancement opportunities, grant program beneficiaries fared better than non- beneficiaries in post-grant placements in three of the five grant categories. In these three grant categories where advancements were actively tracked, there was clear evidence of LB21 effectiveness. For example, interviewees reported beneficiaries having quicker job placements, positions with more responsibility, higher salaries, and/or students were able to advance more quickly after graduating than those who did not participate in the program.

Mechanisms for Facilitating Placement

   Internships. For the grantees that indicated beneficiaries experienced significantly improved placement rates as compared to non-beneficiaries, over half indicated that the increased placement rates were a result of extra experiences, such as internships, available to the students as part of the program.

   Partnerships. In two of the four grant categories in which interviews were asked about this topic, partnerships were described as facilitators for student placements. With grants that were awarded to organizations other than academic institutions and included an academic institution as a partner, the partnership was crucial to the students' success in that the degree would not have been possible without them.

Placement rates

   Varied rates in finding placements. Placement outcomes were examined for Master's grant projects, Ph.D. grant projects, and Continuing Education Innovation grant projects. Across these categories, results were mixed.

   Varied rates in sustaining placements. With regard to the sustainability of placements for LB21 master's beneficiaries, tracking data was not available for all grant programs. However, when tracking data did exist, interviewees indicated that grant beneficiaries were more likely to maintain their current position, keep the position they were hired into, or be promoted as a result of their participation in an LB21 grant.

Grant Outcomes on Grantee Institution/Organization

This section describes the ways in which grantee institutions were positively or negatively affected by grant programs, particularly with respect to changes in curriculum and/or institutional policies and practices.

Lasting Impact

   Curriculum changes. All but one of the grant categories examined indicated that changes to curriculum resulted. Lasting curricular effects have come mainly in the form of the continuation of newly developed courses, revised curricula, or distance education formats. Other curricular changes include the integration of courses and labs into a single cohesive course through the use of technology and the adoption of a new model for internships.

   Policy changes. Grantees noted that changes were made to different administrative policies of their program as a result of the experiences of LB21 funded projects. Several of these impacts resulted from specific pieces of the grant projects that the grantees believed to be highly successful or beneficial to the students. Grantees noted that the greatest policy impacts occurred by providing scholarship funding to traditionally underserved members of the LIS professional community so they could participate in world-class continuing education and leader development training that they may not have otherwise been able to attend.

Changes in hiring practices. In addition to curriculum and policy changes, a lasting impact of the LB21 grants was the modification of hiring practices to attract a large candidate pool and ultimately a more diverse workforce. The ability to bring in diverse, specialized faculty helps to expand the breadth and value of courses offered.

Means of Tracking Beneficiaries

With so many institutions currently working within an online learning platform that tracks students through their academic career (course-embedded assessments), it is difficult to recall how great the struggle was in years past to compile a full record of an individual student, or group of students. Tracking students post-graduation is easier now because academic institutions are using sophisticated alumni tools to solicit donations and participation in social media, including LinkedIn groups, for example. Three themes were identified by interview participants with regard to the tracking of students.

Social media. All of the Innovation grantees reported using social media to track beneficiaries past the period of performance. While some grantees reported using social media to remain in touch with, or track, students post-graduation, other grantees use social media as only a source of information not a means of tracking previous beneficiaries.

Email correspondence. Grantees from three of the grant categories spoke of using email to track and stay in touch with beneficiaries. One Master's Innovation grantee reported that while sometimes Facebook is used to contact students, email is the preferred method. The grantee explained that their email communication tends to be informal and not include formalized tracking.

Lack state-of-the-art tracking. Grantees from four of the grant categories indicated they were not aware of or simply did not use state-of-the-art tracking means. For each of these grantees, the reasons for not reporting this information may have varied. For example, some grantees may not have reported tracking information because their grant did not include students to track. Other grantees may not have used any means of tracking students that they did have. However, because tracking activities are not reported, the exact reason for this cannot be known.

Grant Outcomes on the Field

Through grants, the LB21 program bolsters the workforce by building the library workforce and creating research benefits. Both of these topic areas are discussed below.

Building the Library Workforce

Enrollment in nationally accredited master's programs. One of the main goals of the LB21 program is to bolster the library workforce. In order to do this, many grantees indicated that their programs made an effort to bring a greater number of students into their master's programs. One of the ways that funds from LB21 were utilized to increase the number of students was to offer new courses in topic areas that were of interest to students. This focus on

tailoring programs to meet students' interest and focusing on recruitment led to an increased enrollment in master's programs.

Enrollment in doctoral programs. In terms of increasing the number of students enrolled in doctoral programs, the LB21 program funded several doctoral students to enroll in and complete their education. One grantee indicated that the students funded through the LB21 program would likely not have received more traditional funding for participation in the doctoral program. Outside of the doctoral programs category, only one grantee interviewed specifically described increasing the number of students in doctoral programs

Placement after degree programs. After their formal education, beneficiaries of the LB21 grants moved into librarian positions and served the public, further highlighting the impact of these grants on the LIS workforce. Several LB21 funded doctoral students are now faculty members at colleges and universities. With continued placement of library school graduates into positions in the field, the LIS workforce will continue to grow. Library schools may also tailor their curricula to attract students and prepare individuals for positions in niche areas within LIS, but ultimately this recruitment, enrollment, and eventual placement in library positions is what keeps the workforce strong.

Research Benefits

Expanded understanding of the field. The research conducted through LB21 grants brings a wealth of information to the table. The information that is gathered is often shared, allowing for a rich understanding of the current status of the field. For example, information gathered by grantees was shared with others in the field through publications and conference presentations. Because of this sharing, the information is able to be utilized by other institutions and can continue to inform program practices and future research.

Improving the experience for library school students. Research findings that relate to the improvement of the library school experience also benefit the LIS field. Students from one Ph.D. Diversity grant project, for example, developed a research project to study mentorships. They will be disseminating this research to the field once completed, which has the potential to impact mentorship programs across the field.

Professional advancement for researchers. According to Research grantees, the greatest effect on the interviewees' own professional careers was the ability to use the research conducted as a part of the grant to develop new and relevant research to further their careers. In addition to creating research products such as publications and presentations, Research grant interviewees also indicated that they benefited from the grant professionally by improving the quality of their work, improving or validating a positive reputation, and developing new skills.

Product development for use in schools and libraries. In addition to personal impacts, interviewees were asked about the impact of their LB21 Research grant on the LIS field. Half of the interviewees (four out of eight) indicated that a specific product was developed that has had a significant impact on the LIS field and research being conducted.

Recommendations

Following the completion of data collection and analysis, and based on the findings and conclusions reported, recommendations were developed that highlight actions that can minimize the hurdles that delay grant projects, from project conception through the funding period and beyond, as well as address larger issues in the inter-related and often overlapping fields of library, archive, and museum work and management. These recommendations were created in part to maximize the value of projects beyond individual institutions, improve retention of diverse students in LIS programs, and assure sustainability of courses and programs beyond the grant period. Recommendations are provided for IMLS, future grantees, and library practitioners.

For IMLS

Throughout the evaluation, the staff of IMLS was frequently praised for their work with grantees and the lengths to which the agency goes to help grantee projects be successful. The purpose of this group of recommendations is to allow IMLS to continue to make prescient decisions as to projects to fund in the future as well as to become more involved in the dissemination of developments to the field, engage researchers and practitioners, and continue to be an innovation incubator for librarianship.

1. Make distinctions among grant programs clearer to potential grantees in terms of focus of a category within the LB21 Program and relationships between LB21 grants and other IMLS grant programs.

2. Make required interim and final quantitative and qualitative grant reports more meaningful and easier to update during and beyond the period of performance.

3. Create a learning community for LB21 grantees and potential grant applicants to connect and discuss best practices and lessons learned. As with individual grants, the agency can be more effective if it facilitates both online and in-person interactions among grantees.

4. Fund projects designed to help SLIS faculty and libraries prepare for promoting the success of students of diversity.

5. Consider expanding the types of institutions that can apply for grants, encouraging more individual libraries and consortia to apply for grants as well. For some, raising the limits on the amount of money to be offered to students (and the ways in which money can be spent) may be in order.

6. Consider expanding the use of the LB21 program to include more pre-professionals, including a diverse population with associate or baccalaureate degrees, by supporting those institutions that participate in the national ALA-APA Library Support Staff Certification (LSSC).

7. Consider extending the grant period, particularly for the degree program grant categories.

Recruitment is an important piece of these programs, and one with which several grantees struggled. Allowing the grantees additional time for recruitment may result in fewer challenges.

8. Emphasize the level of effort it takes to administer a grant project, advising potential grantees not to underestimate this in their budget request.

9. Remain flexible, allowing grantees to make changes during the course of the grant period. Several grantees specifically noted this as a benefit of the LB21 grant program and an element that allowed them to steer projects back on track after unexpected challenges arose.

10. Help institutions develop mechanisms for tracking participants of grantee demonstration projects.

11. Explore purchasing commercial, off-the-shelf (COTS) grants management software for use by all grantees. Provide some initial set-up so that it is ready for IMLS grantees to use and include a tutorial or other training for PIs.

For Future Applicants

The following recommendations were developed for potential grant applicants, to help them refine the structure of their grant projects, process of implementation, and supports for learners inside and outside the classroom while in the process of attaining a degree and beyond.

1. Be sure that there is an individual willing to assume responsibility for and champion projects developed with grant funding. This will improve chances that elements of the project are sustained.

2. Seek out partners in your grant projects and utilize them well. Not only can partners share the burden of the work during the grant period, they can often assist in sustainment as well. Bring them in during the planning phases of the project and keep them engaged throughout.

3. Be sure to factor in sufficient administrative support for your project and consider using an external evaluator to conduct an objective evaluation of the project.

4. Consider the audience for your project when determining the amount of funding to offer, as well as the grant activities to provide. Conduct research on the population of interest, particularly for diversity-focused grants. It is critical to have an understanding of what types and level of support are needed.

5. Consider innovative ways to maximize use of grant funds and strategize how to sustain support once the grant ends.

6. Develop grant projects designed to help practitioners work in a multicultural society.

7. Consider the power of word of mouth to disseminate information about your grant project, and how you can use a project Web site to pre-sell the program and later to archive newly developed educational materials.

8. Do not rely on any single method for delivering learning opportunities, providing experiential learning outside of the classroom, or otherwise supporting students. Permitting students to choose the mix that works best for them will improve their performance.

9. Create mechanisms that assure knowledge shared is effectively transferred.

10. Consider whether students participating in your program would benefit from being treated as a cohort.

11. Explore how tools used by your institution might be used for tracking and assisting students post-graduation.

12. Remain attuned to the needs of the field and continually evaluate and adjust curricula to assure that students graduating have the competencies required.

13. Use SLIS receptions for alumni at annual library conferences to formally gather updated contact information for all alumni.

14. Make certain that all students know that they are beneficiaries of IMLS grants.

15. While conference attendance remains one of the most effective learning opportunities offered by LB21 grantees, the use of technology permitting additional students to participate and interact with experts should be employed as well.

For the Greater Library Community

Librarians in the field are in a position to identify potential future librarians. Working with library schools, local or those offering online programs, librarians can begin some of those conversations that can ultimately end in admission to library school. Promoting the availability of scholarships among these individuals considering their future careers would be helpful.

Further, the library community as a whole needs to work towards building learning communities and embracing new technology. All libraries must encourage staff to participate in learning opportunities throughout their career providing these opportunities to staff and offering for participation, such a time off and/or funding. These learning opportunities should be aligned with the needs of the workplace, recognizing that those needs are changing all the time.

Additionally, career pathing can help staff members set a direction for their own learning, identifying the competencies they will need to acquire in order to progress in a particular

direction. An employee's developmental needs are also identified based on a comparison of skills required by the employee's current job, his/her skills and past experience, and the requirements of future career aspirations.

I.   Introduction

In 2003, First Lady Laura Bush called on the Institute of Museum and Library Services (IMLS) to address a significant challenge facing libraries throughout the country. At the time, professionals in the field predicted a substantial shortage of school library media specialists, library school faculty, and librarians working in underserved communities. As many as 58 percent of professional librarians were expected to retire or leave the field by 2019 (Flagg, 2002), resulting in a severe shortage of librarians to manage the flow of information that is critical to support formal education; guide intellectual, scientific, and commercial enterprise; inform individual decisions; and sustain the informed populace at the core of our democracy.

To address these challenges, IMLS launched the Laura Bush 21st (LB21) Century Librarian Grant Program in 2003 to:

§   Support projects that recruit and educate the next generation of librarians, faculty, and library leaders
§   Support various research efforts
§   Assist in the professional development of librarians and library staff.

Specifically, LB21 invested in the nation's information infrastructure by funding projects designed to address the education and training needs of the professionals who help build, maintain, and provide public access to the world's wide-ranging information systems and sources. It also recognizes the key role of libraries and librarians in maintaining the flow of information that is critical to support formal education; to guide intellectual, scientific, and commercial enterprise; to strengthen individual decisions; and to create the informed populace that is at the core of democracy.

Background of the LB21 Grant Program

In addition to the need for a new generation of librarians, IMLS also recognized the need to prepare new entrants to the field to provide services to an increasingly diverse American population and to adapt to rapid technological advancements.

Since the inception of LB21, major demographic diversity has changed the face of the nation. According to the U.S. Census Bureau, nearly 500 races, ethnicities, or ancestries are represented (alone or in combination) in the American population today (American Library Association [ALA], 2008). In 2007, of the 281 million people in the U.S. of reading age (ages 5 and older), 55.4 million (20 percent) reported speaking one of 303 languages other than English at home (ALA, 2008). "The number of people 5 and older who spoke a language other than English at home has more than doubled in the last three decades and at a pace four times greater than the nation's population growth" (U.S. Census Bureau, 2010, n.p.). The ALA's analysis of library demographics, services, and programs indicates, "the majority of libraries serving non-English speakers are in communities with fewer than 100,000 residents" (ALA, 2007, p. 4).

Diversity among librarians is not keeping pace with changes in the U.S. population. The nation's library employees continue to be composed overwhelmingly of non-Hispanic, white women; in 2010, 88 percent of credentialed librarians identified themselves as non-Hispanic, white, and 83 percent as women (Decision Demographics, 2012). Further, as new doors of opportunity have opened in the past two decades, women have opted to pursue careers in professions once dominated by men. As a result, Library Information Science (LIS) programs now find themselves competing with various other departments for students. At the same time, graduates of Master of Library Information Science (MLIS) programs are discovering that their information skills are in demand in other professions and they are opting for careers outside the traditional public, school, or college library.

Recruiting more students, supporting the completion of LIS studies, and encouraging students to continue learning post-graduation was at the core of the LB21 Grant Program. Further, the program endeavored to increase diversity within the profession and promote the development of curricula that will provide students with the training necessary for success in the 21st century. Specifically, LB21 reached out to populations underrepresented in the current pool of librarians, including racial and ethnic minorities, speakers of languages in addition to English, and those trained to assist the physically challenged.

Since 2003, the LB21 Program has awarded 369 grants supporting initiatives for LIS education, training of library staff, research, and institutional capacity. Grantees included but were not limited to: libraries and library systems; colleges and universities; untenured tenure-track faculty in LIS departments; library associations; and other nonprofit organizations. Originally, grants were awarded on the basis of seven funding categories:

§ **Pre-professional grants** designed to motivate junior high, high school, or college students to consider careers in library and information science.[1]

§ **Master's level programs** to increase enrollment in accredited library science and information programs that prepare students for service-careers in libraries.

§ **Doctoral programs** to increase enrollment in doctoral programs generally; increase doctoral student enrollment in programs that will prepare students to work as library managers or administrators (e.g., city or county public library systems, deans of academic libraries); and increase doctoral students who will become faculty (to prepare master's students for work in school, public, and academic libraries).

§ **Early career development grants** to support innovative research by library science professionals who have completed a doctoral program and work as untenured faculty in tenure-track positions.

---

[1] Grants in the pre-professional grant category were excluded from this study; the grant category was eliminated from the LB21 Grant Program in late 2010.

§ **Continuing education grants to** support the development and enhancement of trainings to prepare librarians to better serve under-served groups in their communities and keep abreast of new and emerging technologies and practices.

§ **Research grants** to identify the demographics of the library science and information profession and the professional opportunities within the library science and information field, support successful recruitment and education, evaluate library and archival education programs with regard to recruitment and education effectiveness, and develop library and information services to meet public needs.

§ **Programs to Build Institutional Capacity** to support the development and enhancement of library science and information curriculum, especially for digital resources, so that library science professionals are able to keep pace with new technology and a new population of library users.

LB21 Grant projects across these seven categories have provided funding to educate thousands of students at the pre-professional, master's, doctoral, and continuing education levels. Also, in 2005–2006, LB21 grants helped libraries in Federal Emergency Management Area (FEMA) designated disaster areas recover, and equipped librarians and archivists with conservation skills to protect collections.

Key Constructs

The LB21 grant announcements called on applicants to address five key constructs. Each was interpreted or defined differently, depending upon the grant program type and the grantee, and modified through the decade as circumstances warranted. Two of the constructs—diversity and innovation—are sub-categories of each of the seven types of LB21 grants awarded. Below is a review of the range of definitions used for each construct or term/phrase based on an analysis of relevant literature and study data. This review should be used to understand and interpret the information described in subsequent chapters.

Diversity. The sub-category of Diversity grants addressed broad concern about the lack of diversity in the LIS profession. To frame its approach to diversity, the LB21 Grant Program used the following definition: "Diversity is based on the self-identified demographics of each applicant community rather than on specific racial or ethnic minorities or protected classes of individuals. Thus the definition could encompass individuals from traditionally underserved communities, such as rural areas, and individuals with special skills such as foreign languages and the ability to serve patrons with special needs, in addition to minorities" (Manjarrez, Ray, & Bisher, 2010).

This broad definition of diversity is reflected in the array of definitions grantees used in designing and carrying out their respective grant projects. Many projects employed more traditional definitions of ethnic and racial diversity; others focused on specific populations in their communities, such as older adults or those fluent in a second language, or on issues of diversity specific to the field of librarianship, such as gender (within some levels, functions, and types of libraries), academic background, and type of library setting in which the beneficiaries

were currently employed or desired employment.

It is also important to prepare all librarians for work in a multicultural society, particularly because the recruitment and education of diverse individuals to serve the communities they represent takes time, both to enter the ranks and later assume leadership positions. Alternative methods of preparing librarians in formal education settings and in the field must also be explored, such as proficiency in a second language. Thus, cultural sensitivity programs designed to help all librarians understand and appreciate cultural differences among the population were also included in the sub-category of "Diversity" grants.

Innovation. Innovation grants were designed to enhance learning, either through the application of technology in the classroom, as a tool for teaching, a new research effort, a "hands-on" experience beyond the classroom, or the development or addition of a new component to an existing program, such as mentoring, internships, and residencies. Innovation grants included all projects not categorized under the "Diversity" sub-category within each grant category.

"Innovation," as used to evaluate LB21 grant projects, has been applied to the process of grant project implementation and management; development of new curricula in terms of content (i.e., that which was not offered before at a particular institution) and technology for course delivery; and dissemination of project results, both during the period covered by the grant and afterward. The grants profiled in this report have the potential to shake up the marketplace and have displayed a degree of creativity and attitude toward the "new" not seen elsewhere.

In interpreting the results of the evaluation of innovation grants, it is important to keep in mind that this evaluation was conducted nearly 10 years after the first LB21 grants were awarded. What was considered innovative then may in fact be seen as routine today. However, to the extent that LB21 grants may have helped facilitate the use and application of new technologies, this transition can be seen as evidence of the contributions of the LB21 Program Innovation grants. For example, tools for creating online tutorials have become easier to use and are available for free or low-fee today; Webinars are offered more often, by more organizations, again for free or low-fee, and participation in Webinars has become routine. When the first LB21 grants were conceived, viewing an archived Webinar at a more convenient time/location was virtually unknown.

Partnerships. IMLS grantees have always been encouraged to partner with other institutions, and collaborations between museums, archives, and libraries, in various combinations, have become increasingly prevalent among projects approved for funding. The definition of partnerships included arrangements declared in the grant application, as well as those that may have been developed during the course of the interviews.

LB21 grantees engaged in different types of partnerships, including arrangements with other academic institutions, with libraries at their own institutions or outside of the institution, with library and archive associations, and with other organizations such as school districts or museums. How partners were selected, what was done to assure success through collective competence, specific efforts contributed by the partners, and the relative success of specific partnerships are addressed in the Findings and Conclusions Chapters of this report.

Success. One measure of success is whether grantees accomplished the aim of the project as outlined in the grant proposals (self-reported in grant reports and interviews) or as described by the grantees. Annual LB21 grant announcements established additional measures of success for each program. For this evaluation, grant project principal investigators (PI) were interviewed and asked to assess the success of their project in meeting the project goals, achieving a sustainable project or project elements, and influencing individual project beneficiaries, as well as the institution. Additional measures of success included indicators that a project had an influence on other institutions or the LIS field, or that the project served as a model for projects at other institutions.

Most grant project final reports relied on evaluations conducted as part of the project—for example, feedback provided by students, faculty, and partners—as additional indicators of success. Though helpful, these evaluations were often conducted either during or immediately following the completion of a grant project and were not always accurate reflections of the project's full impacts because there was not sufficient time following the grant period to evaluate outcomes. The interviews with PIs often enriched data regarding what beneficiaries have accomplished since the grant projects ended, how the institutions have changed as a result of the grant projects, and how the projects have come to impact the LIS field. The most successful grant recipients exhibited great capacity for adaptation, so that by the time the grant was nearing completion, the institution was already implementing changes in curriculum, mechanisms for attracting students to their programs, and engaging additional libraries and archives in projects.

LB21 grant proposal applications required a plan for communicating the results of each project, both positive and negative. The number and variety of methods grantees chose to describe their project's successes and challenges so that others could benefit from their work contributed to the evaluation of grant project "success." Outputs included presentations and poster session contributions at conferences, publications, workshops, and tutorials. Outcomes include indicators of influence, such as numbers of beneficiaries (in terms of categories targeted, positions and functions), and citations of publications and presentations, among others.

Sustainability. IMLS encouraged LB21 grantees to experiment, pushing the boundaries of what had been done before. Proposals were evaluated, in part, by how well prospective grantees had planned their project. Each approved grant contained a roadmap for the institution to continue the work of the project beyond the period covered by the grant. The various ways grantees chose to continue their projects (in whole or in part), and how successfully, are highlighted in the Findings and Conclusions Chapters.

The evaluation study examined three levels of sustainability: grant project-specific, institutional, and profession-wide. Grant sustainability also included flexibility, adaptability, and the ability to evolve. These contributed to project success, institutionalization of exemplary practices, and diffusion of best practices throughout the profession.

While sharing experiences is important, evidence of transfer is a better indicator of value to the field and astute usage of Federal funding. In this evaluation, dissemination is a measure of fulfillment of a grant requirement. Programs with more frequent, wider afield (beyond LIS), and continued dissemination beyond the funding period are considered more successful in terms of

sustainability and lasting impact. Diffusion through the profession is a measure of sustainability that may only be discoverable over time. Individual projects referenced in the literature years after the project grant period, citations to dissertations by Ph.D. students funded by LB21 grant funds, and presentations by librarians with MLIS degrees funded through the LB21 Grant Program are indicators of long-lasting influence of projects and IMLS funding.

LB21 Grant Program Evaluation Objectives

Once the LB21 Program was established, IMLS recognized the need for an increased understanding of what was helpful and what was not to sustain and advance the field. To do this, IMLS contracted with ICF International, a research and consulting firm, to conduct a qualitative evaluation of the LB21 Grant Program. This report presents results of the evaluation, which assessed LB21 grants awarded from 2003–2008. On the basis of data collected from a review of 109 grant projects, the evaluation identified best practices and lessons learned so LIS programs can incorporate elements that assure positive outcomes going forward.

The goal of the LB21 Grant Program Evaluation was to determine what short- and long-term impact LB21 grants have had on the education, training, research, and diversity of the LIS field and to identify factors influencing success that can be replicated in subsequent projects. The evaluation also explored the influence LB21 grant projects have had on the nature of LIS research at the doctoral and professional level, and the number and types of individuals now represented on LIS faculty. Both of these outcomes speak to the effect of the LB21 grant program to build and strengthen institutional capacity. The evaluation explored research questions that IMLS identified as important to the future of the LB21 Grant Program and the LIS field in general. This study was not conducted as an evaluation of individual grant projects. Instead, it aimed to identify and describe factors that made specific projects more effective compared to other projects with similar goals.

The evaluation was designed to: 1) document which elements of grant projects contributed to individual project success (i.e., what was done, why, and how) as defined by the grantees; 2) identify commonalities among the successful grant projects within each category of grants and recurring themes across the program; and 3) point out those aspects of projects thought to be helpful at the outset but that ultimately added little or no value to the beneficial outcomes of the project.

Specifically, the results and recommendations described within this report are designed to:

- § Assist IMLS in designing future grant programs that emphasize inclusion of elements likely to result in positive project outcomes
- § Help potential grantees incorporate these elements into future LB21 grant project proposals
- § Assist grant evaluators in determining which proposals are ready for funding and how to assist unsuccessful potential grantees in re-thinking their projects so that funding is possible in the future.

The successes of LB21 grant projects profiled in this report specify valuable lessons learned for

any LIS program providing education or training to library, information, and archive professionals. The findings can inform efforts to meet goals more effectively and avoid the pitfalls and challenges that some programs have encountered.

Report Structure

This report has been prepared for several audiences – LIS schools, librarians, and archivists; future grant applicants; and IMLS staff. This report was also designed to help LIS institutions learn what has worked for other institutions or programs with similar organizational situations, problems, or circumstances, avoiding the delays often encountered as academic institutions launch new programs of study. Technical language has been kept to a minimum to assure wider readership and use.

Chapter II, Methodology, provides a brief description of the study design, qualitative analysis process, and agency benchmarking procedures. (Appendices A–G present detailed information on the evaluation methodology as well as ancillary materials that evaluators used.) The Findings for the IMLS grants and from the benchmarking partners are presented in Chapters III and IV, respectively. Chapters V and VI summarize the Conclusions and Recommendations, providing insight that will increase IMLS's capacity to effect changes that result in improved outcomes for all future grant projects.

II.   Methodology

Our methodology was designed to evaluate IMLS progress toward objectives stated in the Introduction, answer the specific research questions, identify and describe specific characteristics and components of effective grants, and document lessons learned for future programmatic emphasis. Our design was based upon an examination of six grant categories - LIS Master's programs, LIS Doctoral programs, Early Career programs, Continuing Education programs, Institutional Capacity programs, and Research programs. This section contains a brief overview of the methodology used for the evaluation. A more robust description of the project methodology can be found in Appendix C.

Originally, the LB21 Program included a seventh grant category for Pre-Professionals, but it was removed in late 2010 and not considered for this evaluation because of the elimination of this grant category. Of the remaining categories, all but the Research programs were divided into two sub-categories that distinguish grant projects that emphasized diversity from those that emphasized innovation, as defined in the Introduction. The diversity sub-category of the Early Career programs was omitted from the final analysis due to a combination of a small case size and low response rates from grantees on the interview portion of the evaluation. This yielded a final evaluation of 10 grant sub-categories, which are shown in Exhibit II-1.

Exhibit II-1	
LB21 Grant Categories and Sub-Categories	
Grant Category	**Grant Sub-Category**
Master's Programs	Master's - Diversity
	Master's - Innovation
Ph.D. Programs	Ph.D. - Diversity
	Ph.D. - Innovation
Early Career Programs	Early Career - Innovation
Continuing Education Programs	Continuing Education - Diversity
	Continuing Education - Innovation
Institutional Capacity Programs	Institutional Capacity - Diversity
	Institutional Capacity - Innovation
Research Programs	N/A

Comparative Case Study Design

The characteristics of projects funded by the LB21 Program differ substantially across the grant categories. Thus, it would be imprudent to treat all grant projects as a homogenous group. The

evaluation was designed to identify differences and similarities within subsets of grant program categories, and where broader thematic comparisons were possible, across grant categories and sub-categories. A research design modeled after a comparative case study approach was used. Although the LB21 Grant Program evaluation does not qualify as a true case study,[2] the analysis was constructed using a modified comparative case study technique, based on the approach formulated by Yin (2009). The study utilized two sources of data: one interim or final grant report for each grant project;[3] and one hour-long interview with the PI or equivalent for each grant project. Data from these sources were triangulated and analyzed using a detailed coding scheme and a case study database. Additional supplemental data came from a series of three benchmark interviews conducted with representatives of outside agencies regarding the ways in which they operate grant programs with goals similar to IMLS's LB21 Grant Program.

The main evaluation focused on the LB21 Grant Program and involved two levels of analysis. The first was an analysis of the grant projects within each grant category or sub-category, driven by answers to each of the research questions emphasized for the grant category. The second level of analysis was across the grant categories, addressing the relevant research questions asked of multiple categories. Particular attention was paid to the differences in grant projects addressing diversity and those addressing innovation.

Research Questions

A taxonomy of research questions served as the guiding framework for the data analysis and overall evaluation. The evaluation project began with 10 initial research questions identified by IMLS. These questions underwent several revisions throughout the evaluation process, resulting in the elimination of one research question. The nine remaining questions were then operationalized and modified to fit the varied grant program types, resulting in 29 specific questions to be addressed through the evaluation. The content of these questions can be found in Appendix B. In an effort to reduce respondent burden during data collection, and because not all research questions were equally applicable to each grant category, the evaluation for each grant category or sub-category was limited to no more than 22 questions, with an average of 17 questions addressed per grant category/sub-category.

Sampling Procedures

The final evaluation included 109 grant projects. A purposeful sampling strategy was used to select the grant projects to include in the analysis. The strategy was based on the success of the

---

[2] A true case study necessitates the examination of exhaustive sources of evidence for each case, typically including interviews with a number of individuals for each case as well as numerous documents and site visits. The LB21 program evaluation did not utilize such an exhaustive approach but did draw on many of the features of a case study, including the use of multiple sources of evidence and the creation of a case study database for maintaining a chain of evidence.

[3] Interim reports were only used as a source of data for the Early Career grant category as some of these projects were not completed within the designated time frame.

grant project, the dollar amount of the grant award, the recentness of the project, and the availability of data sources. The original sampling strategy resulted in the selection of 135 grant projects, or 75 percent of the grants in each grant category awarded between 2003–2008 for all grant program types except Early Career programs, for which grants awarded between 2007–2009 were selected. (This is more cases than is typically employed in a comparative analysis; however, we determined that a large sample size would be necessary due to the variability within and across grant projects.) For approximately 81 percent of the grant projects, both sources of data—final or interim grant reports and interviews with the PI—were obtainable. Grant reports were available for all grant projects in the sample. Those grant projects for which an interviewee could not be located or for which the interviewee refused to participate within the grant collection period were excluded from the final sample.[4]

Data Sources

Data for the evaluation came from final grant project reports, or interim reports if the project was not yet completed, which were submitted to IMLS and telephone interviews with the PI or equivalent for each grant project examined. We completed the evaluation of the grant project reports first. This evaluation focused on addressing a subset of the research questions, as well as gathering data on the following topics: project overview, project goals, recruitment methods, educational and training opportunities, program participants, definition of diversity, goal accomplishments and project outcomes, future endeavors, lessons learned and challenges, and project linkages to IMLS goals. A team of trained reviewers read through each report and coded the salient data in response to each of the research questions and themes to be addressed. The team also recorded information contained in the reports to be used later to contact the PI to participate in an interview.

Telephone interviews with grantees were conducted separately by four trained interviewers. The interviews were designed to build upon the data obtained from the grant project reports by clarifying and enriching the report data and addressing the research questions that were not addressed during the review of the grant project reports. A protocol was developed for verifying contact information for the PI or an equivalent substitute for each grant project in the sample (see Appendix E-1), and multiple attempts were made to contact each individual. In cases in which the same individual served as the PI for multiple grant projects, we made an effort to obtain a suitable replacement to interview for the additional projects if the projects were significantly different from one another. If the grant projects were similar in scope, grantees were able to address both projects during the same interview.

To minimize respondent burden, no grantee was asked to complete more than one interview. Telephone interviews were scheduled during an 11-week data-collection period from January 11– March 26, 2013, following the procedures described in Appendix E-2. The interviews utilized a grantee interview protocol tailored to each grant category or sub-category to facilitate

---

[4] Grant reports were obtained for all 135 grant projects in the initial sample.

meaningful discussion. The design also included sections for information gathered from the grant reports. An example of the interview protocol is provided in Appendix F-1. Prior to the interview, the interviewers reviewed the grant report for the project and used information from it to tailor the interview protocol. A trained transcriber assisted the interviewer in capturing the conversation during each interview. Interviews were conducted using a toll-free conference line so that the participant(s), interviewer, and transcriber could all be on the same call. Each interview, which lasted no longer than 1 hour, was audio recorded and transcribed. Each transcript was coded during the analysis process.

Qualitative Analysis Procedures

The qualitative analysis employed a detailed coding system developed to organize and categorize responses to interview questions and a team of coders who conducted content analysis on the text using the coding scheme. Grant reports and interview transcripts were independently coded. These data were combined using a case study database created in MS Access to preserve the chain of evidence. The database allowed for triangulation of the data by noting the origin of the codes and overlaps in codes among both sources of data. Frequency counts of the codes were compiled and used to guide the analysis team as it used content analysis to identify themes in both data sources.

The overall analysis procedures included the following steps, each of which is examined in greater detail in Appendix C:

§ Developed a coding scheme
§ Coded the interim or final grant reports
§ Revised the coding scheme based on the additional questions that the interview data addressed Coded the interview data
§ Incorporated and triangulated the codes from the grant reports and the interviews in a case study database
§ Produced frequency counts for the codes within each question for each grant type to guide the development of case-level conclusions
§ Reviewed both sources of evidence within each grant project to qualitatively look for examples, quotations, and details to support, refute, and greater describe the overarching themes produced through the coded data frequencies
§ Where possible, developed cross-case conclusions by repeating the previous two steps at a cross-case level.

Given that a qualitative design was employed, discussion on prevalence of an activity or method within a grant category was minimized. However, if grantees provided specific numbers, they are indicated in the text. True to the conduct of qualitative analysis, the process of identifying themes involved collective sense-making and consensus discussion among senior researchers. General guidance on theme identification included highlighting concepts that were either expressed by more than half of the grantees who were asked the relevant research questions or identified as a top priority by grantees in more than one grant category.

Procedures for Agency Benchmarking Interviews

To supplement the data gathered from the LB21 grant projects, benchmarking interviews were held with representatives from three Federal agencies with grant programs that had goals similar to the LB21 Program. To conduct the benchmarking task, ICF developed a protocol for the telephone interviews (see Appendix F-2). It contained 10 open-ended questions used to determine the strategies the benchmarking agencies used to promote diversity and technical education and training within their grant programs. To provide context to the grant programs, the protocol also included a request for a brief overview of the grant program, including information, such as the number of grants funded, the process to select grantees, the types of projects funded, and other basic program information.

Next, in collaboration with IMLS, ICF identified potential interview participants. Each benchmarking participant worked with grant programs within a Federal agency and was selected based on the perception that their programs have some of the same goals as the IMLS grants (e.g., diversification or broadening participation), as well as grants that may be of similar size and scope. Benchmarking interviews were limited to a single grant program within an agency so that detailed information could be gathered regarding the program. Each potential participant was contacted via telephone and asked to participate in an interview. During the call, the potential participant was informed of the study's purpose and the type of information that would be asked in the interview to ensure that the individual would be an appropriate participant. A time was then scheduled for the benchmarking interview. A total of three interviews were conducted. More information on the benchmarking participants is provided in Appendix C.

Prior to conducting the benchmarking interviews, we reviewed information available on the organizations' Web sites about the grant programs. This served to reduce the burden of respondents as well as to sharpen the quality of the discussion. All benchmarking interviews were conducted using a toll-free conference line so that the participant(s), interviewer, and transcriber were all on the same call. Each interview lasted 30–45 minutes. When necessary, clarification was requested to ensure the interviewer and transcriber fully understood the means by which diversity is encouraged, technical training promoted, and outcomes measured by the grant programs.

Following the completion of all of the benchmarking interviews, the transcriber and trained interviewer analyzed and summarized the information gathered using content analysis of the interview transcripts. They organized the summaries in a way that clearly presented information that would be beneficial to IMLS. This involved the identification of emergent themes and unique perspectives provided by respondents on strategies used to enhance diversity and promote technical training.

III.   Findings

The findings presented in this section are based on an evaluation of 109 grant projects within 10 grant categories and sub-categories. Exhibit III-1 displays the breakdown of all 174 LB21 grants awarded during the period evaluated and the 109 grants included in the evaluation by grant category or sub-category, year of award, and dollar amount awarded.

Exhibit III-1		
LB21 Grant Administrative Information		
Category	**Population of LB21 Grants from Which Cases Were Selected**	**LB21 Grants Included in Evaluation**
Grant Type		
Masters - Diversity	61	38
Masters - Innovation	24	14
Ph.D. - Diversity	7	4
Ph.D. - Innovation	14	8
Research	11	8
Early Career - Diversity	3	N/A
Early Career - Innovation	10	6
Continuing Education - Diversity	8	8
Continuing Education - Innovation	19	12
Institutional Capacity - Diversity	7	5
Institutional Capacity - Innovation	10	6
Year of Award		
2003	26	15
2004	26	10
2005	37	18
2006	31	26
2007	44	35
2008	5	3
2009*	5	2

* While originally envisioned to cover five years (2003-2008), only a few projects launched in 2008 were completed prior to beginning this study. Two projects from 2009 were included in this review to assure that grants awarded toward the end of the decade received some attention.

Exhibit III-1		
LB21 Grant Administrative Information		
Category	**Population of LB21 Grants from Which Cases Were Selected**	**LB21 Grants Included in Evaluation**
Award Amount		
Up to $200,000	21	14
$200,001-$400,000	50	27
$400,001-$600,000	35	22
$600,001-$800,000	25	16
$800,001-$999,999	43	30

The findings reported are based on the primary sets of research questions IMLS sought to answer in evaluating these grant program categories. There were nine sets of research questions, each with subcomponent questions, for a total of 29 operationalized questions.

The 29 research questions can be logically grouped within six broad areas of inquiry that guided the evaluation, and about which respondents were asked to share their viewpoints and experiences. These six areas of inquiry, which guided the presentation of qualitative results, are shown in Exhibit III-2, along with the specific research questions within each area. The specific research question number is identified in parentheses (see Appendix B).

Exhibit III-2	
Organization of Research Findings	
General Areas of Inquiry	**Research Questions**
Types of grant activities	What is the range of LIS educational and training opportunities that were offered by grantees under the auspices of LB21 program grants? (1-1)
	How many new educational and training programs were created by the program? (1-2)
	Among the sampled institutions, how many students received scholarship funds? (2-1)
	How many students who received scholarship funds received full financial support? (2-3)
	Did students who received full financial support have a higher completion rate than those who received only partial financial support? (2-4)
	What is the full range of "diversity" recruitment and training opportunities that were created under the auspices of LB21 program grants? (7-1)
	What are the varied ways in which grant recipients have defined "diverse populations"? (7-2)

Exhibit III-2	
Organization of Research Findings	
General Areas of Inquiry	**Research Questions**
Effectiveness of grant activities	What were the important factors for success? (2-5, *relates to financial support*)
	How effective were various enhancements to the classroom activities that were provided by the grants (mentoring, internships, sponsored professional conference attendance; special student projects, etc.)? (2-6)
	Which of these programs were particularly effective in recruiting "diverse populations"? (7-3)
	What were the important factors for success? (7-4, *relates to diversity recruitment*)
Grant sustainment	Were any parts of these scholarship programs sustained with university or private funds? (2-2)
	How many of the educational and training programs were sustained after the LB21 grant funds were expended? (3-1)
	What types of programs were sustained? (3-2)
	What resources, partnerships or collaborations were used to sustain these programs? (3-3)
Grant outcomes on participants	What are the placement outcomes of master's (doctoral) students? (1-3)
	What is the placement rate of program participants? (5-3)
	Does the LB21 participant placement rate vary substantially from that of non-program participants at the same school? (5-4)
	For LB21 master's programs with library partners and/or internships as a program enhancement, did the employment opportunities/outcomes of program participants improve as a result of program participation? (5-5)
Grant outcomes on grantee institution/ organization	Did these new scholarship or training programs have a substantial and lasting impact on the curriculum or administrative policies of the host program, school or institution? (4-1)
	If so, how were the curricula or administrative policies affected? (4-2)
	What is (are) the most effective way(s) to track LB21 program participants over time? (8-1)
	What is the state of the art in terms of administrative data collection for tracking LB21 program participation among grantee institutions? (8-2)
	How can social media technologies be employed to identify and track past LB21 program participants? (8-3)

Exhibit III-2	
Organization of Research Findings	
General Areas of Inquiry	**Research Questions**
Grant outcomes on the field	What impact have these new programs had on the enrollment of master's students in nationally accredited graduate library programs? What impact have these LB21 supported doctoral programs had on librarianship and the LIS field nationwide? (5-1)
	How have LIS programs leveraged LB21 dollars to increase the number of students enrolled in doctoral programs? (5-2)
	What substantive areas of the information science field are LB21 supported doctoral program students working in? (6-1)
	Are these programs that will prepare faculty to teach master's students who will work in school, public, and academic libraries or prepare them to work as library administrators? (6-2)
	What has been the impact of research funded through the LB21 program? (10)

For each area of inquiry, we first present a summary of topics covered, followed by a table that presents the organizing framework for the discussion and the relevant themes that emerged from the qualitative data analysis. Following the table, each theme and the general trends that emerged across grant categories are described. When applicable, nuances in the findings with respect to specific grant categories are noted. Innovative practices or methods are highlighted periodically in blue callout boxes. Finally, a table that presents interview participant statements is provided as supporting evidence for the theme(s) previously described in the section.

Types of Grant Activities

For this area of inquiry, the themes that emerged speak to the breadth of opportunities provided to LB21 Grant Program beneficiaries and how grantees conceptualized those opportunities. The educational and training opportunities that the LB21 grant supported and their impact on diversity recruitment are discussed here. The five types of project activities participants described include: coursework education, training and development events, research, funding supports, and recruitment methods. Specifically, participants' responses pointed to activities that took place or were enhanced as a result of LB21 funding. This section also highlights features of the grant activities that were newly developed or enhanced with LB21 grant funds. The themes that emerged with respect to the five types of project activities are listed in Exhibit III-3 and the findings for each theme are further described in the text that follows.

Exhibit III-3	
Area of Inquiry: *Types of Grant Activities*	
Organizing Framework	**Emergent Themes**
Coursework Education	· Curricula content · Course delivery · Course resources
Training & Development Opportunities	· Conferences/workshops/institutes · Professional/student association memberships · Mentoring programs · Internships/fieldwork
Research	*-various types noted, no specific theme-*
Funding Supports	· Scholarships · Compensation
Recruitment Methods	· Reaching diverse groups

Coursework Education

The three themes that emerged in this subsection address the development or modification of courses or the allocation of new course resources (e.g., textbooks). The specific findings for these themes are described in more detail below.

Curricula content

Grantees from all but three of the grant categories mentioned curriculum and full-course refinement and new development, suggesting this was a common use of LB21 funding. The extent to which funding was used to develop entirely new course content as opposed to modifying existing content varied widely across grant categories. For example, grantees in the Master's Innovation grant category reported that two new courses were developed under the grant funding and seven of the grantees mentioned modifications to existing content. In more than 70 percent of the Continuing Education Diversity grants, LB21 funding led to new educational and training programs or extensive refinement of existing programs. For Institutional Capacity Innovation grantees, the most common way grant funds were used was to create educational opportunities for students was through the creation of new courses. Of the six grants evaluated in this category, five grantees indicated that at least one course was developed using LB21 funds to help meet the goals of the grant program. Newly developed courses were used to fill gaps in areas in which LIS students could not receive necessary training or education. Some of these courses were used to create new curricula for graduate programs. Three out of six Institutional Capacity Innovation grantees indicated that grant funds were also used to modify curricula to better meet the needs of their students. One grantee did this by adding hands-on, practical activities to existing courses to better engage students. The Institutional Capacity Innovation grantee viewed this as an effective enhancement.

All five Institutional Capacity Diversity grantees included in the evaluation used funds to develop new course content. These grantees created new educational opportunities for LIS students. Three programs were newly developed and two of the grantees indicated that programs were modifications to courses, rather than completely new courses. In the modifications, new content was incorporated into existing curricula, certificate programs, or degree requirements. In developing new curricula, each Institutional Capacity Diversity grantee created courses to fill a void in the field and prepare librarians to better meet the needs of the people they serve. Two of the grantees designed courses on leadership development. Other courses were specific to specialized content areas, such as digital collections or technology. One interviewee indicated that the classes developed were extremely important because they brought the school curriculum up to date on the role of librarians in the 21st century.

In developing new course content, grantees also tailored some courses to address topics about diversity. For example, one of the Ph.D. Diversity grantees indicated that their project incorporated diversity into doctoral seminars and coursework. Likewise, the Institutional Capacity Diversity grantees indicated that they included a focus on diversity in curricula or newly developed courses. This included specific course readings, lessons, or discussion about diversity and beneficiary experiences related to diversity. For example, one grantee described developing a 10-week curriculum with a week-long focus on diversity. Discussion and readings included: embracing diversity, leading for diversity, respecting others' diverse experiences and opinions, awareness/inclusion, and prejudice and racism. Another grantee described specifically designing curriculum for a certificate program to include cultural competency and working with items of a culturally sensitive nature. One grantee used a local and a national advisory board that included members from diverse backgrounds and groups to provide guidance on educational activities. Additionally, the grantee used a coordinator of a national resource center, who is a minority, to help address the inclusion of diversity in the curriculum.

Grant projects in the Master's Diversity grant category included newly developed courses that addressed topics such as diversity in librarianship, rural librarianship, and digital librarianship. Other features unique to a couple Master's Diversity grant projects were the inclusion of Spanish language courses in a project with a goal to increase the number of bi-lingual librarians in the area; the development of a 1-day orientation to the master's degree program; training for faculty on effectively working with diverse students; conducting a workshop for school principals on how to provide effective support to librarians in their schools; and offering paid time off from work for students who are employed full time (as well as additional funds for libraries to cover the cost of a replacement for the individual on paid leave).

Further, the Continuing Education Diversity grantees indicated that five separate grant projects funded the development of new professional development curriculum to reach diverse populations, including Native Americans, Pacific Islanders, and other underrepresented groups. For one effective grant, the grantee indicated that it provided quality educational opportunities to tribal archive, library and museum staff through the presentation of national conferences, immersion institutes, and professional training. This grantee also approached the subject of age diversity by structuring a new curriculum to better reach young professionals within the LIS field. As noted by the grantee for another unique and inventive Continuing Education Diversity

grant project, curriculum development and delivery were combined with a train-the-trainer methodology to reach professionals in a five-state region. Through the grant, nearly 50 Federal Government information librarians were trained and collaborated with to develop 22 training modules that ultimately reached over 900 local librarians.

Course delivery

In addition to developing new course content, grantees used LB21 funds to modify the means of course delivery. For example, one Master's Innovation grantee used funds to turn its curriculum into an online program. Another used the funding to test a new weekend learning model that allows students to combine online coursework during the week with a few in-person meetings on weekends. Within the Master's Diversity grant program, several of the grantees mentioned that curricula were modified to include online courses for distance learning. Though common now, online learning was a newer feature when many of the grant projects were implemented and was used to offer educational experiences to students who were otherwise unable to obtain a master's degree due to geographic location. Other new curricula modifications included taking courses in areas outside of the traditional MLIS program. Another grantee within the Institutional Capacity Diversity category indicated that funds were used to provide travel opportunities for course developers to meet in one location and determine best practices for education and courses to be incorporated into online classes. One grantee conducted an annual symposium to provide education relevant to community informatics, the topic area for the grant.

Course resources

Grantees in several grant categories used LB21 funds to provide student and faculty resources to aid in course preparation or study. Such resources included funding for textbooks and other course materials. For the Master's Innovation grant category, funding was allocated for course materials such as books and laptops. One Master's Innovation grantee noted that for their project a $1,000 allowance for self-selected professional development opportunities was set aside. The Master's Diversity category grantees indicated that student stipends and funds for miscellaneous course materials, such as books and laptops, were frequently provided. For a couple of these projects, this additional funding was based on previous experiences with similar grant projects. One Research grant project also indicated that funds were used to establish a collection of school library materials, specifically in the State of New York, home to the grantee institution. The library materials focus on teaching cultural diversity to students and how best to serve children with special needs.

Exhibit III-3a provides statements made by participants that support these themes.

	Exhibit III-3a	
	Supporting Evidence: *Classroom Education*	
Theme	**Participant Statement**	**Source** **(Grant Category)**
Curricula content	"A Local and National Advisory Board were formulated to guide curriculum development. The Local Advisory Board contributed to addressing state guidelines within the course content and overall curriculum design. Members of the National Advisory Board, which met by conference call and at ALA quarterly, provided a wider perspective and assisted in designing the curriculum to address a national audience, as well as issues of recruitment and research. All board members have had experience with the National Board process and have contributed valuable knowledge and expertise to the program."	Institutional Capacity Diversity
Curricula content	"The course we developed was in Building Digital Libraries. We realized that was something that had to be part of our curriculum. It was something that students had to take if they wanted an internship. So this course because a permanent part of our curriculum."	Institutional Capacity Innovation
Course delivery	"I think [the grant] had a positive impact. Our main vision was to have both classroom and practical experiences blended into a training program. I think we were successful in doing that."	Institutional Capacity Innovation
Course resources	"In this grant we purchased textbooks for our scholarship students because we had learned from previous work…we thought if we were paying the students' tuition or almost all of it, they could afford to buy the books. But what we learned later is that students were not buying textbooks and that was a real issue in being successful in their course."	Master's Diversity

Training & Development

This subsection refers to the four emergent themes on training and development opportunities afforded by the LB21 Program. The training and development opportunities across the grant projects pertained mostly to professional events, memberships, and work experiences. The specific themes and related findings for the grant-supported training and development opportunities are described in detail in this section. Exhibit III-3b provides supporting evidence for these themes.

Conferences/workshops/institutes

Workshop, seminar, and conference attendance was mentioned by grantees in eight of the grant categories as professional development activities supported with LB21 funds. Funds were used for travel and registration fees, as well as to bring in guest speakers and develop conference presentations and workshop materials. For example, two of the Institutional Capacity Diversity grantees indicated they provided travel support to students for professional development or to present research findings from the grant project at industry conferences. According to Master's Diversity category grantees, nearly one-third of the grant projects used LB21 funds to support workshop participation. Some students attended existing workshops, while other grantees developed their own new or modified workshops. Topics for the newly developed workshops included digital librarianship, children's and young adult librarianship, and library management. Grantees developed several new workshops and seminars in collaboration with LB21 grant partners. Grantees in the Master's Diversity category specifically supported students by encouraging or requiring them to attend certain conferences by providing travel funds and registration fees. Grantees stated that while their programs had previously encouraged conference attendance, most were only able to fund students' attendance because of the LB21 grant. Often, LB21 funds were used to bring in experts to present at conference or seminars on the topic of library specialization that students were studying.

PROGRAM HIGHLIGHT: *Taking Conference Travel One Step Further*

· One grant project stretched the benefits of paid travel to conferences a step further by ensuring the students took in other educational experiences while at conferences. "Part of their research in preparing for the travel was doing research on the libraries and museums in the areas to see what else they could do while they were at that conference."

Source: Master's Diversity grantee

Master's Innovation grantees also reported that conference and workshop attendance increased as a result of LB21. Workshops that were newly developed under the grant projects were offered through five grant projects. Two other grantees sent their students to existing and well-known workshop opportunities such as the Leadership Institute at Cornell University. In addition, one Master's Innovation grantee in the U.S. Virgin Islands used some of its grant funds to pay for professors from an online program in the U.S. to travel to the Virgin Islands to teach courses, as opposed to paying for students to travel to the university to attend the mandatory in-person pieces of the program.

All of the Ph.D. Diversity grant projects provided students with tuition, stipends, and travel funding to attend and present at conferences. This was not a new development under the grant projects. However, two of the grantees did specify that students benefitting from LB21 funds were able to attend more conferences (through travel funding) than students who did not receive funding. The annual conference objectives include providing opportunities for Ph.D. students to network, share their research, and meet established professionals in the field. Two of the Ph.D. Diversity grantees also mentioned that although doctoral students are typically provided seminar experiences, the seminars offered under these grant projects were on new topics of interest to the

LB21-funded students. Further, one of the Ph.D. Diversity grants allowed students to participate in the school's Institute for Urban Education.

Grantees within the Continuing Education Diversity category also used LB21 funding for conference participation. Specifically, beneficiaries in one grant program attended a 2-day, four-city conference supported with the grant funding that raised awareness among administrators about the importance of preservation in the digital environment. This conference provided training for library, archive, and museum staffs of all sizes to build sustainable digital collections. Projects within this grant category often included the development of new activities focused on current issues, which helps to meet the grant goals of providing professional development and bolstering the skills of current library professionals. This included the development of workshops to provide information and training to current professionals. Further, these workshops provided professionals with training in the areas of preservation, collaboration with different types of institutions, improved access to underserved communities, and leadership and management. The most prevalent topic of Continuing Education Innovation category grants was emerging digital and media technologies.

Two of the Institutional Capacity Innovation grantees also indicated that as a result of the LB21 grant, they provided travel support to students for professional development or to present research findings and share knowledge gained from the grant project at industry conferences. Conference and workshop participation were also mentioned by Continuing Education Innovation grantees; specifically, three conferences mentioned were newly developed as a result of LB21 grant funds. A grantee in this grant category also indicated that through the grant their program designed a symposium to support the development of beneficiaries.

In most of the Continuing Education Diversity grant projects, IMLS funding resulted in new educational and training programs or the extensive refinement of existing programs such as conferences and institutes. In fact, grant funding was used to support three week-long institutes for Pacific Island Librarians, for whom English is a second language. These institutes supported diverse populations directly through skill enhancement provided to local librarians and in turn improved services the trainees provided to their local communities. Using the train-the-trainer approach, another grantee developed and demonstrated a new model for the support and training of beneficiaries in a Federal library program that can be replicated locally and adopted nationally. Two other grants were used to develop the structure and content for new professional development conferences piloted in one city and replicated in other locations. A fifth grantee used funding to greatly improve the structure of an existing leadership development institute.

Further, the Continuing Education Diversity grantees indicated the grants were used to provide scholarships and/or travel assistance to beneficiaries to encourage enrollment in leadership institutes. The leadership institutes focused on developing attendees skills as effective leaders within their employing institutions. For example, one grant used funding to refine and improve an already successful leadership institute that provided training to professionals from 30 participating libraries. This leadership institute included a complex design with the following four key elements as the foundation of the grant's accomplishments:

1. Fellows (i.e., participants) were recruited from mid-levels within their employing

organization rather than the executive level. This provided for a more diverse blend of Fellows and engaged them at a point in their career where they would still have time to make significant contributions to the field.

2. Each Fellow was required to have an executive level sponsor within his or her employing organization. This created a commitment from the executive level of their library and ensured the project "would have attention and get resources."

3. Funding was used to provide leadership coaching during and after the institute.

4. Fellows were asked to arrive at the institute with a project that they planned to conduct over the 10-month period. Projects were required to cut across their organization or across community organizations. Each project concept and plan was then developed as part of the leadership training.

PROGRAM HIGHLIGHT: *Urban Libraries Council (ULC) Executive Leadership Institute*

LB21 grant funding: $999,873

Action-based learning leadership development for public libraries included three "intensive" onsite workshops (leadership instruction and assessment content), a leadership project involving multiple departments in participating library (and multiple stakeholders in the community), a virtual community, and executive coaching.

Initial project goal(s)
- Increase leadership capacity and diversity on a national basis (achieved with 30 libraries across the country participating)
- Support an expansive national network of new library leadership (achieved with 43 Fellows)
- Provide opportunities for experimentation with new organizational structures and strategies (achieved with 40 change initiatives registered)

Efforts to sustain what was done well
- Cohort mentality: "Each class became a national community of colleagues that continue to rely on each other for professional and personal development advice and exchange."
- ULC tracked project progress and Fellow promotions, including awards, publications, leadership roles in library associations, and Ph.D. candidacy

Unanticipated outcomes
- Program was most successful with Fellows who worked on issues of high political and community visibility
- Fellows entering program with an aversion to leadership exited more confident, full of new ideas for the field and increased capacity to engage in complex leadership initiatives

Key insights
- Program gave participating libraries "permission" to experiment with new decision processes, communications, community relations, and service models
- Success rate of innovative change initiatives was high, due in great part to the coaching component giving Fellows and innovation projects both new leadership and organizational development approaches and support.

Source: Continuing Education Diversity grantee

Another grantee within the Continuing Education Diversity category provided financial support to leaders from historically black colleges and universities (HBCUs), tribal colleges, and Hispanic-serving colleges and universities (HACUs) to attend a leadership development institute. This institute provided opportunities for attendees to develop decision-making skills and learn more about the activities within other organizations and the challenges other leaders face. Interviewees mentioned this development of colleague networks outside of the beneficiary's organization as a positive outcome for all grants that supported participation in leadership development institutes.

Professional and student association memberships

Paid memberships for professional and student associations were another form of support many categories of grantees were able to offer as a result of LB21 funds. Since most of the institutions supporting the Ph.D. Innovation participants are well-established, higher-education institutions, they used LB21 funding to support developmental opportunities such as professional association memberships, as opposed to the development of new educational materials. These grantees indicated that such support for these memberships along with other opportunities (e.g., mentorships, teaching experiences) had a profound impact on student learning and growth. Grantees within the Master's Diversity category also offered this type of financial support to help students network. However, grantees acknowledged that students did not always continue the memberships post-graduation.

Mentoring programs

Grant partners also spoke of using funds for the development and implementation of mentoring programs. In fact, the most common educational opportunity offered under the Master's Innovation grant projects were mentorship programs. Of 10 mentorship programs that grantees offered, five were newly developed and one was extensively modified using grant funds. For the Master's Diversity category, over one-third of the grant projects included a mentorship component, though the success and sustainment of these programs varied considerably. The Ph.D. Diversity category also offered mentorship programs. Specifically, the mentorship programs offered by two grant projects were either created or modified for the LB21 students. In the case of one grant project, more attention was paid to proper matching of students to mentors in order to facilitate strong relationships while taking the students' diversity into account. For the other, the mentorship program was an entirely new component. One grantee from the Institutional Capacity Diversity category also created a mentoring program. A grantee in the Ph.D. Diversity category indicated that a mentoring program was established to aid in support of minority students.

Internships and fieldwork

Work experiences through internships or field assignments were also supported by LB21 funds; interviewees from five grant categories explicitly referred to applying LB21 funds for this purpose. For example, the Master's Diversity grantees indicated that to provide a broad range of experiences in the field, one-quarter of the Master's Diversity grant projects offered internship opportunities ranging from single semester programs to a series of semester-long internships at

each of several partner organizations. Likewise, more than one-third of the Master's Innovation grant projects included internships. Two of the projects offered paid internships. One project focused on having students complete projects at the internship locations as a way to contribute to the library community. Another developed a new model for internships. Much like clinical rotations in medical schools, the program assigned students to internships at several different locations to gain more real-world library experience.

Half of the Institutional Capacity Innovation grantees included in this evaluation indicated that grant funds were used to help develop and sustain an internship program. One Institutional Capacity Diversity grantee even created a residency, which was similar to an intense internship program and involved a mentorship component with a practicing librarian. Further, one Master's Innovation grant project developed a new model for merging an existing distance education model with an existing internship model and another developed a dual-degree program.

The nature of fieldwork varied greatly among grantees. For example, one Ph.D. Diversity grant project provided educational opportunities to doctoral students by placing them in the field to teach courses, whereas an Institutional Capacity Diversity grantee described ways in which diversity was addressed outside of the university that received the grant. This project worked to serve diverse audiences and expose students to diversity by starting an after-school program at a local elementary school serving Hispanic students and by building library collections and services in jails and juvenile centers.

Exhibit III-3b		
Supporting Evidence: *Training & Development*		
Theme	**Participant Statement**	**Source (Grant Category)**
Conferences/ workshops/ institutes	"We have done workshops for graduate students before, so we had a framework for how to set them up. What was different was that we hosted these in museums. That was a huge draw…The workshops were all based on state standards, so they could be applied in the classroom or a library."	Continuing Education Innovation
Mentoring programs	"The new educational piece that was developed was the for-credit mentorship with librarians, and boot camp was part of that relationship. We wanted to be sure the students were mentored for the profession and for conducting research in an academic library career beyond just what they would get in the classroom."	Master's Innovation

Exhibit III-3b		
Supporting Evidence: *Training & Development*		
Theme	**Participant Statement**	**Source (Grant Category)**
Internships and fieldwork	"Funds were used to provide paid internships to students. These internships were designed to give students career-related experience and hands-on training in a library. This program was awarded to students who received scholarships as well as students who did not."	Master's Diversity

Other grant activities (non-themes)

While not themes per se, other unique examples of educational and training grant activities were mentioned by one or two grantees. For example, less than half of the Institutional Capacity Innovation grantees indicated grant funds were used to:

§   Develop a Web site (2)
§   Utilize a cohort model for learning (1)
§   Develop information sharing and learning resources (1).

Specifically based on lessons learned from previous grants, one new element provided under two of the Master's Diversity grant projects was free training to help minority students prepare to take the GRE. One PI indicated that previous experience had shown that for many of the diverse students "the GRE was difficult and daunting," which prevented them from applying to MLIS programs.

Research

In addition to providing skill development opportunities to students and professionals, LB21 grant funds were also used for activities that serve the public and further important research. No particular type of research initiative emerged as a theme; however, innovative research was clearly noted as a priority by many of the grantees. For example, seven of the eight Research grantees gathered new data to answer their research questions; the remaining Research grantees archived previously gathered data, making it available for other researchers to utilize. Topics covered by Research grants varied, with each producing different types of information relevant to the field including topics such as:

§   Developing a recruitment plan for librarians
§   Creating an outcomes-based assessment system to inform the review of school media certification programs
§   Determining the knowledge and skills necessary for the future of LIS jobs
§   Identifying the supply and demand of subject specialists in research libraries and identifying successful approaches to recruit these specialists

- § Assessing the number and types of master's-level librarian jobs that will be available through 2016 and determining the capacity of LIS schools to meet these needs
- § Improving the education and training of visual resource professionals by evaluating the current market
- § Studying the impact of school library media centers on student achievement and motivation
- § Assessing the impact and return on investment of implementing web-based training
- § Archiving the results of previous research regarding LIS program alumni.

To implement this research, seven grantees conducted a survey to gather new data. Three of these projects also described conducting interviews to gather new data to meet the program goals and answer research questions.

To support the development of new faculty members likely to become leaders in library and information science, Early Career Development grants also funded innovative research (on any topic in library and information science) by untenured, tenure-track faculty in LIS graduate schools, as well as tenure-track faculty in graduate school library media education programs. Four grant projects awarded to academic institutions were considered in this evaluation. One project produced data describing the access to and use of control technologies and policies employed by U.S. cultural institutions (archives, libraries, museums, and data repositories) and access and use control technologies and policies employed by scholarly publishers for licensed products. The project surveyed a national sample of cultural institutions to examine their motivations for controlling their collections. It then produced case studies of best practices, describing the technology and policy tools employed by six innovative cultural institutions to control access to collections and use of collections. The project resulted in two theoretical frameworks to explain and describe the range of restrictions seen in contemporary and historical licensed products.

A second project examined the current practices in the creation of descriptive metadata elements and the use of controlled vocabularies for subject access across distributed digital collections. This project identified factors that hinder consistent, accurate, and complete metadata description. It also assessed new competencies and skill sets needed by catalog professionals in developing their digital collections. The third project used a literature review and meta-analysis data to assess the economic value of public library collections and services. This 2-year research project was designed to provide a better understanding of the economic benefits that accrue to communities from public library services and to develop a robust and generalizable model of these benefits that will be helpful at a national level. Finally, the fourth project conducted research on copyrighting practices for digital archives and disseminated the findings to the research community.

One grantee included diversity in its research on MLS librarian job availability through year 2016 and the potential employee pipeline by examining how demographics, specifically race and ethnicity, influence MLS workforce trends. The grantee used survey items to determine whether graduate LIS programs placed adequate emphasis on diversity.

Funding Supports

This section describes the two themes that emerged with respect to types of funding support offered through LB21. Exhibit III-3d provides supporting evidence for the themes described.

Scholarships

With the exception of two grant categories, providing scholarships to support student development was a defining feature of many grant projects. Grantees in the Early Career Innovation category did not include scholarships due to their primary focus on research among untenured, tenure-track faculty rather than students. On the other hand, all of the Master's Diversity and Master's Innovation projects provided scholarships, as did all of the Continuing Education Diversity projects and several of the Continuing Education Innovation projects. Among the grant projects in the Master's Diversity grant category, there were a total of 1,146 students who received scholarships. The majority of these were used to fund master's degrees (1,070 scholarships), while 2 funded doctoral degrees, 17 bachelor's degrees, 3 associate's degrees, and 54 certificates. Scholarships awarded per grant project ranged from 3 scholarships to 96 scholarships. The number of scholarships awarded varied based on whether the grant project was awarding full scholarships or partial scholarships, the general or specific nature of the recruitment population, and the ability of the grantees to meet recruitment goals. In one project, the amount intended to provide full scholarships was in reality not enough to cover the full tuition costs. In another, some students dropped out of the program and were replaced with others part-way through the grant project.

Further, the eight Ph.D. innovation grants evaluated also primarily used funds to provide scholarships. Interviewees and grant project reports indicated that 60 students received education and training opportunities through tuition funding at nine prestigious universities across the country. All of the Continuing Education Diversity projects evaluated also provided subsidies or scholarships to professionals seeking to expand their LIS technical or leadership skills. In a majority of the projects, the underlying goal was to develop the LIS workforce over the next 5–10 years to ensure a skilled and diverse labor pool ready to meet the future demands of the field. Thus, these grants offered scholarships and/or travel assistance to beneficiaries to encourage enrollment in training that specifically focused on developing their skills as effective leaders within their employing institutions.

All grants that provided scholarships and subsidies did so to encourage participation; however, the degree to which funding was used for financial assistance varied. For most Continuing Education Diversity grants, student financial assistance was only part of the opportunities offered through LB21 funding; however, in two cases, scholarships were the main use of funding. For example, one grantee used its resources almost exclusively to provide partial scholarships to current professionals seeking skills training in rare book collections. Through this project, over 150 students taking courses in this area were financially supported throughout a 4-year period.

Three-quarters of the grant programs within the Continuing Education Innovation grant category included a scholarship component. Some grantees that provided scholarships could not specify the exact the number of recipients. Of those that could enumerate scholarship recipients, a total

of 614 program beneficiaries out of 1,880 received full scholarships. Continuing Education Innovation project scholarships generally amounted to between $100 and $1,000 dollars for single day or weekend-long programs—far less than full degree programs. The percentage of program beneficiaries receiving scholarship funds varied greatly from project to project, from as few as 2 percent of program beneficiaries to as many as 100 percent Approximately 80 percent of Institutional Capacity Diversity grantees indicated that they provided either scholarships or stipends to graduate students taking classes at the host institution. Financial support allowed students who may not have otherwise been able to afford education the ability to take classes and earn a degree or certificate to further their career in LIS. It also helped develop LIS professionals who are trained in skills necessary for jobs in today's society.

For the grantees that used funds for graduate assistantships, beneficiaries not only received benefits related to their own education, but were also able to assist in making the grant program effective. Among the six Institutional Capacity Innovation grantees, half indicated that they provided scholarships to students pursuing graduate degrees in their LIS field. All but 2 of the 14 grant projects examined in the Master's Innovation grant category were able to provide figures for the number of students who received scholarships funds. Across these 12 projects, 360 students received scholarships. Of those, 354 had graduated at the time of the grantee interviews. Across the four Ph.D. Diversity grant projects examined, 24 scholarships were awarded. Within the 8 Ph.D. Innovation grants evaluated, 60 students received some form of scholarship funding.

The way in which scholarships were structured varied across grantees. For example, the 38 Master's Diversity grant projects were split between offering full and partial scholarships. Four of the Master's Diversity grant projects awarded both full and partial scholarships; this occurred because two of the full scholarships were partially used because students left the program prior to completion or entered the program late and were unable to finish it before the end of the grant period. Nine of the projects offered only partial scholarships, while 21 awarded full scholarships. Although partial scholarships were less common, one grantee explained that partial scholarships were consistently offered in specific circumstances. For example, student replacements that entered the program as a result of someone else dropping out were provided only partial scholarships because the grant period ended before the students were able to complete degree programs. Likewise, two of the scholarships awarded by the Ph.D. Diversity projects were for students who entered the program later in the grant period and received LB21 funding for only the first part of their degrees, whereas all of the projects' remaining scholarships were issued for full funding. Because of the relatively low dollar amount required to fund full scholarships in the Continuing Education Innovation program ($100-$1,000), most of these grantees noted the ability to provide full scholarships to beneficiaries. Only one grantee described a partial scholarship in which beneficiaries and the institution shared the cost of program participation.

Grant projects within the Master's Innovation category showed a similar trend. Three grant projects did not specify whether the scholarships were full or partial funding. For those that did specify, the majority awarded either all full scholarships or mostly full scholarships with a few partial scholarships. Six grant projects awarded all full scholarships; one awarded mostly full but some partial scholarships; one awarded mostly partial but some full scholarships; and two awarded only partial scholarships. In the grant project in which the majority of the scholarships

awarded were for full funding, partial scholarships were awarded to students who did not require full funding because they had already started the degree program prior to receiving the grant. In one grant project that awarded all partial scholarships, the scholarships covered the costs of all of the students' classes but did not cover room and board or other living and school-related expenses. For Ph.D. Innovation grants, two of the eight reporting institutions could not provide specific numbers for full scholarships, but indicated that at least 28 of 60 students received full funding; the remaining students received partial funding. The role scholarships played in each grant program also differed. The Continuing Education Innovation grantees tended to view scholarships more as an incentive or recruitment technique. In contrast, Master's Diversity grantees were much more likely to view the scholarships as a crucial component and a way to overcome serious financial barriers many students faced. The Continuing Education Diversity projects fell somewhere in the middle, with some grantees viewing the scholarships more as incentives but others viewing them as a necessity for making educational opportunities available to diverse and often underserved populations. In this way, scholarships were much more of a key feature for the Master's Diversity and Continuing Education Diversity grant projects than they were for Continuing Education Innovation projects. This difference reflects the purpose of each grant project. Diversity focused projects are typically designed to support underserved populations, for which funding is often viewed a larger barrier, while the innovation focused projects are more frequently targeted to the larger population.

Compensation

Grantees in more than half of grant categories evaluated indicated using LB21 funds as compensation in the form of stipends and salary for program staff or to support students. For example, five of the six Institutional Capacity Innovation grantees indicated that they provided stipends or fellowships to assist graduate students involved in the program. Further, grantees used funds as salary for graduate assistants or staff to support administrative aspects of the projects, funding for faculty and staff to attend conferences to present projects, and funding to hire outside contractors to develop recruitment materials or conduct final evaluations of grant projects. Grantees often mentioned administrative support as important to logistics for grant projects. Institutional Capacity Innovation, Master's Innovation and Ph.D. diversity grantees indicated that they offered students stipends and other funding.

Grantees also used their funds to provide a salary to instructors or others responsible for program administration. About 83 percent of the Institutional Capacity Innovation grantees reported this use of funds. Further, 80 percent of the Institutional Capacity Diversity grantees indicated that some portion of their LB21 funding was used to provide a salary to staff members or program directors to help facilitate a successful program. Grantees indicated that the availability of a full-time staff member was essential to program success. While it is important to have professors or other program directors to provide technical and content area guidance, grantees shared that having administrative support was also seen as something useful. The complexity of education-oriented grant categories often necessitated hiring a graduate assistant or staff member to handle administrative aspects of the project, while the Continuing Education Innovation program grants were unlikely to include this component.

	Exhibit III-3c	
	Supporting Evidence: *Funding Supports*	
Theme	**Participant Statement**	**Source (Grant Category)**
Scholarships	"[Scholarships] were a defining part of project. This came across strongly in evaluation of the project that the students were overwhelmingly ecstatic [about scholarship money]."	Master's Diversity
Scholarships	"…the key thing for us was that the profession is not diverse, so we wanted to tackle this… we thought that working with IMLS would use the school as a lever for getting people into the profession who wouldn't normally be able to get into the profession...another goal was to support people who were early-on in the field whose institutions might not have the resources to send them [for professional development]."	Continuing Education Diversity
Compensation	"Funding from IMLS supported the offering of stipends to individuals working at nonprofit institutions with annual operating budgets of less than $500,000. A total of 22 stipends were awarded on a competitive basis [out of a total 441 participants]."	Continuing Education Innovation

Recruitment Methods

This section describes the types of recruitment methods grantees reported implementing as part of the LB21 funding. Recruitment strategies were specifically addressed as they pertained to the Diversity grants but were also brought up by several of the Ph.D. Innovation grantees. A variety of recruitment techniques and methods were noted. Below, the types of recruitment methods that grantees used are discussed followed by recruitment activity as it pertains to diversity outreach. Exhibit III-3d provides supporting evidence for this theme.

All interviewees in the grant categories examined reported that recruitment activities were an integral component of their grant projects. Recruitment methods included a wide range of techniques with no one particular technique mentioned more than others. Interviewees from the eight Continuing Education Diversity grants evaluated reported a wide range of recruitment techniques to attract diverse participants to their programs. These techniques included a host of traditional and innovative solutions. In terms of traditional approaches, interviewees noted that they relied on broadcast mailings to reach potential applicants. Early in program development, this technique was used frequently to reach a large audience and was useful in marketing the benefits of enrollment. The collection of mailing addresses took two forms. In some cases, Program Directors indicated they sent unsolicited postcards or brochures to associations known to serve underrepresented groups in the LIS profession, as well as historically black colleges and universities, Hispanic-serving institutions, and/or tribal colleges. In other cases, interviewees contacted select administrators within these target organizations to request mailing lists and then sent out the recruitment materials. This approach allowed grantees to address the mailing to

specific individuals. Interviewees also reported using other traditional techniques, such as advertising during industry meetings, posting program announcements on the host agency's Web page, asking for referrals from past and current training participants, and utilizing personal networks to call potential applicant sources directly to get the word out.

Interviewees from Continuing Education Diversity grants reported several innovative recruitment techniques as well. Direct emails were used to recruit potential applicants in all eight grant projects. The emails were inexpensive and easily reached a large group. The vast majority of interviewees also discussed using listservs to make program announcements. By definition, listservs allowed grantees to target a specific subset of the profession and reach intended diverse populations. Grantees indicated listservs were particularly useful when valid mailing or email addresses were unavailable, and the grant program wanted to be certain a specific group was made aware of the training opportunity. Lastly, interviewees discussed social media (e.g., Facebook, MySpace) as another way to recruit applicants, provided a social network with the target participants was already established.

The Ph.D. Innovation grantees reported that the main focus of their grants was to address the national need to recruit, develop, and educate the next generation of LIS faculty. This focus was particularly important since a master's degree is often seen as a terminal degree in the LIS field.

> **PROGRAM HIGHLIGHT:** *Diversity Recruitment*
>
> · Diversity recruitment can be improved by utilizing a variety of methods to attract participants and inform them of a program.
>
> · One grantee used multiple methods including targeted advertising, connections with minority organizations, an advisory board, working with minority students to help recruit, and recruiting at minority conferences.

As a result, interviewees reported, it can be difficult to attract entry and mid-career professionals back to campus to work on a Ph.D. To market to potential applicants already employed in the LIS field, all Ph.D. Innovation grants utilized recruitment efforts that included traditional and innovative communication channels targeted at public and school libraries, library schools, library listservs, library conferences, and alumni networks. Traditional approaches included brochures, emails, information postings, and hosting a booth at an industry conference, as well as networking meetings and phone calls.

In one case, a partnership of three institutions that were part of a Ph.D. Innovation grant used the funding to initiate discussion between Fellows, potential students, and LIS professionals. The intent was to provide potential program applicants with an opportunity to ask questions and establish a social network that could provide support throughout the process. Under the same grant, podcasts record the experiences of Ph.D. students in their own words. Students described their choice to pursue doctoral studies, obstacles encountered and overcome, and successes enjoyed in pursuit of a Ph.D. Each podcast interview was preserved in a portable format that could be distributed to prospective students. Finally, to attract new students who would eventually become faculty—a desired outcome—this project developed a customizable applicant decision-making tool. The instrument, based on established principles of decision-making theory, assists potential LIS doctoral students in the selection of specific degree programs and institutions. It also navigates the user through evaluating the

rewards and drawbacks of pursuing a career in higher education. All three of these innovative recruitment approaches are well-documented in the grantee's report, replicable, and can be implemented by other institutions.

> **PROGRAM HIGHLIGHT: *Ph.D. Innovation Grant***
>
> · One grantee used current students to provide information on their decisions to join an LIS graduate program and their experiences in the program.
>
> · Interviews with these students were preserved as podcasts and available for applicants to listen to.
>
> · Additionally, tools were developed to help applicants select appropriate degree programs and institutions based on their interests.

Reaching diverse groups

Grantees indicated that funding was often used to promote diversity in schools as well as the LIS field. For example, all Ph.D. Diversity grantees mentioned recruitment strategies that included advertising their programs through lists or various associations. For two projects, this involved advertisement specifically targeting minorities. Of the two projects that used advertising to specifically target minorities one used an email to the alumni list for ALA's Spectrum Scholars; the other used direct mailings to REFORMA, the Black Caucus of the ALA, historically black colleges and universities, and the university's own Black Graduate Students' listserv. One project targeted lists of individuals in the specific LIS fields of interest to the program, as opposed to lists targeting racial or ethnic minorities. Three projects promoted LB21-funded scholarship opportunities through conferences and professional events. One specifically targeted minorities through the National Conference of Librarians of Color; the other two focused on industry-related conferences like ALA. One project also used a Web site for recruitment, though the grantee mentioned this was not an effective means of recruiting.

The most common diversity recruitment strategy among Institutional Capacity Diversity grantees included in the interviews was to build connections or partnerships with organizations that could help to recruit diverse populations. Specifically, grant projects fostered connections with the following types of groups to increase recruitment of minorities:

- § Professional organizations (e.g., ALA)
- § Historically black colleges and universities
- § Currently enrolled minority students (to help recruit new students)
- § Conferences aimed at minorities
- § Office of Diversity at ALA
- § Local organizations (e.g., churches, local minority organizations or chapters of larger minority-focused groups)
- § Previous program graduates
- § Communities with high levels of poverty
- § Undergraduate programs with high levels of diversity.

In addition to these connections, two of the five grantees in the Institutional Capacity Diversity category described using an external advisory council to aid in diversity recruitment efforts.

These councils included members from diverse backgrounds and ethnicities and were designed to help grantees determine the most effective ways to recruit desired minority members to the programs.

One Institutional Capacity Diversity grantee's approach to recruiting diverse populations was to customize promotional and recruitment materials to feature minorities. The Web site, brochures, fliers, and other new materials displayed pictures or images of minorities. For example, a flyer for the program showed two African American students working together in a library setting, implying that minorities are involved and welcomed in the program.

Finally, only one Research grantee indicated making a concerted effort for diversity recruitment. This grantee focused on diversity in librarianships by specifically targeting African American and Native American archivists to complete their research survey. Another grantee indicated that it did not have diversity information but attempted to give special attention to diversity data in its research by recruiting universities with higher than average numbers of minority students as beneficiaries. Additionally, the grantee tried to pursue smaller, regionally accredited programs rather than only large, ALA-accredited programs because the grantee for this program has found that these smaller programs are in states that tend to have larger minority populations. One other grantee also indicated that it did not recruit directly to increase diversity. The program assumed there would be some diversity because over 400 beneficiaries came from a variety of backgrounds across the country, including urban and rural areas, and small towns. Finally, only one program indicated that improving diversity is not typically an area of focus, though the program is somewhat more likely to have people of Hispanic descent pursuing Latin American Studies or African Americans in Afro-American Studies programs.

While many of the grantees indicated that diversity was a priority for their programs, their recruitment strategies varied based on the way in which the grantee defined diversity. Some more traditional definitions were used across several of the grant categories. In every grant category, the majority (if not all) of the grantees included racial/ethnic diversity in their definition. This frequently included African Americans, those of Hispanic or Latino decent, and Native Americans. Although the definitions of diversity varied across the different categories, there were some definitions shared by two or more grant categories, which included:

§ Geographic location, including both an emphasis on specific geographic locations such as the U.S.-affiliated Pacific Islands (USAPI) and an emphasis on individuals living in either urban or rural locations (Continuing Education Diversity, Master's Diversity, and Institutional Capacity Diversity)
§ Gender, with a specific goal of increasing the number of men in the profession, as men were described as an underrepresented group among library science professionals among the rank-and-file positions, or those not in leadership positions (Research and Master's Diversity)
§ Individuals with disabilities or special needs, including one Research project with a specific focus on children with special needs (Master's Diversity and Research).

Other definitions of diversity were more specific to certain grant categories. For instance, the

Continuing Education Diversity grantees unanimously explained that when it came to recruitment efforts, their goal was to be inclusive rather than exclusive to avoid making arbitrary distinctions. The grantees recognized that diversity had many layers. Thus, the definition used to specify 'diversity' was varied and included many different components across the grants. As a baseline, grantees indicated that targeting "diverse" populations referred to recruiting from historically underserved populations that traditionally did not have access to continuing education opportunities. The definition was then expanded on a case-by-case basis depending on the grant's objectives. In summary, interviewees emphasized that race, ethnicity, and reaching underserved populations were the core elements of the diversity definitions across grants. However, the focus of these core elements typically broadened as the grant program matured and administrators learned more about the complexities of their target populations.

Master's Diversity grant projects included a much stronger focus than other grant categories on diversity in terms of special academic or content matter backgrounds. This diversity criterion was used by between one-third and one-half of the grant projects. Multilingual students were also a common focus among the Master's Diversity grant projects. A few of the projects in this grant category also included a specific focus on college/university students and education and librarian professionals. Half of the Ph.D. Diversity grant projects included a focus on diversity in terms of work experiences. For one project, the definition included age, English as a second language, work in urban centers, and a general interest in working with diverse populations, as well as racial and ethnic minority status. Another grantee used racial and ethnic diversity as the initial criteria but also included a secondary criterion to be used if needed. As the grantee stated, "We used the IMLS terminology for determining traditionally underrepresented groups. We looked at minorities, and knew if we were not successful in recruiting minorities, we would look for first generation doctoral students more broadly, but we did not have to do that."

Most of Research grantees that included a focus on diversity defined it in terms of racial or ethnic diversity. This type of diversity was mentioned by four of the six projects that included diversity efforts. One grantee said that they think the program has diversity because of recruitment from different types of locations (i.e., small towns versus large cities) but did not identify any specific ways in which diverse populations are defined. Another grantee focused on diversity in terms of serving special populations, and specifically serving children with special needs.

> ### PROGRAM HIGHLIGHT: ALA Spectrum Scholar Leadership / Reach21 Institute
> #### LB21 grant funding: $ 872,920
>
> Significantly increased the number of racially and ethnically underrepresented students enrolled in master's level LIS programs.
>
> **Initial project goal(s)**
> · Recruit 150 minority students
> · Mentor an additional 60 students through the Spectrum Institute
> · Create an outreach service to make potential Spectrum Scholarship students aware of the program
> · Gather feedback from participants and partners on existing program, identifying opportunities for growing the program in future.
>
> **Efforts to sustain what was done well**
> · Timing of outreach to LIS staff and faculty to be sure that they know about Spectrum and application process as they begin interviews of perspective students
> · Reach out to all diversity initiatives ALA could identify – not just racial and ethnic
> · Uses data collected on applications each year to help make the next year's recruitment effort better
> · Inclusion of alumni as mentors at Institute meeting, pairing alumni with scholars in Ambassador program.
>
> **Unanticipated outcomes**
> · Many SLIS now appear less passive in diversity recruiting efforts - starting to do more conversational recruitment
> · "IMLS support for Spectrum was very instrumental in increasing the visibility of the program which helped in that fundraising effort."
>
> **Key insights**
> · Spectrum alumni are becoming a real force for recruitment, as well as change within ALA, so it's important to "keep the contact info current" and "encourage connection – building the structural pieces is very important; it amplifies the impact."
> · Also important is highlighting expertise: "We're recognizing the research around diversity that they're doing and focusing that. It inspires the other students to think about that as well – community-based research. That's really the model we're built on."
> · Participation in the Spectrum leadership institute is mandatory, but ALA is flexible: "We don't let students opt out; we don't let funders opt out… if they can't make it this year we can set it up for next year instead."
> · Association pays travel costs up-front (hotel, food, airfare), reimbursing students for ground transportation and unanticipated fees.
> · 80 percent of program graduates participating in 2011 survey currently employed.

While a goal of all Institutional Capacity Diversity grant projects was to bring in individuals from diverse backgrounds, the ways in which diversity was defined differed slightly for the various projects. In addition to racial/ethnic diversity and gender, another way in which diversity was defined by some of the grant programs was to recruit from underserved populations, which

was also described as people in with low socioeconomic status (SES). This type of diversity was identified by three of the five Institutional Capacity grantees interviewed. In addition, one Institutional Capacity Diversity grantee described a goal of increasing diversity in terms of geographic location and another described a goal of recruiting younger people into the profession, as many professionals are older or come into LIS later in their life or career.

In sum, grantees struggled to define diversity and align their recruitment strategies with their definitions. As they moved through the process of operationalizing diversity for their programs, a number of questions had to be considered. Examples of these types of questions that were indicated by Continuing Education Diversity grantees include:

- § Should diversity be defined by geography in addition to ethnicity?
- § Should diversity be characterized by the population the participant serves rather than the participant alone?
- § Are participant gender and age part of the diversity issues?
- § Should small subgroups in the LIS population that do not receive support for continuing education be included in the "diversity" definition?

Exhibit III-3d		
Supporting Evidence: *Recruitment Methods*		
Theme	**Participant Statement**	**Source (Grant Category)**
Reaching diverse groups	"[Race/ethnicity of public library participants] was one of the [initial] ways that we defined diversity…but as we began the [reporting] process, we realized that there was a great need for other types of librarians as well, including public school librarians, correctional facility librarians, academics of course, and then some special librarians in corporations or medical libraries or law libraries. We also started to track gender."	Continuing Education Diversity

Effectiveness of Grant Activities

This section describes the grant activities that were seen by grantees as being the most effective for accomplishing their goals. Additionally, this section includes information on factors that best help students achieve academic success as well as recruitment strategies that were identified as most effective in recruiting a diverse audience. An overview of this organizing framework as well as themes that emerged regarding each topic is provided in Exhibit III-4.

Exhibit III-4 Area of Inquiry: *Effectiveness of Grant Activities*	
Organizing Framework	**Emergent Themes**
Reasons behind effective grant activities	· Student support and focus through scholarships/financial assistance · Developmental and networking opportunities through conference/workshop attendance · Building relationships through mentoring · Hands-on experience through internships and practical experiences · Instruction on cutting edge issues through classroom enhancements · Support through partnerships/advisory panels · Other effective grant activities
Factors for success in academic achievement	· Education achievable with scholarships to students · Support systems developed when using a cohort model · Valuable faculty relationships developed through mentorship programs · Other factors for academic success
Techniques for successful diversity recruitment	· Personal contact and connection · Working with minority-focused organizations · Other effective recruiting efforts

Reasons behind Effective Grant Activities

Across the various grant categories, five grant activities were indicated by interviewees to be effective activities that helped meet the goals of the grant projects. Each of these activities is identified as a theme and is described in the following sections. Additionally, other grant activities that were described as effective by grantees in some categories but not across categories are also described. Statements that support findings across these themes are provided in Exhibit III-4a.

Student support and focus through scholarships/financial assistance

Scholarships and financial assistance to students were mentioned as an effective component of the grant projects. In fact, scholarships were often described as a cornerstone of grant projects. Scholarships were thought to be particularly effective and important for minority students. All of the grantees in the Master's Diversity category provided scholarships to students, however the number of these grantees who felt this was successful is not apparent. Nearly half of the Master's Innovation grantees, all of the Ph.D. Innovation grantees, and all of the Continuing Education grantees specifically indicated that scholarships and grants were successful features of their grant projects.

One grantee indicated that the scholarships were particularly effective for helping any students who were vulnerable or had family issues outside of school that impact their time, which was often the case for their racial and ethnic minority students. Scholarships were effective for Ph.D. candidates in particular, keeping them at their studies and dissertation research. Additionally, an interviewee noted that students who received funding were not as distracted by competing demands to create income, and therefore funded students could be more focused on learning experiences.

Developmental and networking opportunities through conference/workshop attendance

Several of the grantees interviewed indicated they believed attendance at conferences, often including both regional and national conferences, was important to the success of their minority students in particular. Almost half of the Master's Diversity grantees indicated that conference or workshop attendance was an effective use of project funds. Additionally, two of the four Ph.D. Diversity grantees, some of the Ph.D. Innovation grantees, and several Continuing Education Innovation grantees described conference attendance as effective for developing their students. Across these grant categories, interviewees felt that conference attendance was effective because it offered educational as well as networking opportunities that were important to the students' future success. Additionally, conference attendance was seen as an effective enhancement of the grant projects, as it allowed the students to be active in their professional fields and learn about current and relevant topics affecting the field. In addition to developing students new to the field, attending conferences or workshops was also seen as effective in successfully enhancing the skills of seasoned library professionals.

Some grant projects included the development of new conferences or workshops, and some of these grantees indicated that an effective use of grant funding was hiring conference "managers" who handled conference planning and logistics, contributing to success in the oversight and administration of larger events. One Institutional Capacity Innovation grantee shared that the most useful grant activity was professional workshops that were developed for the grant. These workshops have led to the development of student groups and working groups that have formed to focus on topics covered in the professional workshops. As such, the most effective component of these workshops was the development that was able to occur outside of the classroom and to a wider range of students.

Building relationships through mentoring

Several grantees across various grant categories indicated that creating mentorship relationships for program participants and matching them with appropriate mentors was an effective grant activity. Mentors included faculty members, graduate assistants, librarians, program alumni, and peers. These mentorship relationships were effective because of the time that the mentors were willing to devote to the mentees and the relationships that are developed. These relationships and the ability of the mentor to relate to the mentees regarding work in the field and problems experienced outside of the workplace were the reason behind the highly effective nature of the mentorship programs that were implemented through LB21 grants. Additionally, mentorship programs were effective because they offered beneficiaries someone who was similar to them

who they could call for support or guidance. Much of the success of these mentorship programs depended on the process for matching mentors to mentees; when care was taken to match mentees to a mentor with similar interests or a similar background the mentorship relationships were especially effective. Mentorship programs were an effective element of several Master's Diversity and Ph.D. Innovation projects. They were also described as effective by two of the five Institutional Capacity Diversity grantees and one of the six Institutional Capacity Innovation grantees. Some ways that were suggested by grantees to help ensure the effectiveness of mentorship programs were to ensure the mentor spends a sufficient amount of time with the program beneficiary, set mentor and mentee expectations at the outset of the mentor program, and provide special mentorship training for both mentors and mentees, which can help to ensure expectations are being met.

Hands-on experience through internships and practical experiences

Internships or practical, hands-on experiences were often believed to have contributed to students' ability to obtain employment upon graduation. Specifically, one-third of the Master's Diversity grantees and some of the grantees within the Institutional Capacity Diversity and Innovation categories indicated internships were effective grant activities. One grantee indicated that one of the most effective learning activities for his students was the opportunity to participate in an internship relevant to the students' area of interest. To determine the effectiveness of this and various other activities, beneficiaries were surveyed. Further, the internships were also effective because students were able to gain hands-on experience relevant to their desired field that they could not otherwise gain the classroom. Providing realistic experiences to students helps them to understand what a job in the LIS field actually entails and to learn and practice necessary skills with support from others prior to working in an actual job environment.

Grantees saw being able to learn on-the-job and actually do activities rather than only read or hear about them as beneficial for students. In an evaluation for one of the courses developed with LB21 grant funds, a student said that "the hands-on aspect of the classes has been the most successful learning style for me. I am currently in [a grant-developed course] and am learning an exceptional amount!" Another student said, "I believe that my completion of the [grant] program will provide me with a great advantage over other candidates pursuing similar careers because of its relevant and in-depth content as well as the hands-on nature of course projects." These comments show the benefit of hands-on, real world activities. To provide hands-on experiences for students, one grant program developed a residency program that was effective in educating students and providing relevant experience. Aspects of this program that helped to make it effective, as well as reasons these aspects are effective, are highlighted in the *Program Highlight* box below.

> **PROGRAM HIGHLIGHT:** *Creating an Effective Library Internship Program*
> - In one grant program, students participated in a "residency" which was like an intense internship
> - 14 weeks, worked 30 hours per week
>   - Effective because it helped to fully immerse students into the library in which they were working
> - Residencies available in all types of libraries (e.g., public, academic, law)
>   - Effective because it allowed students with different interests the opportunity for relevant experiences
> - Students practiced skills that they now use every day on the job
>   - Effective because students can gain experience and confidence in doing utilizing these skills
> - They completed high level projects and advanced initiatives such as planning, grant writing, and policy making
>   - Effective because these are aspects of the jobs that students often do not see in the classroom or gain experience in during school

Instruction on cutting edge issues through classroom enhancements

Classroom enhancement made available through the design of new curriculum, courses, or student research projects were also seen as effective by LB21 grantees. Interviewees in three of the six grant categories asked to about the effectiveness of classroom activities indicated that these enhancements to curriculum or courses were effective. Some grantees indicated that they were effective because they allowed for a focus on cutting-edge issues in the curriculum that was critical to preparing students for the workforce. The use of newly developed or newly modified methods of presenting the coursework was mentioned by some of the grantees. This included one project that made courses or degree programs available online as well as projects that tested different course delivery formats, including a blended online and in-person format. Placing courses or even the entire degree program online proved effective, allowing students to obtain their degree without relocating. One of the interviewees discussed the importance of this online enhancement as technology and online classes are seen as the future of higher education.

Project support through partnerships/advisory panels

Several grantees mentioned that community partnerships with stakeholder organizations had a positive impact on the success of the grant program. Specifically, grantees in half of the grant categories that discussed the effectiveness of classroom activities indicated that they felt partnerships or advisory panels had been particularly effective. The partners' role in the grant projects often depended on both the type of partner (e.g., association, institution) and the extent to which the partner was dedicated to the grant project. Sometimes, these partnerships were used to advertise the program and get volunteer support during the event as well as to build relationships with both the program and its students. Institutional Capacity Diversity grantees indicated that they developed partnerships or advisory panels to help guide the project and increase its effectiveness. Four of the five grantees in this category indicated that they had partners, such as libraries or other organizations, or that they developed a relationship with an advisory panel. Advisory panels were used for a variety of purposes, and many of the grantees

within the Continuing Education Innovation grant category also mentioned the involvement of an external advisory panel when discussing successful program development.

PROGRAM HIGHLIGHT: Public Urban Library Service Education Project (PULSE)
Brooklyn Public Library (BPL) – Pratt Institute SILS Partnership

LB21 grant funding: $536,890

Three-year rotational work/training/internship project providing MLS students experience in a major public urban library, motivating them to commit to public librarianship.

Initial project goal(s)
- Attract students to urban public library work, enhancing their academic experience through work in challenging "real life" setting of a complex urban public library, exposing them to all aspects of public library management & service.
- Ease financial burden of low-income & minority MLS students through scholarships.
- Develop new concentration at Pratt SILS for urban public library service.

Features of the program
- **Curriculum development** was informed by two symposia focusing on leadership in the public and social sectors facilitated by external experts.
- **Cohort system.** Students benefitted from peers undergoing similar training and using the same academic curriculum.
- Set of peer education and mentoring programs supplementing course work included **practicum**, credit-bearing **internships**, and **independent study** for PULSE trainees; monthly **Knowledge Enhancement Seminar** conducted by heads of BPL departments and divisions.
- BPL staff volunteered as **mentors** to provide on-the-job guidance and advice and assistance in resolving work-related issues, with six **Train-the-Trainer (TTT)** seminars for mentors and BPL staff working with interns and trainees to support the new role.
- Number of trainees attended ALA or Public Library Association (PLA) conferences. Trainees also participated in a joint NYPL-BPL seminar.

Efforts to sustain what was done well
- Feedback from Year 1 & 2 trainees led to modifications of rotations for Year 3 trainees.
- Ongoing evaluation by an external consultant also led to program modifications.
- "Trainees were instrumental, advancing BPL initiatives to improve library services, including "Catalog we can Trust," a system-wide inventory project, and Skills Training and Employment Project (STEP), a grant-funded project that helps Brooklyn residents advance on paths to job readiness or employment."
- PULSE Resource Library created as a reference collection related to public libraries used by trainees and interns continues to assist BPL's current library trainees. BPL's new Librarian Trainee Program, incorporating PULSE rotational design, Knowledge Seminars, and mentoring, is for those working full-time at BPL while completing studies in any ALA-accredited Master's program.
- Two courses developed, approved, and added to the PULSE training curriculum (Urban Public Library Service and Cultural Diversity & Libraries) "continue to be offered and enjoy high enrollment numbers."

Other effective grant activities

Grantees in both the Ph.D. Innovation and Continuing Education Innovation categories highlighted the social networks developed within and across programs as well as the networks created through training opportunities as effective activities within their grants. In addition, grantees who received Institutional Capacity Diversity grants indicated that one additional factor identified for contributing to a successful program was the presence of personnel support for the grant program. Specifically, 80 percent of the Institutional Capacity Diversity grantees indicated that some portion of their grant funding was used to provide a salary to staff members or program directors to help facilitate a successful program.

Exhibit III-4a Supporting Evidence: *Effective Grant Activities*		
Theme	**Participant Statement**	**Source (Grant Category)**
Scholarships/ Financial assistance	"Without [the scholarships] we would not have had the range of backgrounds or the number of students in our cohort."	Master's Diversity
Scholarships/ Financial assistance	"We saw the benefits of, and the need to fund doctoral students, and now we hardly ever accept a doctoral student who we are not funding. When they are funded, their work quality is higher."	Ph.D. Innovation
Conference/ Workshop attendance	"If I were applying again, I would put in for more funding for student travel. It helps them get a strong resume for when they go out to look for jobs. It makes them visible in their professional communities."	Ph.D. Diversity
Mentorship programs	"The mentors had to spend 10 percent of their time with the students. What really made the program a success was all the people willing to take on this mentorship role…Most [mentors and mentees] are still in touch; that has been really good."	Institutional Capacity Diversity
Classroom enhancements	"This program is the first totally online course we have had. This was the best first-year program they had ever approved. I'd say it affected us tremendously, since now we have the online program. That is the marketplace right now—whether we like it or not, 'online' is the marketplace."	Master's Diversity

Factors for Success in Academic Achievement

One goal of grants in both the Master's and Ph.D. grant categories was to promote academic achievement for students in the program. The factors for success were identified across the projects and are described in the following sections. Each of the factors is identified as a theme. Statements that support findings across these themes are provided in Exhibit III-4b.

Education achievable with scholarships to students

In terms of factors for academic success, the most commonly mentioned factor across both Master's Diversity and Master's Innovation grants was the scholarships. Nearly half of the Master's Diversity grantees specifically indicated that scholarships were a factor in their students' success. While some respondents stressed the importance of full scholarships, others advocated for partial scholarships because they felt that students were more invested in the program if they were partially responsible for paying for it. Funding for books and supplies was also mentioned as a factor for success, as many of the students who benefitted from the program were often unable to afford their books. One reason that scholarships were seen as important is that they allowed students to obtain degrees who would not otherwise be able to do so. Because of the cost of tuition and the fact that people going into this line of work typically are not earning large salaries, scholarships allowed students to focus on their studies and not need an additional job to pay for tuition.

Because of the variance in definitions and the lack of comparable data gathered, it was not possible to conclusively define factors for success with respect to academic achievement of students with full versus partial LB21 scholarships. Based on the data available, it was also not possible to determine whether students who received full scholarship funding were more successful than those who only received partial funding. To some degree, this was due to fact that partial funding was defined differently across grant projects and grant categories. For instance, in some grants, it was defined as receiving full funding for some but not all years in the Ph.D. program. In other programs, partial funding was defined as partial student funding (dollar amounts varied) across some or all years in the program. Additionally, variance in completion rates between full- and partial-scholarship recipients was not fully captured by the interview data. For example, none of the grantees within the Continuing Education Innovation category indicated providing both full and partial scholarships to beneficiaries within a program. In addition, because the Continuing Education programs were typically one-time workshops or conferences, completion rates were not tracked as closely as they are for degree programs.

Support systems developed when using a cohort model

Another feature mentioned by some of the grant projects as effective was having the students complete their degrees as part of a consistent cohort. Grantees in two of the four grant categories addressing this topic indicated that utilizing cohorts was effective for promoting academic success. Interviewees indicated that the cohort structure helped students to develop strong relationships and support systems, create a professional network that could lead to job opportunities, and allow students from underrepresented backgrounds to support one another. Keeping students in a consistent cohort was seen as one of the biggest things helping them succeed academically in their program.

Valuable faculty relationships developed through mentorship programs

Some of the Master's and Ph.D. grant interviewees mentioned a mentorship program as a factor for student success. One third of the Master's Diversity grantees, one quarter of the Master's Innovation grantees, and half of the Ph.D. Diversity grantees indicated that relationships with

mentors were extremely important in promoting student academic achievement. Grantees that provided this information focused on the need to allow the students to build strong relationships with mentors among the faculty. Mentorships promoted success because they gave advisors or faculty members an opportunity to get to know students and develop close relationships. As such, these mentorship relationships provided an avenue for students to develop valuable and supportive relationships with faculty members in their desired field. Mentorships were also seen as supporting diversity in that they helped ensure that students from diverse and underrepresented backgrounds were having any needs addressed and felt that the faculty and staff were genuinely interested in their success.

Other factors for academic success

One other factor for academic success identified by grantees in both the Master's Diversity and Master's Innovation grant categories was partnerships. Some grants included multiple partners, each of which helped in a different facet of the program, examples of which include recruitment, the blended curriculum, internships, mentors, and the classroom space for several academic pieces of the program. Finally, grantees in these two categories also included promoting on-the-job learning activities, such as internships and special projects, as effective for promoting student success.

Exhibit III-4b		
Supporting Evidence: *Factors for Success in Academic Achievement*		
Theme	**Participant Statement**	**Source (Grant Category)**
Scholarships to students	"I do not think that we could have gotten the start-up without the scholarships. You have two degrees at a private institution with high tuition, and students have a hard time affording that. If you are getting two degrees simultaneously, it is hard to work full time so it is definitely a financial strain on students."	Master's Innovation
Using a cohort model	"When I asked students what features really worked for them, they said the cohort model – building relationships over time and having friends in the same job. They had the ability to network consistently and be in the same class. Now that they are out in the workforce they are communicating with the group all the time"	Master's Diversity
Mentorship programs	"The mentoring program was important…It supported the diversity in interests and educational backgrounds…it gave [the students] someone they could talk to about issues, such as adjusting to a professional setting as opposed to a paraprofessional setting."	Master's Diversity

Techniques for Successful Diversity Recruitment

Just as there was no single recruitment strategy or activity implemented consistently by grantees across the various grant categories, there was not a single recruitment strategy or activity that was identified as being particularly effective in the recruitment of diverse populations. Different grantees indicated different aspects of recruitment that they thought were most effective. Two recruitment strategies were identified across the grant categories as themes regarding being effective in recruiting diverse students. These are each described in the following sections. Additionally, recruitment methods that were identified as effective but that do not constitute a theme are also described. Statements that support findings across these themes are provided in Exhibit III-4c.

Personal contact and connection

Grantees in three of the four diversity grant categories emphasized that personal contact was the most important factor in recruiting students. They indicated recruitment techniques that created a personal connection with potential beneficiaries were more successful than those that did not. For example, personalized recruitment emails typically received better response rates than mass emails. One grantee described the positive effect of personal contacts within professional groups for establishing personal connections. Regarding establishing personal connections, one grant project successfully recruited students through the Leaders Wanted program, which provides an opportunity for faculty and students to meet on a more personal level, allowing students to get to know the faculty better.

Further, recruitment efforts that combined several individual strategies into one interrelated campaign were most effective in initially establishing this personal connection and attracting the target to pursue the training opportunity. In these campaigns, interviewees indicated that they would conduct significant background research to collect valid email and physical addresses before making their first contact. Then, they would devote resources to updating their database to refine contact details as they learned more about the population through returned messages, referrals, and general research. These programs were later able to rely on the beneficiaries themselves to update their own information and provide contact details for new referrals. Once the network was established, beneficiary updates might occur at the training site, over email, or through social media.

PROGRAM HIGHLIGHT: ALA New Voices New Vision

LB21 grant funding: $ 928,142

Dramatically increased numbers of racially and ethnically diverse students enrolled in nationally accredited MLIS programs through direct scholarships, national coordination of recruitment initiatives; promotion of dialogue and awareness among LIS educators and practitioners; outreach component providing support services to SLIS.

Initial project goal(s)
- Increase number of master's level scholarships provided to minority students through Spectrum Scholarship program
- Create and institutionalize mechanisms for nationally aggregating, disseminating information about, and raising the visibility of national, regional, state and institutional level diversity recruitment and education initiatives
- Collaborate (with ALISE, LIS educators, and practitioners) and host national level dialogue "to discuss the educational experiences and pre-professional development opportunities necessary to produce the ready and well-equipped librarian of the 21st century."
- Build outreach/support services component to provide library schools with information and marketing resources; specialized programming; active consultation; and ongoing support in expanding capacities to attract, matriculate, and successfully graduate underrepresented students from MLIS programs.

Efforts to sustain what was done well
- Designed KnowledgeSeekers web database, initially populated with over 200 opportunities, though user-interface needs to be improved
- Institutionalized Spectrum Matching Funds Program
- Outreach plans outlines annual timeline of when and how Spectrum Scholarship info should be shared with LIS programs to ensure that potential applicants are aware of funding opportunity and coordinate with students/SLIS
- Spectrum Institute curriculum made available to any program coordinator planning similar leadership training opportunities
- Spectrum has made its case; fundraising, staffing heightened visibility through marketing, etc. "must be a key priority for ALA in the next few years."

Unanticipated outcomes
- Recruitment and selection of a considerably larger number of annual recipients "providing evidence that even though our marketing and outreach efforts are only just beginning, interest in the field is high enough to support considerably expanded recruitment."

Key insights
- Recognition that new strategies may be needed to fundamentally shift pervasive attitudes and perceptions about diversity initiatives within the profession
- Potential to survey Spectrum Scholars to gain broad cross-section insight on state of LIS education, attitudes and experiences of new professionals in the field, and experiences of new members in Association seeking leadership opportunities
- Need for outcome-based evaluation process in future
- Personal essays of applicants detail how they learn about and decide to pursue a career in the field through a positive experience with people in the profession.

Working with minority-focused organizations

Interviewees in half of the diversity grant categories indicated that partnerships with other stakeholder organizations, when possible, were a key factor in achieving their goal to reach more diverse populations. The partnerships brought awareness to grant activities, provided additional resources to grant efforts, and allowed grant programs to establish their credibility with the community as well as their target applicants. Additionally, outreach through organizations for minorities, such as the ALA Black Caucus and REFORMA, were effective for helping to recruit diverse students. This theme was identified by grantees in half of the diversity grant categories.

Other effective recruiting efforts

Word of mouth was used for recruitment efforts by about one-third of the grant projects in the Master's Diversity category, and each believed this was effective. In several cases, word of mouth came from alumni. In others, the word of mouth spread through local or field-specific networks. Similar to word of mouth, eight of the grant projects used referrals and recommendations for recruitment. This was typically done by contacting library directors or school district leaders or librarians (in the case of a few of the grant projects that targeted school librarians) and asking them to recommend individuals from among their staff or students who would be a good match for the grant project. Over half of those who used this method found it effective in recruiting students.

Targeted recruitment and recruiting materials were also described as effective by a few of the grantees interviewed. One Institutional Capacity Diversity grantee indicated that the most effective recruitment tools with regard to diversity were their targeted recruitment materials featuring minority individuals and recruiting in locations (e.g., job fairs) where it was known a large number of minorities would be present. Additionally, a Ph.D. Diversity grantee said that effectively recruiting a diverse population was facilitated by targeting communities with poverty and high numbers of racial minorities, determining gaps in academia, and recognizing how the abilities of people in the identified communities can help to fill the identified gaps.

Further, two of the five grantees in the Institutional Capacity Diversity category described the importance of promoting diversity in faculty and curricula content in recruiting diverse students. These grantees indicated that the diversity of the faculty played a big role in recruitment and that one of the ways they found most effective to recruit minority students is to have a diverse faculty. Another grantee indicated that courses, workshops, and professional development opportunities tailored to include diversity were some of the most successful ways to help increase diversity. Workshops and open houses were used by some of the Master's Diversity grantees and most found them to be an effective method for reaching students. One grantee specifically mentioned that this was an effective way to reach minority students. Most of the open houses included information on what to expect in the career, as well as the academic program.

Exhibit III-4c Supporting Evidence: *Effectively Recruiting Diverse Students*		
Theme	**Participant Statement**	**Source (Grant Category)**
Personal contact and connection	"We worked really hard to compile a (contact) database and gather information from every source that we could think of. It took a long time to develop this, but it has served us well because we now have over 5,000 solid names with email addresses thanks to that early work… we sent personalized emails which were very successful and effective."	Continuing Education Diversity
Working with minority-focused organizations	"What brought in the most interest was emailing specific scholarship centers at over 100 different universities and all of their minority organizations."	Master's Diversity
Other: Promoting diversity in faculty and curricula content	"The best way to recruit minority students is to have a diverse faculty. Two of our four [students] are Native American. I think that's partly because we have a Native American Associate Dean for Research."	Ph.D. Diversity

Grant Sustainment

The extent to which grant projects have been able to sustain themselves and continue serving the field after the grant period ends is an important measure of the effectiveness of IMLS grant investments. This section discusses the sustainability of programs after the end of the grant period, which parts of the grants were sustained and why, and what funds were used to sustain them. It also explores factors for success in sustaining programs and program components. Exhibit III-5 highlights research questions related to sustainability.

| Exhibit III-5 Area of Inquiry: *Grant Sustainment*	
Organizing Framework	**Emergent Themes**
Level of project sustainment	· Projects fully or partially sustained · Projects not sustained
Sustainable project types	· Classroom education · Training and development events · Developed partnerships · Other sustainable project types · Scholarships not typically sustained

| Exhibit III-5	
Area of Inquiry: *Grant Sustainment*	
Organizing Framework	**Emergent Themes**
Resources to sustain projects	· Additional grant funding · Partnerships · Integration with existing courses or curricula · Program revenue · Institutional support · Other resources

Level of Project Sustainment

This section discusses the extent to which programs were sustained following the completion of LB21 grants. Level of sustainment refers to programs that were fully, partially, or not sustained. Statements that support findings across these themes are provided in Exhibit III-5c.

Projects fully or partially sustained

As shown in Exhibit III-5a, slightly less than half of all grant projects were sustained, either fully or partially, following the completion of the LB21 grant period. Specifically, 17 percent of the grant projects were fully sustained while 31 percent of the grant projects were partially sustained.

Exhibit III-5a
Overall Sustainability of LB21 Grant Projects

17% Fully Sustained

31% Partially Sustained

52% Not Sustained
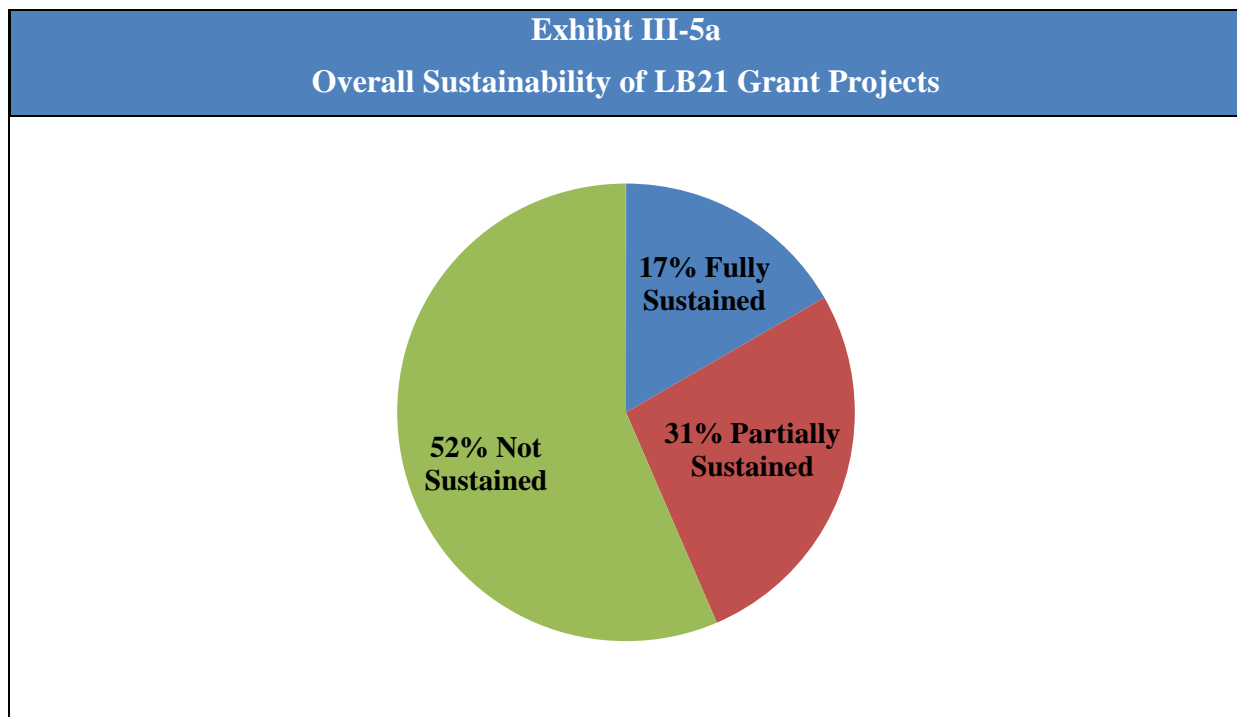
The percentages of grant projects in each category that were fully, partially, or not at all sustained are provided in Exhibit III-5b. Each bar within this chart represents a different grant category. The bar then shows, out of the total 100 percent of grants within the category, the percentage that were fully sustained, partially sustained, or not at all sustained. Grants within different categories varied with regard to how many of the grant programs were sustained following the expenditure of the LB21 grant funds. For example, Institutional Capacity Diversity and Innovation grants were the most likely to be sustained, as all of these grants were sustained to some extent. On the other hand, Ph.D. Diversity and Innovation and Early Career Innovation grants were the least likely to be fully sustained, with none of the studied grants in these categories being fully sustained. Master's Innovation grants had the highest percentage of projects fully sustained. There were also not any Ph.D. Innovation grants that were partially sustained.

Exhibit III-5b
Sustainability of Grant Project by Grant Category
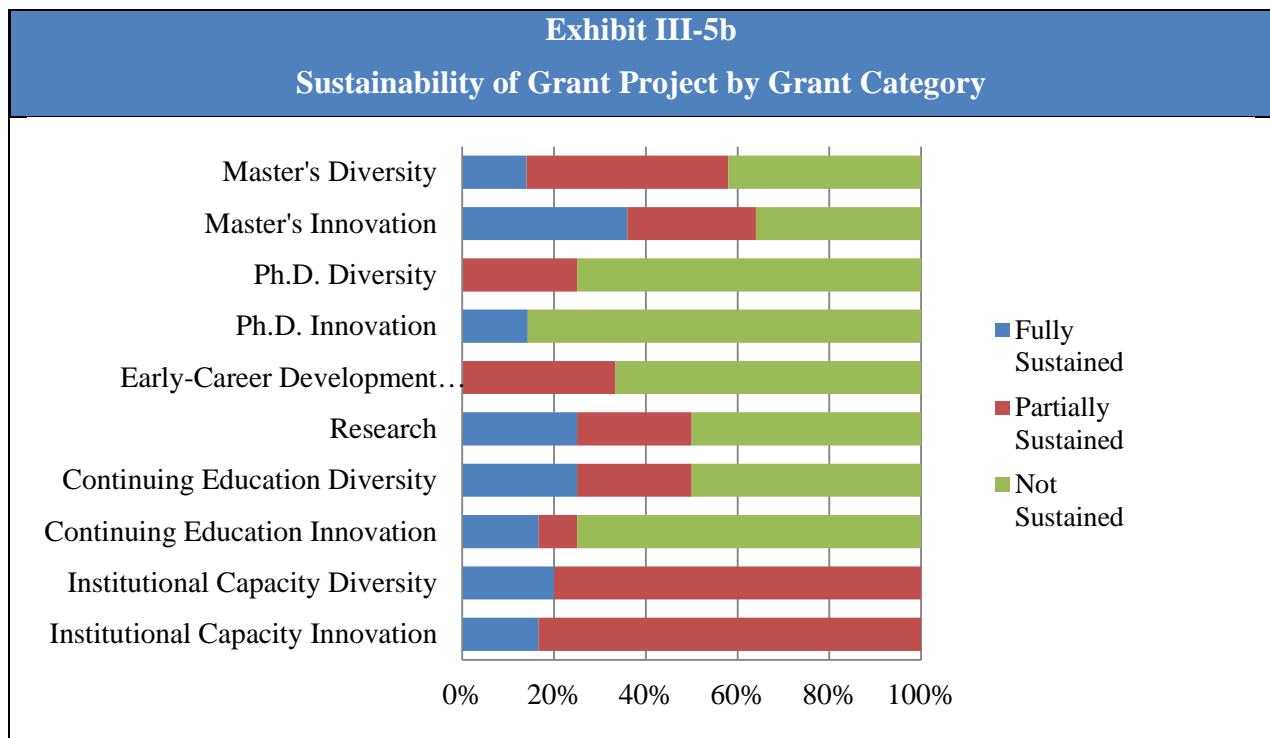
Projects that were fully or partially sustained are described further in this section, organized by the grant category. Of the five Master's Diversity projects that were fully continued, all of them were continued under another IMLS grant project award. None were fully sustained without funding from IMLS. While only a few of the projects in this category were sustained completely, several were able to sustain one or two features, and several of these partially sustained projects were sustained without additional funding from the LB21 program. In the Master's Innovation grant category, approximately two-thirds were sustained past the grant period. Of the nine projects sustained, five were sustained in their entirety and four were sustained only in part. None of the Ph.D. Diversity grant projects was sustained in its entirety. However, one project did sustain the mentorship program and recruitment method developed under the grant project. Also,

none of the Early Career Development Innovation programs were sustained after the LB21 funding ended.

While each of the Research grant projects provided valuable information using the grant funds provided, only half of the projects were sustained in some manner. Of these, half were fully sustained following the completion of grant funding and half were partially sustained. Similarly, all of the grants within the Continuing Education Diversity category provided rich programs within the LIS field, but only two of the projects were fully sustained after LB21 funds were expended. Two of the Continuing Education Innovation grant programs in the sample continued after LB21 funds were expended. One of these grantees indicated that the program was fully continued through funds from the grantee institution. The other was partially continued; the set of new courses that were developed under the grant remained a permanent offering within the department.

Each of the Institutional Capacity Diversity grants provided valuable programs for the grantee organizations, as can be seen by the fact that all of the programs were at least partially sustained following the completion of the LB21 funding period. Of the five grant projects that were examined in this category, one project was fully sustained while the other four were partially sustained. Finally, the Institutional Capacity Innovation provided valuable and important products to the grantee institutions as can be seen in that the entire set of grant projects was at least partially sustained following the completion of the LB21 grant period. Of the six grants that were included in this evaluation, five grants were partially sustained and one grant was fully sustained.

In some cases, it was not the plan for the grant projects to be fully sustained. LB21 funds were sometimes sought out to fill a specific need that could not be completed with funds from a university or other source. One grantee described this situation and said that the program was partially sustained, as the Master's program was updated and the new content remained in courses; however, the funding to students in the form of tuition and assistantships was not continued following the completion of the LB21 grant period.

Projects not sustained

Projects that were not able to be sustained following the completion of the grant were typically activities that required a continual input of money. As such, project components were often discontinued when grantees no longer had funding support, but this did not compel grantees to describe the programs as unsuccessful. Overall, grantees thought that they were able to meet the goals of their grant and be effective even if the grant projects were not sustained.

Of the Master's Diversity grant projects, approximately 40 percent of the projects were not sustained past the grant period. Slightly less than 40 percent of the Master's Innovation projects were not sustained. For those Master's Diversity grant projects that did not sustain any specific elements of the projects, several interviewees indicated that awareness of the program (and in some cases the prestige of the program) increased, which allowed the program to maintain strong

enrollment figures and in some cases expand into areas that the program had not been known for prior to the grant project.

None of the Ph.D. Innovation scholarship programs was sustained after the LB21 funding ended and the majority of the Ph.D. Diversity programs were not sustained. Regarding the Continuing Education Diversity project, half of the programs did not continue after LB21 funds were expended. These grantees indicated that it would have been feasible to continue their program had a better transition strategy been in place. In one case, the grantee indicated that new funding should have been sought out sooner to keep the program momentum going after the LB21 funding expired. In a separate instance, the PI took a position in another agency and as a result, enthusiasm around the project dwindled once the grant period ended.

Exhibit III-5c Supporting Evidence: *Level of Project Sustainment*		
Theme	**Participant Statement**	**Source (Grant Category)**
Partially sustained	"The grant provided something the university was not able or willing to provide by incorporating specialized content into a program. The grant filled the gap of what the university could provide. They see it as a complement to what they can provide. It was not a goal of the grant for the university to continue this funding for underserved students."	Institutional Capacity Diversity
Not sustained	"We didn't have the funding to support [the continuation of the workshops]…We found that you could do this again in five years with newly hired staff members in the field, a whole new group of participants who need this information. We had accomplished what we had set out to do and sustainability was not necessary."	Continuing Education Innovation

Sustainable Project Types

Across all of the grant categories, specific types of projects that were the most often sustainable were identified. Generally, the components that grantees indicated were sustained were those that did not require further funding, such as developed courses and curricula. Specifically, four themes for sustainable project types are described in the following section. One type of grant activity that was of particular interest with regard to sustainability was scholarships. In general, scholarships were not sustained following the LB21 grant period. This is also discussed. Statements that support findings across these themes are provided in Exhibit III-5d.

Program Sustainability

· Program components such as workshops, partnerships, and specialized curricula were often maintained after LB21 funds were expended.
· Few grantees reported being able to sustain the scholarship programs without LB21 grant monies.

Classroom education

When discussing the types of projects that were sustained following the completion of the LB21 grant period, interviewees in five of the ten grant categories indicated that elements related to classroom education were sustained. This includes courses, new or updated curricula, or newly developed certificate programs. Whether additional or modified curricular elements were incorporated into the curriculum for the long-term typically depended on the extent to which a program sought to increase the diversity of the student body in an existing graduate program or to extend the content of program in a new or diverse direction. Changes were more likely to be sustained in the latter case than the former.

The types of programs sustained following the completion of the Institutional Capacity Innovation grants were typically aspects that do not need continued monetary inputs to be used, such as grantees that developed courses using the grant funds. Because these courses were already developed and were recent enough as to not require updating, they were continued even after all funds from the LB21 grant were expended. Newly developed courses, or a newly developed curriculum, were also among the most frequent elements to be sustained in the Master's Diversity category, usually by being incorporated into the program's existing structure of course offerings. One Master's Diversity grantee indicated that a partner organization developed a sub-curriculum to prepare students for community college librarianship under the grant project. This was valuable and sustainable because it had the benefit of opening a new niche market for them that increased interest in the program.

For the Institutional Capacity grant projects that were partially sustained, the parts of the project that were sustained following the completion of the LB21 funds were aspects of the program related to course, curriculum, or certification opportunity development. Three of the four grant programs that indicated their activities were partially sustained described this. Specifically, one interviewee indicated that the courses developed for a certificate program were integrated into the Masters' Degree courses. Another interviewee described that the leadership coursework developed through the LB21 grant was adopted and changed to be applicable to all students and is still part of the coursework. Additionally, this interviewee indicated that the internship program that was part of the program developed with grant funds was continued following the grant period but that it was not continued at the same level as it was during the program. Another interviewee indicated that courses created using the LB21 grant funds were incorporated into the curriculum, and that this has had a positive impact on their students' education. Of the Institutional Capacity Innovation grants, four of the six programs that were partially or fully sustained indicated that the courses developed were continued after the grant ended.

One Research grant program that was fully sustained focused on implementing web-based training in public libraries. This program was fully sustained for two years following the grant until the lead researcher stopped running the program. Once responsibility for the program was given to the Continuing Education group at the university, it was no longer sustained although the lessons developed are still available. This situation points to the importance of having

someone responsible for and willing to champion developed projects in order to obtain sustained usage of developed products.

Training & Development events

As described in the *Types of Grant Activities* section previously presented, training and development events include activities such as conferences and workshops, mentoring programs, and internships. Projects of these types were identified as being sustained by grantees in six of the ten grant categories. Grantees pointed to conferences and workshops that were developed or utilized in the grant projects as examples of training and development events able to be sustained beyond the grant period. Master's Diversity and Master's Innovation grantees indicated that sustained elements of partially sustained programs included service activities and workshops. One new component sustained by a Master's Diversity grantee was the opening up of an existing workshop to students that would not typically have been allowed to participate. This allowed for participation by students at a number of different institutions. Two Continuing Education Diversity programs that were sustained included a training institute to address the continuing education needs of pre-professional library staff in the USAPI. The three week-long sessions provided training to 55 local professionals while expanding their knowledge, skills, abilities, and confidence. The second sustained program was the initiative that created conference and professional development opporunities for Native American librarians and other underrepresented groups across the U.S. One of the Ph.D. projects that sustained part of their grant indicated that they sustained conferences following the conclusion of the grant period. This project hosted a conference so that doctoral students could practice giving presentations and get feedback. It was organized and run by students who, through this experience, learned a great deal about conference arrangements and making things happen in terms of organizing a conference. This activity has been sustained past the grant period.

Mentoring was also indicated by multiple grantees as a project activity that was able to be sustained beyond the grant period. In two of the five Master's Diversity grant projects that were able to sustain the mentoring programs, the program was sustained in a less formal fashion once the grant funding ended. In one project, the mentorship component capitalized on an existing alumni base for the program that is strong and active. The grant project was designed to improve upon a program that had been in existence since the 1990's, and the mentoring program was one piece of that project that the grantee chose to continue. One Ph.D. Diversity grantee reported that their mentorship program was sustained by making the program into a class.

The one Institutional Capacity Diversity grant program that was fully sustained did not provide scholarships or stipends to students; the grant work was solely based on creating a web-based system through which students of information science could access specialized course offerings and networking opportunities. This consortium was created through partnerships with other organizations, and continues because of the value provided through the specialty course offerings. Finally, internships were identified as being sustained by grantees in the Research grant categories.

Developed partnerships

Partnerships developed under the grant project were another commonly sustained feature for Master's Diversity grant projects, Master's Innovation grant projects, and Institutional Capacity Innovation grant projects. Master's Innovation grantees indicated that elements of the grant project that were developed through strong partnerships established as part of the LB21 grant were particularly likely to be continued. For example, one Master's Diversity grantee sought to combine the grantee's existing master's program including a specialization in archives with internships at a local historical society, and this partnership was sustained even after grant funds were expended. One unique series of partnerships established under a Master's Diversity grant project that has been sustained are partnerships with other diversity scholarship programs to ensure that the programs are not awarding funding to the same few individuals but instead are spreading the funding among a larger pool of recipients. Additionally, one Master's Innovation grantee found that they were able to sustain partnerships that had not existed prior to the LB21 grant. In this grant program, students worked on a range of digitization projects with various community institutions including the symphony, the opera theatre, museums, and an art institute. Because of this collaboration, there is newfound a sense of camaraderie between the community organizations and the university's LIS program which has continued after the completion of the grant. Finally, one Institutional Capacity Innovation grantee indicated that relationships built with others on campus, such as a relationship with people in the University Library, were sustained following the grant.

Other sustainable project types

Two grant projects, one each from the Research and Ph.D. Diversity grant categories indicated that they were able to sustain recruitment efforts that were developed during the grant period. One Research grant project activity has been fully sustained focused on creating a recruitment plan for school librarians. Because researchers continue to have interests in this area, the program has been sustained and additional research is being conducted through collaborations with principals at schools who are participating in research efforts to further develop recruitment strategies. Another project in the Ph.D. Diversity category sustained the Leaders Wanted diversity recruitment efforts that were developed under the grant project. This is being sustained at the present by working with the school's diversity recruiter, though the grantee is also working with the ALA Office of Diversity to develop a plan for sustaining the program through a webinar.

<div style="border: 1px solid blue; padding: 10px;">

PROGRAM HIGHLIGHT: *Project SESAME and LIU CUNY Partnership*

LB21 grant funding: $316,967

Students take Building Digital Libraries course while interning in City University of New York (CUNY) special collections, putting classroom learning into practice.

Initial project goal(s)
- Produce 30 new graduates of the Palmer School who have the skills and experience for work on digital projects in libraries' special collections
- Help CUNY special collections accelerate progress with digital projects.

Efforts to sustain what was done well
- *Building Digital Libraries* and related technology courses have become a permanent part of the curriculum
- A permanent administrator has been hired to help with online technology courses and coordinate internship project relationships
- Palmer is working to set up other, informal partnerships with libraries that have significant special collections (e.g., New York Public Library/map curation)
- Program is now considering developing apprenticeships and shadowing opportunities with partners.

Unanticipated outcomes
- Increased enrollments: Students who come for the *Rare Books and Special Collections* course increasingly pursue the certificate in *Archives and Records Management*
- Some students continued to volunteer at their placements after the semester.

Key insights
- Library school recognized a need in the region and took the initiative to address it through a win-win partnership
- School used observations of what was occurring as a result of the grant project to ignite rethinking of the curriculum content, frequency of course offerings, and technology employed to deliver instruction.

Source: Institutional Capacity Innovation grantee

</div>

Scholarships not typically sustained

Of the six grant categories that were asked about sustaining scholarship programs following the grant period, grantees in four categories indicated that scholarships were not sustained at all following the completion of the LB21 grant. A small percentage of Master's Diversity and Master's Innovation grantees were able to sustain scholarships. Although all projects in the Master's Diversity grant category included a scholarship program which was often the largest portion of the grant funds, only eight of those were sustained. Of those, five were sustained temporarily through additional LB21 grants and three were sustained through other funding sources. None of the three sustained by means other than LB21 funds were sustained at the level offered under the LB21 grant. One was sustained through university funds, with the dean offering a small number of scholarships ranging between $2,000 and $3,000. Another was

sustained using scholarships offered through the state library association. The final grant project with a sustained scholarship program was a program through ALA that existed prior to the LB21 grant program. The program continues to be sustained via an ALA endowment fund that gathers funds through annual fundraising campaigns. Three of the grant projects in the Master's Innovation category were able to sustain their scholarship programs, though also not to the same degree as they were able to provide under the LB21 grants. One program awards students a scholarship of $1,000 per year, while another program awards $30,000 annually, split among three or four scholarship recipients. The third grant project provides a 50 percent reduction in tuition.

Exhibit III-5d		
Supporting Evidence: *Sustainable Project Types*		
Theme	**Participant Statement**	**Source (Grant Category)**
Classroom education	"Before we developed this course, our students who are going for the regular school media certification had to take a regular course for their certificate and they were taking reading courses in education and applying them. What we were able to do was get the course we developed accepted by the state of Florida in our certification program so that it is much more applicable to take this course since it is focused on the school librarian's role, rather than just a generic course."	Institutional Capacity Diversity
Developed partnerships	"A lot of this is developing a creative relationship with the institution…These partnerships connected the educational/classroom learning to the real world. It is important to pick a partner that represents best practices and has forward thinking capabilities…Partnerships have to address how this will impact beyond your institution."	Master's Diversity

Resources to Sustain Projects

Across grant types, five themes were identified to categorize the resources that grantees used to sustain projects after the conclusion of the grant period. Statements that support findings across these themes are provided in Exhibit III-5e.

Additional grant funding

One of the resources that have been effectively used to sustain grant projects is the use of additional grant funding. Interviewees in six of the ten grant categories indicated that further grant funding was utilized to continue grant projects following the completion of the LB21 grants under discussion. Some grantees said they looked to other grant-giving institutions and associations within the field for funding, while others sought additional LB21 grant funds.

All of the Master's Diversity grantees indicated that they fully sustained their projects. All indicated that additional LB21 grants were used to sustain them. Two Master's Innovation grants were fully sustained through new grants as well. One Continuing Education Diversity grant relied on three additional LB21 grants to sustain and improve the training institute after the initial grant period. Similarly, an Institutional Capacity Innovation grantee that developed a summer institute was able to continue this program through another LB21grant from IMLS. Additionally, one Institutional Capacity Diversity grantee described pursuing subsequent grant funds to provide scholarships to students to allow for participation in the developed courses and certification program and another indicated that funding for some scholarships is being continued by other project partners.

Partnerships

Interviewees in three grant categories indicated that forming partnerships with other organizations was beneficial in working to sustain programs. Partial sustainability of projects has been possible because of partnerships with other institutions or associations who contributed to activities developed or the research being conducted. Master's Diversity grantees said that internship and mentorship programs were sometimes sustained through partnerships, in addition to the institutions themselves. One scholarship program was similarly sustained through a partnership with the state library association.

Three of the five Institutional Capacity Diversity grantees that were interviewed described various partnerships or collaborations that were beneficial in sustaining grant programs. Examples of these partnerships or collaboration are as follows:

§   Consortium with other universities
§   Partnerships with internship sites
§   Partnerships with a large network of mentors working in libraries
§   Collaboration with the state to gain approval of courses for a certification program.

This list provides examples of some of the types of partnerships that can benefit grant projects in terms of increasing sustainability.

Integration with existing courses or curricula

As discussed in the *Classroom education* section previously reported, another means by which LB21 grantees worked to sustain grant projects was to incorporate things created using grant funds into existing courses or curricula that will continue to be offered by their institution. Grantees in four of the ten grant categories identified this as an important sustainability resource.

For the partially sustained Master's Innovation projects, three have incorporated the grant components into the degree program, including one project that also used the courses created under the grant to establish a graduate certificate program. Unfortunately, the program has recently experienced a lack of interest and has been put on hold temporarily. The courses developed under the grant, however, continue to be taught and receive great student interest. For

another of these projects, the goal of the grant was to combine an existing degree program with an existing internship program. Thus, even though the grant project concluded the two features of the program were sustained because both programs had been in existence prior to the grant project being written and modifications were incorporated into these programs. One Continuing Education Innovation interviewee noted that after the grant period ended, the institution hired a digital assets manager to help build capacity to keep program resources online. Another grantee whose program was delivered via an online classroom said subscription expenses for the delivery platform were not insignificant, but that while these processes cost time and energy, including the program content on institutions' Web sites and courses allows beneficiaries to access and utilize developed resources after the workshops are over to continue their benefit to the field.

Program revenue

Revenue generated through the programs themselves is another means by which projects were sustained following the completion of LB21 grant period. Grantees in three different grant categories indicated this revenue as a resource to continue programs. One Master's Innovation grantee mentioned that the grant project is sustained through revenue generated by the distance program created under the grant funding. Similarly, another grantee is able to sustain the scholarships offered through the grant project using income generated by the developed program. One of the Continuing Education Diversity grantees indicated that to sustain a conference developed using LB21 grant funds, the program administrators relied on the conference fees paid by attendees and the fees paid by vendors who wanted to participate in the conference. Finally, by offering courses online to other programs or universities, one of the Institutional Capacity Innovation grantees is able to earn enough money to maintain the minimal staff needs to support the materials developed through the grant.

Institutional support

Institutional support was also identified as an important resource for sustainability by grantees in three of the grant categories. Projects that were partially sustained were often sustained through the institution itself, especially the course and curricular elements that were sustained. Some grantees in the Master's Diversity, Master's Innovation, and Continuing Education Innovation categories indicated that when additional funds were obtained in order to continue program components, these monies often came from within the institution or schools' budget.

Other resources

In addition to the resources already described that were used to sustain projects, additional resources were identified that were not used as widely by LB21 grantees but still deserve noting. One of these resources was quite innovative. A Master's

> **Grant Spotlight**
>
> · The one grant project that was able to maintain its scholarship program used several creative means: it was "funded from some organizations in Nevada… [Another] strategy was a Nevada library license plate, and the funds raised annually went to the Nevada Library Association. This helped get funds for scholarships." The license plates are no longer being sold, but funding does still trickle in through renewals of the original license plates.

Diversity grantee sustained scholarship funding using funds generated from a library-focused license plate for the state and donations from state organizations. While the project had also been sustained for a period using another grant award from IMLS, the funds generated by the license plate and money from organizations were used to sustain the scholarships during the period in which there was no LB21 grant. This grant project is highlighted in the box to the right.

One other resource identified as being beneficial for sustaining projects by both Continuing Education Diversity and Innovation grantees was taking the time to prepare for sustainability throughout the grant process. Program administrators from a Continuing Education Diversity grant project emphasized that they were well aware that LB21 grant funding would eventually expire so they tried to build sustainability into every aspect of the conference activities. This involved:

§   Creating manuals to describe procedures to future administrators
§   Assembling an international board of directors and an advisory group
§   Developing a Web site listing members and partner organizations.

This groundwork allowed the program to seamlessly transition to different financial support systems. Preparing for sustainability throughout the grant can also be done by archiving newly developed or modified course materials online. While this seems to be less costly than continuing facilitated workshops or scholarships for courses and travel, these technological processes often required considerable resources. However, preparing for this and working on it throughout the grant can help to increase the sustainability of developed materials and courses.

Exhibit III-5e		
Supporting Evidence: *Resources to Sustain Projects*		
Theme	**Participant Statement**	**Source (Grant Category)**
Additional grant funding	"This last spring our provost issued a call for a program called 'Better Futures for Iowans,' which is a program intended to demonstrate the way the university is responsive to the needs of the state. I got $75,000-80,000 from a grant for that to implement this program based on the revenue-generating model that was established in the LB21 grant…We are opening a distance education track for teachers in the state and we'll begin to run this on an ongoing, self-sustaining basis. This is really an outgrowth of the LB21 grant."	Master's Innovation
Integration with existing courses or curricula	"Pieces created under the grant, such as social media pieces, are continuing as part of the classes. One of the ways of sustaining it has been that we have integrated these things into our courses. We've also offered them online to others."	Institutional Capacity Innovation

Exhibit III-5e		
Supporting Evidence: *Resources to Sustain Projects*		
Theme	**Participant Statement**	**Source (Grant Category)**
Partnerships	"The partnerships were constructed so the project would be strong. One partner was an academic institution that created a blended curriculum. An academic library in the state provided internships as an access point to potential students…The last partner was a large public library district. We really wanted them because they had the largest needs for recruitment, and a large, robust mentoring program."	Master's Diversity
Other: Preparing for sustainability	"The grant was running out and didn't really have a lot of time to devote to this next phase [of archiving course materials.]…In hindsight, we should have built some more resources into the grant to have that done specifically."	Continuing Education Innovation

Grant Outcomes on Beneficiaries

In this section, the themes discussed are those that emerged related to outcomes of the grant programs on beneficiaries. Themes about beneficiary outcomes are organized as follows: nature of placement opportunities, mechanisms by which the grant programs facilitated placements, variation in placement rates of program beneficiaries compared to non-beneficiaries, and impact on the field. The resulting themes are noted in Exhibit III-6.

Exhibit III-6	
Area of Inquiry: *Grant Outcomes on Beneficiaries*	
Organizing Framework	**Emergent Themes**
Nature of placement opportunities	· New positions · Advancement opportunity
Mechanisms for facilitating placement	· Internships · Partnerships
Placement rates	· Varied rates in finding placements · Varied rates in sustaining placements

Nature of Placement Opportunities

This subsection describes the two themes that emerged from this evaluation with respect to the kinds of placement opportunities that resulted following participation in LB21 grant projects. Exhibit III-6a provides supporting evidence for these themes.

New positions

Interviewees in three grant categories indicated that LB21 program activities produced new employment opportunities in academia and in the field. In one Ph.D. Diversity grant where precise placement information was available, three students returned to the institution as faculty members, two obtained other faculty positions, and one is working in a non-profit that works with young people (which fits the topic area of her degree). In another Ph.D. Diversity grant, 6 of the students are known to have received placements in either faculty positions or other positions working in their field of interest.

Graduates of projects in the Master's Diversity grant category now work in a variety of settings. The most common employment opportunities were obtained in academic libraries or institutions (approximately one-quarter of the Master's Diversity grant projects resulted in individuals finding employment in these positions), school libraries (another approximately one-quarter of the grant projects), and public libraries (slightly less than one-quarter of the grant projects). Less common post-graduation employers included urban public libraries, rural public libraries, and museums. In addition to employment in library positions, at least three grant projects graduated students who went on to become library directors. Another grant project had five students who went on to pursue doctoral programs. Other PIs reported that their students went on to hold positions of leadership in the field, including one student that became the president of the state library association just two years after completing her degree.

Similarly, most of the program beneficiaries in Master's Innovation grant projects received placements in the field, with some also advancing in their current fields. In addition, four of the students in these programs have either completed or are in the process of completing doctoral programs. Six of the grantees believe that students that benefitted from the grant projects received higher job placement rates than other master's students at the same school, while six other grantees believed that placement rates did not differ and two grantees were unsure of the comparison. Typically, the reason cited for the improved placement rates is the extra experiences that were available to the LB21 program beneficiaries, such as mentorship relationships and internships.

Advancement opportunity

Where interview questions were posed related to advancement opportunities, grant program beneficiaries fared better than non- beneficiaries in post-grant placements in three of the five grant categories. The other two categories did not track post-graduation placements since their focus was continuing education and beneficiaries almost universally had a full-time employment position while in training. In the three grant categories where advancements were actively tracked, there was clear evidence of LB21 effectiveness. For example, in the Master's Diversity category, nearly half of the interviewees reported beneficiaries having quicker job placements, positions with more responsibility, higher salaries, and/or students were able to advance more quickly after graduating than those who did not participate in the program. Another grantee specifically indicated that recruiters frequently seek out program beneficiaries when jobs become available and look for participation in the long-standing program when examining resumes. In other cases, where students were already working in library positions, interviewees reported that

three-quarters of these students were promoted as opposed to maintaining their current position after graduating. Some who were not promoted by their current employers were able to obtain positions elsewhere that afforded them greater responsibility and higher salaries.

Although the Continuing Education Category grants did not commonly track advancements, there were two grant projects that did report on placement outcomes. Both reported that beneficiaries were able to advance in their careers as a result of the continuing education. One grant project also mentioned that the education had inspired some of the beneficiaries to pursue degrees, ranging from associate and bachelor's degrees to one student who went on to enroll in an MLIS program. Another PI offered that although the project did not track placement outcomes, the program has offered an expansion of their students' knowledge and skills.

Exhibit III-6a		
Supporting Evidence: *Nature of Placement Opportunities*		
Theme	**Participant Statement**	**Source (Grant Category)**
New positions	"One critical 'edge' was the opportunity to shadow faculty and providing services, having actual research library work experience…People got more interviews for sure."	Master's Innovation
Advancement opportunities	"In most cases, these students stepped into positions that are more demanding and were given more responsibilities...they have definitely moved into positions of higher responsibility more rapidly than they would have otherwise.	Master's Diversity

Mechanisms for Facilitating Placements

To assist beneficiaries in finding placements following grant project participation, grantees described mechanisms that helped to prepare them for future employment and educational opportunities. Two specific mechanisms--internships and partnerships--emerged through interview participant responses. Exhibit III-6b provides supporting evidence for these two themes.

Internships

For the grantees that indicated beneficiaries experienced significantly improved placement rates as compared to non-beneficiaries, over half indicated that the increased placement rates were a result of extra experiences, such as internships, available to the students as part of the program. For example, two of the Master's Diversity grantees specifically called out increased networking opportunities due to internships as contributing to the better placement rates for program beneficiaries. One source of internships came from grant partnerships, which are discussed in the next section.

Partnerships

In two of the four grant categories interviewed on this topic, partnerships were described as facilitators for student placements. For example, more than three quarters of the Master's grantees interviewed (Innovation & Diversity grantees combined) reported including at least one partner in their grant. These partners played various roles, from recruitment and planning to providing the degree coursework and offering internship and mentorship experiences. Among those partners that provided experiential learning opportunities, grantees reported that they led to improved employment opportunities. These partners included seven grant projects that offered an internship component. In a few of these grants, the partners later went on to hire the students who had interned or completed projects with them, but this was not a common occurrence. More often, the grantees indicated that the partnerships offered experiences that are not typically available to master's students (such as mentorship programs and hands-on experience) and this is what led to the improved outcomes.

With grants that were awarded to organizations other than academic institutions and included an academic institution as a partner, the partnership was crucial to the students' success in that the degree would not have been possible without them. For the partnerships that assisted in recruitment, grantees reported they were often very effective in bringing in students, but most of these partners were not involved beyond the recruitment stages. Thus, this particular partnership type had little or no effect on the students' employment outcomes. However, in every grant project where partners were involved in more than providing the coursework or assisting in recruitment, positive impacts on employment opportunities were reported.

Exhibit III-6b		
Supporting Evidence: *Mechanisms for Facilitating Placements*		
Theme	**Participant Statement**	**Source (Grant Category)**
Internships	"There is so much to be taught, the medical librarianship degree was not enough, they needed the internship."	Master's Innovation
Partnerships	"[Our students] had that advantage of getting to know [the partners]. We also introduced our cohort to others in meetings of our consortium, so that helped them…Our network is like a big family. We network very well, and our students were brought into this network early on."	Master's Diversity

Placement Rates

With respect to placement rates, two themes emerged which distinguished between placement rates in finding and sustaining placements. These themes are further discussed and examples from specific grant programs are noted. Exhibit III-6c provides supporting evidence in the form of participant statements for these themes.

Varied rates in finding placements

Placement outcomes were examined for Master's grant projects, Ph.D. grant projects, and Continuing Education Innovation grant projects. Across these categories, results were mixed. Several grantees in the Continuing Education Innovation grant program stated that placement outcomes were not relevant to the continuing education opportunities they offered and thus were not tracked. Conversely, Master's Diversity grant projects described placement rates as strong, with librarians obtaining employment in several different library settings as well as a few non-library settings. Yet, within this same grant category, two grant projects specifically indicated that placement rates were weak due to the downturn in the economy and changes in state mandates for libraries. Further, four other Master's Diversity grantees indicated there was no substantial difference in placement rates among beneficiaries and non-beneficiaries. Of these, two felt that both beneficiaries and non-beneficiaries had high placement rates. On a positive note, among the Master's Diversity and Continuing Education Innovation projects whose beneficiaries were already employed in the field, both categories reported that beneficiaries were frequently able to advance in their positions and in some cases were even inspired to pursue additional education in the form of doctoral degrees for the Master's Diversity students and a variety of degrees from associate-level to master's level for the Continuing Education Innovation students.

In the Master's Innovation grant category, all but one of the projects were able to provide at least some information on placement rates and again, outcomes varied. Three grantees indicated that all of the students have been placed, and another six grant grantees indicated that the majority of graduates have been placed. In addition to being placed, a few of the grantees indicated that students have moved up in their careers as a result of the program. In the case of two grant projects, those not placed did not necessarily want to be placed in the field. In both projects, the beneficiaries were already employed as teachers and indicated that making the transition to being a school librarian would negatively impact their salary and/or tenure so they were not looking to make that move. In another project, although local partners had agreed to hire the students following their completion of the program, several of these anticipated placements fell through, leaving the students with a difficult time obtaining positions. Two years following their graduation, there were still 7 of the 26 students who had not been able to obtain positions.

Of the 60 students in the Ph.D. Innovation category, interviewees said that 37 students completed their Ph.D. program and received a job placement of some form, 19 received funding and were still working on their degree, and 4 students dropped out of their program before completion.

Varied rates in sustaining placements

With regard to the sustainability of placements for LB21 master's beneficiaries, tracking data was not available for all grant programs. However, when tracking data did exist, interviewees indicated that grant beneficiaries were more likely to maintain their current position, keep the position they were hired into, or be promoted as a result of their participation in an LB21 grant.

Exhibit III-6c		
Supporting Evidence: *Placement Rates*		
Theme	**Participant Statement**	**Source (Grantee Category)**
Varied rates of finding jobs	"…in Pennsylvania and some of the other states…where they do not have mandated school library guidelines or standards it is taking them longer to find a position. On an average, with this grant it took about 2-2.5 years for candidates to find a job in the profession."	Master's Diversity
Varied rates of finding jobs	"Most of our students got positions at the Library of Congress; and most got their first choice of positions, which just happened to be at the Library of Congress."	Master's Innovation
Varied rates of sustaining jobs	"While the students weren't able to get the promotions they had expected, they were less likely to get laid off."	Master's Diversity

Grant Outcomes on Grantee Institution/Organization

This section describes the ways in which grantee institutions were positively or negatively affected by grant programs, particularly with respect to changes in curriculum and/or institutional policies and practices. In addition to understanding the impact these grants have on the LIS field and institutions, IMLS seeks to understand how grantee institutions track beneficiaries to capture the lasting impact from grant programs following completion of educational opportunities or funded projects. Exhibit III-7 provides the themes that emerged with respect to these outcomes.

Exhibit III-7	
Area of Inquiry: *Grant Outcomes on Institutions/Organizations*	
Organizing Framework	**Emergent Themes**
Lasting impact	· Curriculum changes · Policy changes · Changes in hiring practices
Means of tracking beneficiaries	· Social media · Email correspondence · Other informal tracking means · Lack state-of-the-art tracking

Lasting Impact

Impact experienced by grantee institutions was largely differentiated in participant comments according to three themes: changes to curriculum, policies, and hiring practices. These themes are further described in this subsection. Exhibit III-7a provides supporting evidence for the themes.

Curriculum changes

All but one of the grant categories examined indicated that changes to curriculum resulted from the grantee suggesting curriculum changes. For example, half of the Master's Innovation grantees reported that the grant project had a lasting effect on the curriculum. Lasting curricular effects have come mainly in the form of the continuation of newly developed courses, revised curricula, or distance education formats. Other curricular changes include the integration of courses and labs into a single cohesive course through the use of technology and the adoption of a new model for internships. In addition, three of the Ph.D. Diversity grant projects had lasting effects on either the curriculum or the program. One grant project's curriculum was altered to include a new class incorporating the mentorship program developed under the grant, as was discussed in the previous section. The other two projects with curriculum changes were less straightforward. Both grant projects involved changes to the master's level courses, rather than the doctoral curriculum. In one grant project, the grantee indicated that several of the master's level courses have evolved since the beginning of the grant period as a result of the doctoral students teaching the courses. In addition, the doctoral students were responsible for a few newly developed master's-level courses. In the other grant project, the curriculum changes were less a direct result of the grant project and more a result of the general focus on diversity that was initiated under the grant.

Grantees for two of the eight Ph.D. Innovation grant programs examined reported the development of new curricula to bolster existing courses. One program used parts of IMLS funding to design new curriculum specifically to prepare students to graduate and go on to faculty positions. The program's three partner institutions then shared the courses that were developed. Another grant program developed a course focused on digital librarianship. All of the courses described were sustained after LB21funding ceased.

Half of the Research grantees indicated that grant projects developed with LB21 funds had a significant impact on their program curricula in different ways. One grantee developed a new course and modified another; both are still part of the university's graduate course offerings. Another grantee indicated that Web-based training courses were implemented as a part of the Research grant, enhancing the curriculum by offering training in a new course and platform. Impacting the graduate program in a different manner, one grantee indicated that grant funds allowed it to simplify core classes and trim down required classes so students could more easily specialize in a specific area. As a result, students had more electives available to them. Finally, one Research grantee updated the curriculum by developing new learning objectives with LB21 funds.

All five Institutional Capacity Diversity grantees described curricular effects as a result of LB21 funds used to update or enhance courses and programs that continued after the grant period. These grantees developed a total of 32 new courses: one developed 18 courses; one developed six courses; one developed four courses; one developed three courses; and the final grantee developed one new course. One grantee stated that six courses developed with LB21 funds have had substantial impact—five are now electives in the master's program at the host institution. Course topics included the following:

§   Leadership development
§   Music librarianship
§   Geographic information systems for librarians
§   Theological librarianship
§   Librarianship for Latin American, Iberian, and Latina Studies
§   Copyright and fair use in the digital age
§   Creating and managing digital collections
§   Community informatics.

In addition to the seven Master's Diversity programs that reported an impact on curriculum and on administrative policies, two other Master's Diversity grantees stated their programs made changes solely to curriculum. For three grantees, curriculum impact involved the continuation of newly developed courses after the grant period, including courses in Hispanic librarianship, a course in management administration, and a certificate program in Leadership and Management. As might be expected, programs that reported the deepest impact on curricula or policies were those that developed new courses to meet a previously unaddressed need. For example, one PI explained that IMLS funding was used to design the blueprint for a national training conference and "immersion institutes" that could reach the tribal archives, libraries, and museums (TALMs) population annually. In the mid-2000s, reaching national TALMs was an IMLS priority, but prior to the funding, efforts to do so were fragmented.

The majority of Continuing Education Diversity interviewees also indicated that IMLS funding for new Continuing Education Diversity scholarships and training programs had a positive and lasting impact on curriculum and on administrative policies. These grantees suggested that feedback from beneficiaries in Continuing Education programs was the ultimate driver of curricular change. For example, one grantee noted that, in response to beneficiary feedback, the list of competencies focused on during the professional development program was revised. One grantee also noted that because technology is transforming so rapidly, its Continuing Education program for technology skills must reflect the newest and most up-to-date systems, which requires frequent curriculum changes. Likewise, another PI indicated IMLS grant funding was used to develop 22 online modules that trained 900 local library professionals in the use of electronic government information. Previously, these local professionals had minimal familiarity with the use of e-government resources. The PI indicated that the model created to administer the support and training of beneficiaries throughout a five-state region can be reused and even adopted nationally. The Director specified that the train-the-trainer methodology employed, while time-tested in other contexts, was innovative in this environment and the key to success. This approach utilized a 2 ½-day conference to expand the expertise of 47 government

information librarians in the region; it then leveraged their sharpened knowledge-base, instructing them to develop online training modules that could be used by 900 nongovernment, library professionals throughout the region.

The Program Director for the grant targeting pre-professional staff in the USAPI also reported that IMLS funding had a significant and lasting impact on the program's curriculum. The funds were used to develop three week-long professional development courses that were specifically designed to increase the knowledge, skill, and ability of local librarians. The Director underscored two keys for success. First, the trainings were designed to be relevant and meaningful to the local attendees. For instance, the curriculum developed included topics such as Use of Trust Territory microfilms, Worldwide Digital Resources, and Descriptive Cataloguing. Secondly, the reporting institution indicated that the trainings were specifically created to reflect the culture and learning styles of the diverse target population. Thus, the material resonated with attendees.

Policy changes

Grantees noted that changes were made to different administrative policies of their program as a result of the experiences of LB21 funded projects. Several of these impacts resulted from specific pieces of the grant projects that the grantees believed to be highly successful or beneficial to the students.

Seven of the Master's Diversity grantees felt the grant project had impacted both curriculum and the administrative policies, while another seven indicated that impacts to policy were the primary changes made. Despite the changes noted regarding curriculum, Master's Diversity program grantees indicated that impacts on administrative policies were more common than impacts on curriculum. The explanation provided for this was that the grants were not written for curricular changes. Further, other grant programs that were for school districts, state library associations, or other non-academic institutions did most of their curriculum updates as part of a partnership with an academic institution. On the other hand, common policy changes occurred such as the development of a program directed at community college librarianship or the integration of an internship program.

Further, the Master's Diversity mentorship programs were deemed successful and thus were continued in four of the grant projects. In one grant that had been awarded to a large public library, the impact of the mentorship program was that a buddy program was incorporated into the program's practices. In another Master's Diversity project, the cohort model was used to allow the students in an online program to have a blended curriculum and meet in person. Experiences from the cohort model have led the grant program to put more emphasis on facilitating relationship building among the students in the online program. Further, one Master's Diversity grantee indicated that the scholarship program policies were changed as a result of LB21 funded experiences. Specifically, the program began reimbursing scholarship students for their classes immediately instead of using the traditional post-completion reimbursement model.

One Master's Innovation grantee also indicated that the LB21 funded project had a lasting effect on the administrative policies of the program. Specifically, the activities developed in the

program began to extend to all students in the degree program after seeing the success of the practice for grant-funded students. Two of the Research grantees indicated that policies in the institution were impacted by the grant activities. One of these grantees indicated that policies were impacted because students were able to take online courses rather than having all classes in a class room. Another grantee indicated that changes in policies through the grant allowed for greater collaboration with other organizations and the ability to interact with other associations or groups in a meaningful way.

Four Continuing Education Diversity grantees stated explicitly that administrative or institutional policies were impacted due to the grant project. These grantees reported that IMLS support allowed their programs to create, update, and/or revise existing course materials; develop or refine administrative policies; and in some instances, add completely new program components. One Continuing Education Diversity grantee whose projects focused on encouraging the use of emerging digital technologies noted that professionals increased their use of the host institution's resources. Grantees noted that the greatest policy impacts occurred by providing scholarship funding to traditionally underserved members of the LIS professional community so they could participate in world-class continuing education and leader development training that they may not have otherwise been able to attend.

Aspects of newly developed programs had an impact on the administrative policies of two of six Institutional Capacity Innovation grantees. One grantee indicated that the grant funds made it possible to change the types of programs offered to students and offer new, technological programs. The other grantee indicated that policy changes came in the form of a newly hired administrator specifically for the developed program. Additionally, this same grantee organization formed partnerships with the London Rare Book School and the University of Virginia to allow students more flexibility in their class selections. Because of this newly developed partnership, it is much easier for students to transfer credits from classes taken from these institutions, which is a change from the previous policy for course credit transfers.

Changes in hiring practices

In addition to curriculum and policy changes, a lasting impact of the LB21 grants was the modification of hiring practices to attract a large candidate pool and ultimately a more diverse workforce. Three of the Master's Diversity programs indicated changes were made that impacted faculty recruiting and hiring. Two of these changes included hiring additional faculty with a focus on admissions and diversity recruitment. The other grantee that reported changes to the hiring process for new staff indicated that, since the grant allowed them to work with individuals of diverse backgrounds, the institution is now more likely to hire those with diverse academic backgrounds.

One Institutional Capacity Diversity grantee also indicated that their program was impacted in a positive manner because they were able to add an instructor with a specialty that was not already covered by professors in the program. Because of the new courses and programs developed through the LB21 Institutional Capacity Innovation grant, three new faculty members have been brought in specifically to cover the new classes because they have expertise in the content area of

digital curation. The ability to bring in this specialized faculty helps to expand the breadth and value of courses offered.

Other program changes

While not themes per se, there were other impacts noted as a result of the grant projects. In three of the Master's Diversity grant projects, the grant led to the opening of the LIS program at the institution to a new specialty area of the field. Two of these changes included hiring additional faculty with a focus in that specialty area. In one such case, the grantee reported that the grant resulted in a new focus on children's and youth library services that ultimately led the program to expand in terms of both resources and recognition, becoming nationally recognized in that field. Another grantee indicated that the grant project impacted the culture of the program such that research was embraced as a stronger component of their school culture.

	Exhibit III-7a	
	Supporting Evidence: *Lasting Impact*	
Theme	**Participant Statement**	**Source (Grant Category)**
Curriculum changes	"We saw a need for more information on museums. [Our state] has a lot of historical resources. We have launched a new program in museum studies- our library school now has a museum program. I know it affected those who participated in the program, but it also impacted our library school. We're one of the only schools that actually offers museum studies. We hired a professor to lead this. This grant helped us launch a whole new program."	Continuing Education Diversity
Curriculum changes	"Prior to the grant, the only technology distribution included in courses specifically focused on digital library issues, and SIRLS had no courses dedicated to the emerging field of digital curation. But with the approval of five courses as M.A. electives, digital issues are now prominent in three-out-of-four elective distributions, and our technology distribution has been greatly bolstered by this addition."	Institutional Capacity Diversity
Policy changes	"One effect is that we pushed for the university to accept other tests besides the GRE for entry into the master's program. That was a university change. We learned a lot about bringing students into the program who had done prior higher-level education in a foreign country. We learned that we always have to provide an extra level of service because logistical barriers are different for these people."	Master's Diversity

Exhibit III-7a		
Supporting Evidence: *Lasting Impact*		
Theme	**Participant Statement**	**Source (Grant Category)**
Hiring practices augmented	"We were able to provide support for an adjunct faculty member to create a community archives course. That was very successful and attracted a lot of students."	Institutional Capacity Diversity
Other program changes	"Resulting from this grant we hired a third faculty specializing in youth services, which put us on the national market as far as being one of the few schools that specialize in children's and young adult...Set us up internally in the university for something the school is known for - children's and youth services and is now something the school is known for...It was a direct result of the grant…Because of the expansion into this area we got a call in 2006 from an elderly couple that had been collecting picture books their entire life and had 25,000 and wanted to know if we wanted to get them. Now it's 30,000 picture books. Not only did it continue but it expanded."	Master's Diversity

Means of Tracking Beneficiaries

In this subsection, the findings are organized according to one theme that emerged—the use of social media—and other data collection tools identified. The content presented here identifies ways in which LB21 grantees track program beneficiaries after they complete the educational program or participation in research. In this section in particular, readers are reminded that the grant projects considered in this study were designed from 2002-2009 and tools widely used today might not have been available at that point in time. The findings presented explore effective mechanisms for keeping in touch with beneficiaries and staying current with their professional successes and whereabouts. IMLS is interested in learning about state-of-the-art programs for tracking and the current trends in social media and communication among grantee institutions and their program beneficiaries. This information will allow IMLS to guide grantees in tracking beneficiaries; IMLS might also employ these methods to keep in touch with grantees and beneficiaries. Exhibit III-7b provides supporting evidence for the types of tracking means presented.

Social media

All of the Innovation grantees reported using social media to track beneficiaries past the period of performance. For Master's Innovation, one of the grantees reported using social media to remain in touch with, or track, students post-graduation. This grantee stated that sometimes Facebook is used to contact students. Another grantee reported that the students in the grant

project use social media to stay in contact with one another but that staff of the institution do not participate in this activity. Likewise, one Continuing Education Innovation grantee indicated the use of social media to track beneficiaries after the program. However, the grantee has a formal bi-annual survey of beneficiaries and does not feel that social media does a better job of tracking or getting feedback from beneficiaries.

An Institutional Capacity Innovation grantee reported providing information to alumni on Facebook and a listserv; however these are just sources of information not means of tracking previous beneficiaries. Additionally, the interviewee indicated that the addition of social media such as Twitter and YouTube to the learning community where the curricula are housed has helped to enhance the learning experience.

Interestingly, while social media technologies may be a valuable way to identify and track past LB21 program beneficiaries, the interviews with grantees who received Research grants did not provide any information in this area. The Research grants included in this analysis received initial funding between the years of 2003 and 2007. As such, most of the grantees indicated that social media forums were not in existence or were not heavily used at the time the grants were being funded. Because social media technology was not highly developed or being used, it was not part of the Research grants.

Email correspondence

Grantees from three of the grant categories spoke of using email to track and stay in touch with beneficiaries. One Master's Innovation grantee reported that while sometimes Facebook is used to contact students, email is the preferred method. The grantee explained that their email communication tends to be informal and not include formalized tracking. For example, students will email with good news about job placements or other successes. Two Institutional Capacity Innovation grantees also indicated that attempts are made to informally track beneficiaries through email exchange. Specifically, the beneficiaries are asked to report back what they are currently doing in terms of work; however, few beneficiaries provide this information back to the program.

Most of the Continuing Education Innovation grantees also indicated that they have informal methods of keeping in touch with program beneficiaries. Many will have personal connections with former beneficiaries and email informally. Those grantees that did not track or keep in touch with beneficiaries indicated that doing so would have been a good idea, but either it was not a part of the initial grant plan or there were not enough resources to include this component as part of the grant project.

Other informal tracking means

While not themes per se, there were a number of other methods mentioned by grantees as means of gathering tracking data on beneficiaries. For example, some of the grantees gather survey data, maintain an online database, or connect via membership organizations. Examples of different informal tracking mechanisms are discussed.

For example, for Master's Innovation grantees, the most common methods for tracking beneficiaries besides email include working in the same location or being connected through local professional circles. One grantee reported that she and the students live in a small area where everybody knows one another. This allows her to track her former students through simple word of mouth. Surveys were also mentioned by two of the grantees, though these were done through the career center and alumni organization as opposed to the LIS department.

Half of the Continuing Education Innovation grantees also reported using surveys to track program beneficiaries over time. Grantees noted that they encouraged beneficiaries to complete surveys and received mixed response rates. The surveys conducted by the Continuing Education Innovation grantees asked beneficiaries questions regarding:

§   Satisfaction with the program and recommendations
§   Whether beneficiaries had made changes in their daily work as a result of the training
§   How beneficiaries currently dealt with issues discussed during the programs
§   Whether beneficiaries were awarded greater responsibility on the job or promotions as a result of the program.

Of the eight Research grantees, three indicated that they did have some means of tracking beneficiaries; each tracked beneficiaries in a different way. One grantee indicated that they created a database to track students. This database was developed using information that was required on students' applications and then was updated with program results as students moved through the program. This did not require the development of new methods, but rather focused on existing information that was already collected and populated into a database. Another grantee indicated that tracking of and contact with students was made through the online learning management system WebCT (which is now called Blackboard). This was used for tracking during the time of the course, but was disabled after the course ended and therefore does not track beneficiaries following the program. The third grantee that indicated tracking occurs said that all of their program's tracking is done informally. The interviewee for this grant program indicated that they attempt to keep in touch with alumni to determine where they are, but that it is difficult to gather this information in a systematic manner.

Three of the five Institutional Capacity Diversity grant programs indicated that they reach out to beneficiaries following completion of the program to track them and determine relevant outcomes. Each program used a different way to track beneficiaries:

§   Followed-up with each beneficiaries personally
§   Created a database and requested beneficiaries provide information to complete the database
§   Emailed a survey to beneficiaries to complete regarding outcomes.

Two of the three Institutional Capacity Diversity grant programs that track beneficiary outcomes indicated that they try to determine if beneficiaries have taken on local or national leadership positions. One of these programs also tracks the percentage of beneficiaries who have success on the National Board Certification process to determine if their goal of 100 percent success on this

process is met. Another program tracks any awards that beneficiaries have won and where they are currently working.

Five of the six Institutional Capacity Innovation grantees also indicated that they informally track beneficiaries while they are part of the program. This tracking can be done in different ways. For example, two grantees indicated that informal tracking occurred when students regularly met with professors or leaders of graduate programs. For one grantee, these meetings included a discussion of what students were doing and their current progress while the other grantee meets with students three times a semester to see how students are doing. Of the five grantees that informally track beneficiaries, only two indicated that they currently attempt to contact the beneficiaries after they are done with the program. For one grantee, this tracking occurs because the interviewee attends the same meetings and presentations as the program graduates and therefore learns about their activities informally and in person.

> **PROGRAM HIGHLIGHT:** *Using a Tracking Database*
>
> · One grant project designed a tracking database to use in student advising so that anyone in the department could look up the student to see what other interactions the student had with faculty/staff. "We had had some LB21 grants previously… We had learned that it seemed like a lot of diversity candidates dropped out or had academic problems or had computer issues…so one of the things we tried to improve is advisement."
>
> Source: Master's Diversity grantee

Lack of state-of-the art tracking

Grantees from four of the grant categories indicated they were not aware of or simply did not use state-of-the-art tracking means. Of the eight grantees included in the analysis of the Research grants, five did not provide any information about tracking program beneficiaries over time. Institutional Capacity (Diversity and Innovation) grantees who participated in the interviews also did not indicate that they used or were aware of any state of the art processes for tracking beneficiaries after program completion.

For each of these grantees, the reasons for not reporting this information may have varied. For example, some grantees may not have reported tracking information because their grant did not include students to track. Other grantees may not have used any means of tracking students that they did have. However, because tracking activities are not reported, the exact reason for this cannot be known. Several Master's Innovation grantees reported difficulty in tracking the students and indicated that they do not know of any highly effective methods for tracking the students. While a number of the grantees could not identify a highly effective means for tracking, one Institutional Capacity Innovation grantee acknowledged they were currently working to enable tracking to occur.

Exhibit III-7b		
Supporting Evidence: *Means of Tracking Beneficiaries*		
Theme	**Participant Statement**	**Source (Grant Category)**
Social media	"We are strong in getting responses to surveys. We have Twitter and Facebook and various folks doing things with Pinterest and other member social networks. Things are pushed out that way. I don't feel that it has been a way to get feedback. It is not a part of strategic communications assessment."	Continuing Education Innovation
Email correspondence	"We collected email addresses, now at this point we have a person whose job it is to develop a more systematic way of continuing to collect information about participants' careers and save this information in a database."	Institutional Capacity Innovation
Lack state-of-the-art tracking	"In doing the final report [for IMLS], I ran down all 40 students, but it took lots of emailing."	Master's Innovation
Lack state-of-the-art tracking	"We did not come up with any great new way to [track students]. We have a database and try to get graduates to report back on what happens to them, but it's not one hundred percent reporting."	Institutional Capacity Diversity

Grant Outcomes on Field

Within this area of inquiry, two major themes emerged demonstrating the ways in which the field of library and information science benefits from the LB21 program. Through the various grants across all of the grant categories, the LB21 program bolsters the workforce of this field by promoting enrollment in degree programs and preparing beneficiaries to effectively contribute to the field. The field of library and information science also benefits from the LB21 by the outcomes of the research conducted by grantees and beneficiaries. In the following section, we describe the ways in which LB21 impacts the building of a stronger workforce and the understanding gained by research.

Exhibit III-8	
Area of Inquiry: *Grant Outcomes on Field*	
Organizing Framework	**Emergent Themes**
Building the library workforce	· Enrollment in nationally accredited master's programs · Enrollment in doctoral programs · Placement after degree programs

Exhibit III-8	
Area of Inquiry: *Grant Outcomes on Field*	
Organizing Framework	**Emergent Themes**
Research benefits	· Expanded understanding of the field · Improving the experience for library school students · Professional advancement for researchers · Product development for use in schools and libraries

Building the Library Workforce

This section discusses the impact that the LB21 grant program has on building the library workforce nationwide. An increase in the number of students enrolled in nationally accredited master's and doctoral programs is an indicator of an increased number of individuals looking to move forward in this field. Additionally, the placement of these graduates after their degree programs establishes individuals in their careers and strengthens the workforce of librarians. Exhibit III-8a provides supporting evidence for the three themes discussed here.

Enrollment in nationally accredited master's programs

One of the main goals of the LB21 program is to bolster the library workforce. In order to do this, many grantees indicated that their programs made an effort to bring in a greater number of students into their master's programs. One of the ways that funds from LB21 were utilized to increase the number of students was to offer new courses in topic areas that were of interest to students. For example, one Institutional Capacity Innovation grantee used her funding to increase the number of students enrolled by developing new classes that appeal to a wider variety of students and to students who may not be able to find these specialty classes elsewhere. Newly developed courses covered topics such as Geographic Information Systems for Librarians, community informatics, and creating and managing digital collections. New courses developed through the LB21 grant program have provided instruction to large numbers of students; one grantee indicated that 122 doctoral students had participated in a new course since 2007. Another grantee indicated that 146 students had enrolled in newly developed courses.

A number of grantees also noted that they focused attention and funds on recruiting to increase the number of students in their LIS programs. Another Institutional Capacity Innovation grantee described that 20 graduate students have been invited to participate in their program, resulting in 14 students graduating with Master's degrees and one person graduating with a Ph.D. Additionally, some grantees offered financial support to help people participate in the LIS program. One grantee offered eight fellowships to students as well as 21 need-based scholarships as a means to try to increase the number of people in the library program.

This focus on tailoring programs to meet students' interest and focusing on recruitment led to an increased enrollment in master's programs. This increased enrollment is one result of the LB21 program that will contribute to the strengthening of the LIS workforce in the coming years.

Enrollment in doctoral programs

In terms of increasing the number of students enrolled in doctoral programs, the LB21 program funded several doctoral students to enroll in and complete their education. One grantee indicated that the students funded through the LB21 program would likely not have received more traditional funding for participation in the doctoral program. Students who receive "traditional" funding are required to teach courses in the department. The students who were funded through the LB21 grant project came from a more diverse educational background and did not have the academic background to teach the typical courses taught by students in the doctoral program. Instead, the grant provided the ability for them to teach courses in other departments with which they were more familiar.

Outside of the doctoral programs category, only one grantee interviewed (an Institutional Capacity Diversity grantee) specifically described increasing the number of students in doctoral programs. However, other grantees did describe efforts to increase the number of students in graduate programs in LIS fields more generally.

Placement after degree programs

After individuals are enrolled in these programs, they move into positions in the field. LB21 grantees note the importance of this movement into the working world: the most common impact reported by Ph.D. Diversity grantees was the impact that the doctoral students can and will have on the field as they move into the workforce. After their formal education, beneficiaries of the LB21 grants moved into librarian positions and served the public, further highlighting the impact of these grants on the LIS workforce.

Two grantees indicated that one way the grant programs have had an impact on the LIS field nationwide is through the diversification of people in or applying to LIS jobs. For example, one Research grantee indicated that they are now recruiting individuals with backgrounds in the physical sciences as these individuals can be a good fit for some LIS positions. Another Research grantee said that people are entering LIS graduate programs from new types of institutions or fields such as photography or technology so that they can pursue library careers that deal with those particular subfields. One grantee said that he believes there has been an impact of the grant in the number of master's programs addressing archives; however, this cannot be tied directly to the grant although it seems that the grant may be a reason for this increase. Similarly, another grantee indicated that interest in the area of research addressed by the grant as well as an increased level of related research has resulted from the grant activities.

Several LB21 funded doctoral students are now faculty members at colleges and universities; one was recently appointed as the director of the School of Library Media Education. Three faculty members are preparing students to work in the LIS field and one is preparing students through the college of education. While grantees in the doctoral programs category did not prepare faculty to teach master's students who will work in school, public, and academic libraries or prepare them to work as library administrators, the target of this category was to prepare Ph.D. students to become faculty rather than training current faculty themselves.

With continued placement of library school graduates into positions in the field, the LIS workforce will continue to grow. Library schools may also tailor their curricula to attract students and prepare individuals for positions in niche areas within LIS, but ultimately this recruitment, enrollment, and eventual placement in library positions is what keeps the workforce strong.

Exhibit III-8a		
Supporting Evidence: *Building the library workforce*		
Theme	**Participant Statement**	**Source (Grant Category)**
Enrollment in nationally accredited master's programs	"The [inclusion of a course-sharing network] broadened each institution's profile, and also addressed some topics that bring in individuals from diverse backgrounds that are interested in a certain niche of librarianship. Some classes were in partnership with associations and some were just classes that Universities wanted to offer… Students began to flood into the program."	Institutional Capacity Diversity
Enrollment in doctoral programs	"I can't remember what the criteria were for recruiting, but I don't know if there were students in other departments who had already been enrolled in a program that could have been recruited for this. We could have increased the pool of applicants."	Ph.D. Diversity

Research Benefits

Another major way in which the field of LIS benefits from LB21 is the plethora of research findings delivered from various LB21 grants. From general research to better understand the field to specific assessments of library school programs and the LIS workforce, these research projects help professionals better serve the public's needs and increases awareness on a number of field-related matters. The following four themes emerged:

§ Expanded understanding of the field
§ Improving the experience for library school students
§ Professional advancement for researchers
§ Product development for use in schools and libraries.

These themes described here are further supported by statements provided in a table at the end of this section (see Exhibit III-8b).

Expanded understanding of the field

The research conducted through LB21 grants brings a wealth of information to the table. This information that is gathered is often shared, allowing for a rich understanding of the current status of the field. For example, information gathered by six of the eight grantees in the Research

grant category was shared with others in the field through publications and conference presentations. Because of this sharing, the information is able to be utilized by other institutions and can continue to inform program practices and future research.

The amount of research available to the LIS field nationwide is great; at least 12 publications and 55 presentations have been completed using research conducted through these grants. Likewise, three of the Institutional Capacity Diversity grantees stated that their grant projects resulted in conference presentations and published articles. Two of these grantees reported 14 conference presentations and publications each, while the third did not report a specific number. Similarly, the Early Career Innovation grantees noted that the four grants resulted in 17 peer-reviewed journal articles, 16 conference presentations, seven technical reports, six case studies, and three workshops. These presentations and publications can have a positive impact on the field nationwide because they accommodate the sharing of successful practices that can potentially be implemented in other universities or libraries.

Doctoral research garnered information across a number of substantive areas in the information science field. Grantees almost unanimously reported that each student was unique in his or her interests, development, ambitions, and professional experience. For example, four of the eight Ph.D. Innovation grantees reported that Ph.D. candidates conducted digital preservation research. This topic area was the most notable and had the highest level of convergence across the grants evaluated; however, the precise research topics within this topic varied greatly. One participant described this wide range of digital preservation research, including the survival of cultural materials in environmental and natural disaster situations, the status of health records in cultural heritage especially in particular forms of communities, and also the preservation and privacy status of social media records.

Similarly, a Ph.D. Innovation grantee reported that all dissertation topics within their program are digital preservation focused. One Ph.D. candidate assessed image use across professions (processing images and image use, curating), while another focused on library cataloguing, how to use cataloguing in the Google age, and how to improve the library catalogue. In yet another example, a doctoral fellow specializing in preservation co-authored a peer-reviewed paper (published in *Archival Issues*) and co-presented a paper on the same project at the Society of Southwest Archivists annual meeting. The sharing of this information can impact the information and resources that are preserved and allows for best practices to be disseminated across the field.

In addition to preservation, information presented to the LIS community from LB21 grant research produced data describing the access and use control technologies and policies employed by U.S. cultural institutions such as archives, libraries, museums and data repositories. The research on this topic as shown through the work of LB21 grantees has revealed three themes, described below:

§ First, as described in the administrative data, the research investigated notions of access, use and licensing at the nexus of the technological and social. One key finding was the concept that what counts as fair access and use (and their license terms) has shifted over time. In the LIS community, there is a tendency to see licensing, use terms, access restrictions and, more broadly, copyright law as a whole, as being simply "the way things

are." However, the findings presented through three related publications indicate that taking a longer view affords understanding of how such norms can and have changed over time, and how, in turn, we may effect change as a profession.

§ The second theme explored the grey area of collections that seek to increase access, but not through unfettered openness. More practically, the research findings offer a framework for creating "Controlled Online Collections" that provide expanded, but controlled, access to materials that might not otherwise be available (as described in the administrative data). The ability to make nuanced choices about access and use of data could lead to wider deposit of materials, leading to greater availability than would otherwise occur.

§ Finally, the last theme revealed that there are many limits placed on use of and access to scholarly material. In many cases, use restrictions are insidious or invisible, particularly to less technically inclined users who may not immediately recognize when typical use options are missing, removed or disabled.

A number of research topics were explored as a result of LB21 grants, and the sharing of this information has the potential to positively impact the field in innumerable ways.

Improving the experience for Library school students

Research findings that relate to the improvement of the library school experience also benefit the LIS field. Students from one Ph.D. Diversity grant project, for example, developed a research project to study mentorships. They will be disseminating this research to the field once completed, which has the potential to impact mentorship programs across the field. According to the grantee, for this project the Ph.D. Fellows were allowed go in their direction and take ownership of it, ultimately developing a new mentorship model. Another grant funded by the LB21 program within the Institutional Capacity Innovation Category researched best practices with regard to LIS education. The approaches implemented through the grant were seen as an encouragement to other schools to update and improve their programs. The interviewee described this positive aspect of the grant. One interviewee indicated that their study researched ways to improve library service to students with disabilities and led to collaboration with other research institutions.

Professional advancement for researchers

Interview participants in the Research grants category were asked if the LB21 grant project had an effect on their own professional career. Overall, the greatest effect on the interviewees' own professional careers was the ability to use the research conducted as a part of the grant to develop new and relevant research to further their careers. Six of the eight interviewees from Research grants indicated that the grant activities allowed them to develop new publications or conference presentations. One grantee even indicated that the research allowed them to go to conferences that had not been attended in the past, thus expanding professional opportunities.

In addition to creating research products such as publications and presentations, Research grant interviewees also indicated that they benefited from the grant professionally by improving the quality of their work, improving or validating a positive reputation, and developing new skills.

These benefits often led to the opportunities for new partnerships or research streams by the interviewees.

Product development for use in schools and libraries

In addition to personal impacts, interviewees were asked about the impact of their LB21 Research grant on the LIS field. Half of the interviewees (four out of eight) indicated that a specific product was developed that has had a significant impact on the LIS field and research being conducted. These products included the following:

§ Archive of data collected available to researchers to conduct future research
§ New national standards for developing learning outcomes
§ A featured article in Public Library Quarterly that developed interest in results
§ Data regarding the archivist workforce and a better understanding of whom these people are likely to be in the future.

The research conducted as a result of the LB21 program has brought a wealth of new information to the LIS field, benefitting grantees, beneficiaries of the grants, academics in the field, and the public served by an enhanced understanding of schools and libraries.

Exhibit III-8b		
Supporting Evidence: *Research benefits*		
Theme	**Participant Statement**	**Source (Grant Category)**
Expanded understanding of the field	"[Preservation Research] ranged from police videos to personal record keeping, to what things should be kept at all by archives and be preserved to the acquisition and preservation of digital materials that are now at the heart of architectural practice which is something that nobody has really covered…very different projects that are all (studying) digital preservation."	Research
Improving experience for library school students	"I think we have had an influence on what other schools are teaching. We are a top-ranked I-school and if you are teaching these things at other schools, you'll come look at our syllabi. I think it has helped people go be successful both from our programs as well as other people at other schools."	Institutional Capacity Diversity
Improving the experience for library school students	"This project influenced other schools to take a more active approach, and kind of paved the way for updating content. Other schools began to pick- up hands-on instruction and approaches because of this project."	Institutional Capacity Diversity

Exhibit III-8b		
Supporting Evidence: *Research benefits*		
Theme	**Participant Statement**	**Source (Grant Category)**
Professional advancement of researchers	"[The grant] had a big impact on me. It made me more of an interdisciplinary researcher. I developed survey methodology skills and worked with social scientists. It brought together an interdisciplinary group of people."	Research
Professional advancement of researchers	"I have gained a reputation in service to students with disabilities. Others have approached me wanting to do studies similar to the one I did for this grant."	Research

IV.   Benchmarking Findings

The goal of the benchmarking task was to determine what other Federal agencies do to broaden participation among diverse populations in specified fields and to promote technical education and training. Benchmarking interviews were conducted with representatives of three agencies and focused on the goals and procedures used in their respective grant programs.[5] This information and advice these representatives offered about activities and/or tactics that they have found to be successful in grant management and field diversification will help IMLS improve the LB21 program in the future. Summary program profiles from each benchmarked program are provided below.

National Science Foundation, Directorate for Computer & Information Science & Engineering

The National Science Foundation's (NSF) Directorate for Computer & Information Science & Engineering (CISE) administers many different grant programs. One specific program identified to be the focus of the benchmarking interview is the Computing Education for the 21st Century Program (CE21). The program focuses on education and looks at both broadening participation to diverse groups and improving computing education. One major goal of the CE21 program is to increase the representation of underrepresented groups in computer science education while also increasing the accessibility to and quality of computer science education in the U.S. To reach this goal, many of the current priorities for the CE21 program focus on high school education.

Grants in the CE21 program are awarded via a competitive process. Proposers respond to a solicitation by a specified deadline to be evaluated for possible funding. All proposals are peer-reviewed to develop the evaluations. For each solicitation, panels are created to review proposals. The panels each include 10-12 individuals, each with different types of expertise that are relevant to the proposals being evaluated. Once the panels are formed, they will each be assigned approximately 20 proposals to review and evaluate, based on the solicitation. These panels then meet and discuss the proposals, rating them all and creating rankings. While the program directors do not give input at these evaluation meetings, they are present to ensure an understanding of the panel's ratings and decisions. The highly ranked proposals are then considered for funding. While these rankings are extremely important for determining awards, they are not absolute; consideration is given to creating a diverse and well-rounded portfolio of projects. For example, the program directors work to ensure that not all of the grants are given to the same university and that the awarded grants focus on a wide range of underrepresented groups (e.g., women, minorities).

---

[5] See Chapter 2, Methodology for a description of how the representatives were selected.

Insights from the benchmarking interview conducted with Ms. Janice Cuny, the Program Director of CE21, regarding diversity and broadening participation, project outcomes, and grant management are provided in the following sections.

Diversity and Broadening Participation

The representative from the CE21 program estimated that roughly 70 percent of the American population belongs to one or more groups that have been historically underrepresented in the U.S. education system or labor force. For CE21, underrepresented groups are defined as females, racial minorities, and

> **Operationalization of Diversity**
> · Gender (women)
> · Race/Ethnicity (African American, Hispanic, Native American)
> · Persons with disabilities

persons with disabilities. However, due to Federal requirements, such as affirmative action, these populations cannot be specifically targeted by programs that are developed. While there are ways to attempt to reach these audiences, such as pursuing low-income or under-resourced schools, programs cannot be developed specifically to benefit an individual group. In other words, a goal of a program can be to increase the participation of women in a computer science class, but men cannot be categorically excluded from the class.

Project Outcomes

One of the major and most positive outcomes of the CE21 program has been the creation of alliances. These alliances are intended to be large, national resources for a specific topic regarding broadening participation. As a result of CE21, eight alliances have been created: two that work with women, one for people with disabilities, one for African Americans, one for Hispanic students, and several that work across groups. According to the interviewee, these alliances are seen as being more effective than individual projects, particularly regarding sustainability. With a small project targeted at broadening participation or education, grantees can run a great program, but once the grant period is over, the project is done. The interviewee expressed that little is learned from the individual projects that suffer this fate and a great deal of work was not sustained following the completion of a small project. Creating alliances helps to build infrastructure that will increase sustainability and allow the project funds to have a stronger and longer lasting impact.

> **Notable Project Outcome**
> · Creation of alliances, which are large projects that are designed to be national resources for a specific topic, such as increasing women's participation in computer science programs or increasing the number of Hispanic students studying computer science.

To encourage the formation of these alliances, NSF staff explained that it was first important to define what an alliance is. Alliances should be larger than a single project and should build an infrastructure that could last over time while serving the appropriate group. Additionally, collaboration among the alliances was encouraged to further expand the benefits of the alliances. As a program officer, it is often necessary to get involved and help shepherd the alliances to help make them effective.

One example of an effective alliance is the National Center for Women in Information Technology (NCWIT). Funding for this alliance initially came from CE21, but as the alliance has continued and grown they have also sought out funding from other sources. With this funding, NCWIT has been able to accomplish many objectives related to increasing the presence of women in technology and computing. For example, NCWIT created the Aspirations in Computing Talent Development Initiative, which is a program directed towards high school girls. This initiative created a competition that recognizes high school girls as winners at the regional, state, and national levels. The winners of these competitions then become part of a social community in which they are invited to meetings and presentations, made aware of scholarships, and can be involved in online networking communities that have people in similar situations with whom they can talk about problems they encounter. In all, through the Aspirations in Computing Talent Development Initiative, NCWIT has been able to create a community to encourage high school girls to participate in technology and computing.

Tracking students who may have been impacted by the grants can be a difficult task as it takes a great deal of time and effort to keep track of the participants, whether it be through social media or keeping an updated list of email addresses. However, this process can be made easier by making the participants want to keep in touch with the program. As such, to effectively track participants it is important to make sure that there is an incentive for continued engagement. For example, one project provides a newsletter to its current and past participants. This newsletter includes stories and updates about others who participated in the project. Sometimes it includes articles or information about available scholarships or activities, but it is mostly a social networking tool. Because participants want to receive these newsletters, they will usually keep their contact information up-to-date with the project.

To evaluate project outcomes, each individual project is required to do an evaluation. This evaluation is completed by the grantee and is specific to the goals for the project. One difficulty in this area has been that most of the PIs for projects are computer scientists and do not necessarily understand how to best evaluate their projects. NSF is focused on helping these PIs understand what their project is learning so as to better evaluate it. To effectively evaluate projects, it is important to determine what is measurable and evaluate based on these factors.

Even with evaluation assistance, it can be difficult to measure the outcomes of the alliances. The alliances do a great deal of work that appears to be positive, but there are not easy ways to measure the effectiveness of the work. For example, the NCWIT program for high school girls is aimed at increasing the aspirations of girls towards computing and technology. Validly and reliably measuring such aspirations can be challenging, even for seasoned evaluators. The interviewee explained that, unless there is a project that has a specific, measurable goal, it is difficult to reasonably evaluate the outcomes.

Grant Management

When considering strategic planning and the desired types of projects that will be funded, a key element is to make sure that the solicitation clearly and accurately describes the desired projects. Because proposers closely follow what is listed in the solicitation, it is very helpful to encourage proposals that do a specific thing and to discourage undesirable aspects or topics. The

interviewee noted, however, that care must be taken when using this approach because the solicitation should not be so prescribed that it eliminates creative or innovative ideas that could be effective.

If changes need to be made to the grant program or the types of grants that are being awarded, it is important to share this information with the community. Often times, applicants are used to or expecting a specific type of solicitation and can be confused about changes that occur. Working to make sure that potential applicants and others in the field understand the reasons for changes and what the grant program is trying to accomplish with updates will help to ease concerns. To accomplish this, it is helpful to conduct meetings, workshops, or webinars to fully explain any changes to the program and answer any questions that arise.

> **Project Evaluation Concepts**
> · Stay in touch with grantees
> · Ask grantees what is not going well
> · Allow for meeting and discussion among grantees to help them learn from one another
> · Make future funding dependent on completing required yearly reports
> · Allow for modifications to initial proposal plans

One aspect of grant management that can be difficult to complete are evaluations of projects as well as the program as a whole. One helpful aspect in evaluating grantees is to stay in touch with them. Program managers make sure that they are aware of what is going on with their grantees. One way to help keep in contact is to require grantees to attend a specific number of meetings each year. These meetings typically have poster sessions where grantees can share the work that they are doing and breakout sessions that the grantees attend. The interviewee explained that during meetings grantees often only want to share about work that is successful. As such, these meetings typically include a session entitled "What Doesn't Work." In these sessions, grantees are encouraged to talk about what has not worked for them and why it was a problem, how they addressed the problem, and what they are doing now instead. This forum encourages grantees to think about what they could do differently in their projects and to learn from hardships encountered by their peers.

The Program Director of the CE21 program explained that another way to help ensure that evaluation occurs is to make future funding dependent on the grantees' accurate completion of required reports. In other words, grantees should know that they will not get the next year's grant funding until they have submitted a yearly progress report and this report is approved by the grant program manager.

Finally, it is important to allow grantees to make modifications or updates to proposed work plans based on evaluations and what is not working for them. If something is not working well, grantees should be able to determine what is going wrong and modify the tasks completed as a part of the grant. Instead of following the proposed plan exactly, grantees should be evaluated on doing intelligent and creative things that align with what was proposed for the project.

Disseminating results of projects to individuals outside of the CE21 can be a difficult task. One way that this is accomplished is by publishing findings in appropriate journals. This is often done

for education efforts as there are a variety of education journals that include this type of information. However, there are not journals that typically present information regarding broadening participation. A committee was recently formed in one of the computer science professional organizations related to broadening participation and a hope for this committee is that it will hold meetings from which the proceedings will be available so that interested stakeholders outside of this community can learn about project results. Additionally, sharing results with people outside of the program is accomplished through the development of a Web site that grantees are required to keep up-to-date with information about their projects. Finally, the program has aligned with various associations to help get information learned through the grants out to a wider audience.

National Science Foundation, Directorate for Education & Human Resources

The Directorate for Education and Human Resources (EHR) at the National Science Foundation (NSF) has a large number of grant programs, most of which relate to STEM (Science, Technology, Engineering, and Math) in some way. One specific grant program within this directorate that focuses on STEM fields and learning is the Advancing Informal STEM Learning program, which is more commonly known as the Informal Program. The goal of the Informal Program is similar to other NSF grant programs in that there is a desire to develop a stronger knowledge, interest, and involvement in STEM fields. The focus of the Informal Program is on learning that occurs outside of school; this learning can occur at any time, in any place, or for any age group, so it is a very broad program. The grants within the Informal Program can really be anything that has a focus outside of school, so they encompass activities such as radio and media efforts focusing on STEM, museum exhibits, after-school programs, libraries, or cyber learning. The key element to any project funded through the Informal Program is that it involves research around advancing the field. According to the interviewees, the Informal Program does not fund a lot of direct services or provide funds for operational support, but rather funded projects focus on program development and building knowledge to advance STEM fields. The size and duration of grants provided through the Informal Program can vary greatly, with previously funded projects ranging from a value of $250,000 up to projects funded for $3 million. Projects typically have a minimum duration of one to two years, but can be funded for up to five years.

In the Informal Program, there is one solicitation that all applicants respond to; they are not asked to categorize the proposal or break it down by a specific age group. Proposals are received that focus on a variety of populations, as applicants are allowed to define their proposal based on their own organization or program and its related priorities. Once proposals are received, a peer review process of the proposals begins. Across NSF, a peer review process is used for evaluation of all proposals.

After proposals are submitted, they are initially reviewed to determine the focus of the proposal so that they can be given to an appropriate panel. This is done to determine the types of reviewers needed as well as how many reviewers should be recruited to participate. It is desirable to have reviewers who are knowledgeable in the areas that the proposals focus on. Each review panel consists of 10 to15 individuals from the field. These individuals are typically identified by

EHR program officers who have come from the field and have specific specialties. For example, one of the program officers in the Informal Program previously worked in the museum field and has expertise in this area. As such, he would be responsible for identifying appropriate individuals to participate in a panel to review proposals submitted that are related to museums. Proposals are clustered with other similar proposals and given to the appropriate review panel for review and evaluation of the proposal.

Insights from the benchmarking interview conducted with Ms. Celestine Pea and Mr. Dennis Schatz, EHR Program Directors, regarding diversity and broadening participation, project outcomes, and grant management are provided in the following sections.

Diversity and Broadening Participation

Within each solicitation released by the Informal Program there are five priority areas for evaluation of the proposal. Two priority areas focus on broadening participation in STEM activities and the other three priority areas focus on intellectual areas such as innovation and how the grant advances the field, and STEM content in the proposal. As such, it is required that in every proposal applicants describe what they will do to increase the population of underrepresented in the project and to encourage participation by these groups. The focus of broadening participation to underrepresented groups is to ensure that all students have access to high quality STEM education. Applications may focus on racial or ethnic minorities (e.g., Hispanic, African American, Native American). Additionally, the interviewees indicated that there are some proposals that target language and culture to make sure that there are opportunities for all students to participate in informal STEM activities.

> **Operationalization of Diversity**
> · Race/Ethnicity
> · Language and Culture

With regard to diversity, there is also a focus on collaboration for projects funded through the Informal Program such that it encourages the involvement of groups or organizations that would not typically be represented in grant awards. For example, grantees could collaborate with parents or others in the community to help understand the importance of informal activities and how their use by children can increase education in STEM areas. While there is some focus on broadening participation within the Informal Program, this is also a topic that spans many divisions within NSF and its grant programs.

Project Outcomes

Through the Informal Program, projects with a wide range of outcomes have been completed. Many of these outcomes are public facing and are familiar to people. For example, the interviewees indicated that a large majority of the IMAX films that have scientific backgrounds are funded by Informal grants. Another area in which many project outcomes fall is in the area of citizen science projects. Through these projects, people in the community collect data on a wide variety of science topics, such as the butterflies found in their region, bird population counts, or information about water quality. This information then goes to research scientists who use the data to complete their research. With citizen science projects there is a dual benefit in that

scientists can receive a great deal of lab help at a low cost and at the same time the scientist is working to build science knowledge. The goal of projects such as these is to help the participants better understand science and STEM.

Another outcome that is a focus of the Informal Program is encouraging research scientists to engage the public at museums or other public places rather than just addressing science in schools. The interviewees indicated that scientists are often thought of as only being in their lab and not connecting with the public, so an effort is made to bring the scientists out and expose students or other people to them. Recent research has shown that students learn a great deal about STEM education outside of their formal classroom and that these informal learning experiences can actually help to keep some students in science. Doing things such as exposing students to scientists and their work or having activities for middle and high school students to participate in may help to keep them in STEM fields or bring them back to STEM.

> **Multi-Level Evaluations**
> - Projects are evaluated to ensure that they are meeting their goals and providing valuable outcomes regarding STEM
> - The Informal Program is evaluated by an external evaluator to show that across the program, grants are making an important impact on STEM

While it may seem apparent that there are valued outcomes from the Informal projects, it is important to evaluate these outcomes. Each project funded through the Informal Program is required to have an evaluation that looks at the efficacy of the project. The program directors interviewed indicated that they feel it is important to document this information so that it is available to the public. Documentation of grants and their outcomes or efficacy is made public on the Web site informalscience.org. The primary goal of this Web site is to inform others in the field of what has been successful in program development as this can help other organizations develop effective programs of their own.

Evaluations are conducted of each grant project through annual and final reports. There is not a specific evaluation framework that must be followed within the Informal Program because of the wide variety of projects that are funded; however, the program does provide resources that can be beneficial in the area of evaluation. The summative evaluation at the conclusion of the project must be submitted to the Informal Program Web site before the award can be closed out. One way to help encourage compliance with this rule is that if a grantee does not submit this to close out the project, they will be ineligible to receive future funding from NSF. According to the interviewees, many grant programs have an external evaluator who can help to inform the activities and practices occurring under the grant based on evaluation of the effectiveness of previous grant activities. Some grant projects will also involve an advisory committee that includes experts in a specific area who will meet several times a year to provide guidance regarding the project. In addition to these evaluations that occur at the project level, outcomes are also evaluated at the Informal Program level. This evaluation is done by external evaluators and is a rigorous way to ensure that the Program is making a difference and show the positive effects across grant projects.

Informal Program grantees are not required to track their participants beyond the end of the grant. There may be a few grants where this occurs, but it is not frequent nor is it a focus of the Informal Program.

Grant Management

Within the Informal Program, there is not a specific system-wide strategic planning process, but rather an interactive process that is used to help in planning for the program. The interviewees described that as a program they are currently going through an evaluation to look at several aspects of the program such as how the approach to informal STEM education has changed over the past 10 years and the types of projects that have been funded. This information will then be used to inform plans for the Program moving forward.

Each year, a new solicitation is developed to request proposals for the Informal Program. When creating this solicitation, the program directors will consider the projects that have been funded over the past few years to determine if there are gaps or areas that should be emphasized in the new solicitation. So, when writing a new solicitation for proposals for the Informal Program both the priorities of the directorate overall as well as the current portfolio of projects are taken into consideration. When developing a solicitation, the most important aspects emphasized are the importance of innovation and cutting edge research, as well as things that will be applicable and actually work in the real world. The interviewees emphasized the importance of the solicitation development process because this solicitation will be the guide to the types of grants that are submitted. In order to receive grants that focus on desired areas, the solicitation must be written to address those areas. Another characteristic to consider in developing solicitations is to not make it too specific as to exclude proposals that may be interesting and effective. A goal of the solicitation is to receive proposals that will create projects that help produce interest in and learning of STEM.

> **Solicitation Development**
> - Development of solicitations is key to having high quality products
> - Solicitations are developed to create a comprehensive portfolio of projects funded by the Informal Program
> - Solicitations should incorporate overall priorities of the directorate

To communicate project findings with stakeholders outside of the agency, the Informal program has a cooperative agreement with the Center for the Advancement of Informal Science Education (CAISE), which is designed to educate the community on what NSF is doing and new developments in the informal STEM education area. CAISE works to help improve evaluation efforts as well as to get more scientists involved in informal education and more people interested in broadening participation in these informal projects.

Department of Education, Office of Post-Secondary Education (OPE)

OPE has a number of different grant programs. OPE offers discretionary funding by releasing an announcement in the Federal Register and soliciting applications from the public, with responses usually coming from universities or non-profit organizations. Within OPE, the Fund for the Improvement of Postsecondary Education, also known as the Comprehensive Program or FIPSE,

has been the flagship program. However, due to Congress not appropriating money for the Comprehensive Program, there has not been a grant competition since 2010. Many of the projects funded in 2010 are continuing through the current year and may be extended for an additional year. In 2010, Comprehensive Program grants were typically around $750,000 over a 3-year period, or $250,000 per year.

The major objectives of the Comprehensive Program are to improve some aspect related to post-secondary education. In other words, organizations such as colleges and universities could apply to the program to do anything that would benefit and advance post-secondary education. As such, many different types of research have been funded through the Comprehensive Program—from medical education to the humanities, STEM initiatives to international education. A positive aspect of the Comprehensive Program is that it is one of the only ways for curriculum development throughout all of the different college departments to be developed. While other grant programs through OPE offer scholarships, this is not something that is included in funding through the Comprehensive Program.

Grants are awarded in the Comprehensive Program through a competitive grant process. For this process, the Comprehensive Program would develop a list of selection criteria and the guidelines for grant applicants. The RFP process is highly competitive, with 200 to 500 applications for 30 to 50 grant awards. Once all applications for the grant are received, the program director convenes a peer review panel, for which academics from across the country are asked to participate. To create these review panels, OPE typically waits to see how many applications are received to determine the number of reviewers needed. A request is then sent out to potential reviewers, who can be found in a database, requesting reviewers for a specific set of dates with expertise in specified areas. Peer reviewers are then randomly selected and put together into each panel. When creating the review panels, it is important to make sure that there is a person with experience in reviewing grant applications. It is also important to have someone who has expertise in the areas covered by the grant applications being reviewed. For example, if there are grant applications focused on community college efforts, it is necessary to have a community college expert on the panel. This means that OPE needs to make sure that there are people with knowledge of all parts of the applications that will be reviewed and that there are no conflicts of interest. Ideally, at least a month is needed to create the review panels.

Each panel receives approximately 20 grants to review. Once each member has individually reviewed the grant applications a panel meeting is convened over the phone. In the past, panels would be convened in person but with the technology available today they are typically conducted virtually. During this meeting, scores are assigned to each application based on specified rating criteria, such as the need for the type of program proposed or the quality of the program plan. While the interviewee expressed that these panel review procedures can be a long process, she indicated that this is one of the most important times of the year for the Comprehensive Program.

Insights from the benchmarking interview conducted with Ms. Sarah Beaton, Program Director from the Comprehensive Program, regarding diversity and broadening participation, project outcomes, and grant management are provided in the following sections.

Diversity and Broadening Participation

Within the Comprehensive Program, diversity was defined by priorities that were released by the Secretary of Education in 2010. These priorities included a focus on first generation college students, minority populations in terms of race/ethnicity, and low income populations.

> **Operationalization of Diversity**
> - First generation college students
> - Race/Ethnicity
> - Low income

Considering race/ethnicity, all groups with the exception of Caucasians are considered to be minorities and are a focus of diversity efforts. In addition to focusing on diversity in the grant awards, all Comprehensive program grantees must sign an Equal Employment Opportunity (EEO) certification stating that the workplace at the grantee organization is diverse and free from employment discrimination.

To encourage proposals relating to diversity, the interviewee indicated that the grant RFP would be posted on various Listservs. Additionally, the RFP would be sent to organizations that focus on minority populations such as the Hispanic Association of Colleges and Universities (HACU) and Title II and Title IV institutions, which includes Historically Black Colleges and Universities (HBCUs). Much of the emphasis on diversity comes from the way that the grant solicitation is framed; it needs to leave the door open for diversity in the grant projects.

Project Outcomes

The interviewee from the Comprehensive Program indicated that the highlights of the program are the things that have been created over the years by grantees, including many promising programs that have been developed. While there have been many different grants, a lot of these grants have created systems. Promising programs have also come from grants that have been focused on access to post-secondary education and retention of students. There is a link on the OPE Web site that highlights these promising college access and retention programs. The value of the projects funded through the Comprehensive Program can also be seen in the fact that many of the grantees have won awards for the work that they have done.

The Comprehensive Program interviewee defined success for this program as being the ability for grantees to sustain their projects after the Federal funding is expended. She indicated that many times, this comes down to having an individual at the grantee organization that is committed to seeking out funds and piecing together funding from different grants or organizations. Many of the grantees have been able to leverage the Federal funding that they received to get other funding to sustain their projects. One of the key features that leads to the ability to sustain a program is gaining institutional support from people like a university president or provost, or other influential people at the grantee organization. Having this support typically means that there will be buy-in to the product after the grant is completed and that the institution will hopefully continue to support it.

> **Valued Project Outcomes**
> - Programs focusing on post-secondary education access and retention of students
> - Sustaining of program through funding received after the federal grant is expended

To communicate project outcomes, the Comprehensive Program has recently started to dabble with Twitter; however, there is not a great deal of this type of communication done yet. The major means by which project outcomes are shared is through a Comprehensive Program database. This database, which can be found at www.fipsedatabase.ed.gov, provides information on all of the projects that have been funded through the Comprehensive program since the 1970s. Users can search the database for key words or specific projects and are able to find information about projects funded, their funding levels and dates, contact information, and an abstract for each project. Annual and final reports are also kept in this database. Occasionally, blast emails are sent out to grantees asking them to upload files or update the abstracts that are included for their project in the database. Within the Comprehensive Program, the interviewee indicated that conferences are used to share project findings and outcomes. At these conferences, grantees present the work that they have done and are able to talk to others about the currently funded projects.

During the grant period, projects are typically tracked by money, and particularly if they are spending money according to the planned budget. While there is an understanding that delays in the project can occur based on organizational factors or personnel changes, the grantee must provide detailed information about what is going on with the grant and how grant funds are being spent. Grantees are also evaluated on whether they are meeting the goals and objectives that they set out to accomplish.

The interviewee indicated that there is currently not a good way to accomplish sustainability over time because the Comprehensive program does not have the authority to go back to a project and conduct an evaluation once the grant period ends and program directors do not have the time to do this. There used to be a separate department that did this type of evaluation, but they did not receive further funding so the evaluations of sustainability over time are not conducted.

Grant Management

Within the Program office, strategic planning for the grants occurs at many levels and through the cooperation of many different individuals. As the competition manager for the Comprehensive Program, our interviewee would work with her director, politicals, the budget office, and the Secretary of Education's office to plan for upcoming grant solicitations. For example, in 2010, the Secretary of Education published a list of priorities for the discretionary grant programs and these priorities were used to help form the grant solicitations. All of the various people who contributed to this process worked together to incorporate the Secretary's priorities into the grant solicitations that were created. Strategic planning is also conducted horizontally, meaning that program officers know the types of issues that the field of post-secondary education is facing and these would also be considered in the grant solicitations. Additionally, all solicitations have to be cleared by the program's attorneys, which is another person who would need to review the developed solicitations before they could be published in the Federal Register.

Because the Comprehensive Program only had one grant application review cycle per year, the interviewee indicated that it was very important to determine all of their priorities in advance to ensure that all priorities would be addressed in the grant applications. Regarding the priorities

included in the grant application, some were identified as absolute priorities while others were identified as competitive priorities. An absolute priority means that it must be met in the grant application; without addressing the priority a grant would be automatically rejected. Competitive priorities on the other hand are not required, but meeting them will gain extra points in the grant review evaluation process. Some of the identification of these two types of priorities was based on the academic community and the current situation whereas others aspects were driven by what the policies associated with the program were looking for in a particular year.

In sum, the representative from the Comprehensive Program indicated that in order to make a program run well, it is extremely important to make sure that everyone is onboard with getting a solicitation out in a timely manner. This is especially important given the large number of individuals involved in developing the grant solicitation. The main reason for the importance of timely release of the solicitation is that the more time applicants have to prepare an application, the better applications there are. When applicants face great time pressure in developing their applications, it is more difficult to get good applications overall for the grant program.

V.   Conclusions

The Findings Chapter details the convergence of themes between LB21 grant categories based on the qualitative analysis of grantee reports and interviewee responses to 29 operationalized research questions. It also provides revealing examples from specific grant categories and programs. Further study of the Findings for the LB21 grant program evidenced certain overarching conclusions. Examples illustrate "outside-the-box" thinking that grantees used to overcome various obstacles to implementing their projects. Illuminating these "lessons learned," this chapter shares insights into what led to project success. Grantees who read this report will be able to recognize similarities with their own grant projects, research, and curricula. Most significantly, they will be able to adopt ideas or elements to speed the delivery of needed learning opportunities to their stakeholders. This information should equip future grantees with the insight and practical knowledge they need to avoid repeating missteps. While conclusions in this chapter refer specifically to these grant projects, wider implications and applications through the field are noted.

This Chapter is organized by the following aspects of grant program evaluation, mirroring the Findings Chapter:

- § Types of Grant Activities
- § Effectiveness of Grant Activities
- § Grant Sustainment
- § Grant Outcomes on Participants
- § Outcomes on Grantee Institutions/Organizations
- § Grant Outcomes on Field.

Conclusions related to key themes are presented with each of the following sections.

Types of Grant Activities

This section includes descriptions of overarching conclusions related to Types of Grant Activities.

Coursework Education

Curricula Content: Applied learning and real-life examples

Given the diverse nature of the LB21 grant projects, no simple conclusion as to how to re-orient curricula is possible. However, many of the projects point to ways in which existing course work can have greater effects on participants. For example, having participants do some preparatory work can facilitate the inclusion of more practical exercises in the training. Announcements for courses may carry information about prerequisites and expectations. Still, some participants arrive lacking the background to fully appreciate the course content.

Completion of readings or an initial assignment can give registrants a more accurate indication of the course content and what will be expected of them in the weeks ahead, increasing the

likelihood of learning that is at the appropriate level for them, and receipt of positive feedback on evaluation forms.

Including participant-specific examples through tailored courses was also found to greatly improve outcomes of active, experiential learning. In CE courses, the use of real-life examples, including case studies that participants provided, engaged students far more than other approaches. In this applied learning approach, participants pointed to the use of actual items from their collections as the reason students gave courses high marks on course evaluation forms. For example, grantees for two digitization grant projects made it clear that students may find an assignment to develop an online library on their own quite daunting. It is easier to build upon something already begun than to start with a blank slate. As one PI said, "You have to start with something—put something into a community resource before people come and add to it." Instructing students to bring in examples to work on in class is another way to ensure that lessons are applicable to their work.

Early LB21 grantees determined that many SLIS lacked faculty who could develop technical course syllabi. The situation was even direr at smaller institutions where the classroom teaching workload each semester was distributed among a limited number of faculty members. With small numbers of students interested in taking narrowly focused courses, syllabi remained stagnant in an earlier generation. Each Institutional Capacity grantee describes a different history that led an institution to developing its LB21 grant project arising from either**:**

§ A perceived need in the profession, based on the literature and professional consensus, or a specific, urgent need within archives and special collections archives in local institutions (libraries, universities, and museums) that are unable to find skilled professionals to work in their institutions;
§ Lack of faculty at an institution who could develop technical course syllabi; substantial classroom teaching workload each semester distributed among a limited number of faculty; or small numbers of students interested in taking narrowly-focused courses.

Neither of these situations is unique to LIS. In their May 2005 article published in the *Harvard Business Review*, Warren G. Bennis and James O'Toole lament the state of business schools "hiring professors with limited real-world experience and graduating students who are ill-equipped to wrangle with complex, unquantifiable issues… The main culprit is a less than relevant… curriculum" (p.96). LB21 grants went a long way toward aligning curriculum with the needs of libraries around the nation today, readying students for changes sure to come.

EXEMPLARY PRACTICES BY LB21 GRANTEES: CERTIFYING LEARNING

· Follow existing standards when developing courses for librarians at any level, targeting any geographic area, incorporating emerging standards as best practice.

Course Delivery: Online classes with technical, academic, and advisory supports to keep students connected

LB21 students and institutions derived benefits from online delivery of coursework. "The benefits relative to either face-to-face or synchronous computer mediated environments…include participation quality and quantity, communication openness/access and post-participation review/access for reference purposes" (Morse, 2003, p.38). According to grantees, students appreciated the ability to take advantage of learning opportunities on their own terms (anytime, anywhere). At the time, there was some criticism of the online course delivery platforms used (e.g., earlier versions of Blackboard), but such issues may be resolved easily with the improved tools available today. Online delivery saved students from a lengthy commute if they lived and worked some distance from a university campus with an LIS program. In some cases, online coursework also offered working professionals and paraprofessionals the opportunity to obtain a degree or other training that would not otherwise have been possible due to conflicts with work hours or the need to earn a paycheck.

Online students can feel disconnected from their university and fellow students. However, additional support for distance learners, technical and otherwise, can foster a sense of belonging to a program as if they were taking classes on campus. Today, online course delivery may be quite different from systems used just a few years ago, with social network supports for synchronous and asynchronous conversation threads to take place, often supported through video (Webcam) and shared screens. Additional connections can be made through advising; for example, one grantee contacted each student just before semester registration about the classes each wanted to take. This "check in" proved helpful in other ways, providing an opportunity to inquire as to whether students were having other difficulties, from the academic program to mundane matters such as obtaining textbooks.

> **EXEMPLARY PRACTICES BY LB21 GRANTEES: COURSE DELIVERY**
> - Provide instructional design support for faculty developing online courses.
> - Schedule an initial face-to-face meeting to help students master the online learning tools your institution has chosen for coursework and establish ongoing assistance for troubleshooting throughout the semester.

Training & Development Opportunities

In any group of learners, it's difficult to know precisely which intervention outside of the classroom is liable to influence a particular individual. The LB21 grants included in this study indicate that employing multiple approaches to engaging students beyond the classroom (e.g., internships, advising, mentoring, and trips to other libraries, museums, and archives) can have an impact on the learners that keeps the student on track in his/her academic studies, relates "book" learning and theory to the "real world," and excites them to continue on in the field. Future grant projects should not rely on one intervention, but use a mix to assure that each learner is supported and encouraged throughout the grant period, and beyond.

Mentoring Programs: Committed mentors support students

Highlights regarding implementation of effective mentoring programs identified through this evaluation include:

- § Casting a wide net for mentors that includes graduate students, museum staff, professional associations
- § Employing mentor "best practices"
- § Signing a mentor/mentee contract
- § Building in flexibility for mentees
- § Using social media to expand advising.

Additional conclusions about mentoring programs were drawn based on the results of this study. LB21 grantees sought to underpin learning with an array of support activities to bolster student confidence and the ability to complete an entire course of study. Advisors and mentors provide information about basic skills and requirements, knowledge of organizational structures and cultures, and support during times of emotional or psychological difficulties (i.e., stress). Both act as guides for those less experienced in a given area. The difference between the two is in the duration, level, and nature of involvement, degree of personal risk or investment, and intended outcomes. The advisor's role is to accomplish more short-term goals of assisting students throughout completion of the educational or training program. As opposed to overcoming specific academic challenges, the mentor's role is to develop more lasting, career-long relationships, focused on life lessons and support.

LB21 grant projects incorporated multiple types of on-going mentoring activities (faculty, graduate assistant, librarian, and peer). Using the "gift-exchange" model, the best mentoring programs facilitated the transfer of tacit knowledge from seasoned professionals to new recruits. Bestowed by the mentor, this "gift" is passed on to the protégé, who becomes the mentor for the next generation. This was certainly the case for one project in which project graduates assumed the mantle for the next class of rural and small librarians and later ended up hiring students from the program. Professional Education and Employment for Librarians (PEEL) scholars can also be relied on to hire graduates of the program. ALA too uses alumni of the Spectrum program as mentors. In one city, students who were part of the scholarship program often return to lead workshops for new scholars. One grantee postulated that "preparation for community college librarianship would be significantly enhanced by post-graduate mentoring during the 6-month internship."

Several PIs noted problems with their mentoring programs. Some students worked full time and had families and other responsibilities, making the mentoring relationship a challenge to maintain. "The mentees were all extremely busy," so there were varying degrees of contact (and this was a project where the mentors were paid). Others pointed to challenges involving geography. Holding an initial meeting with grantees and mentors to give both an understanding of the project goals, expectations for mentors, and level of commitment to the project sets the groundwork for a successful mentoring relationship. A contract between mentor and mentee is also advised. Mentors need guidance as to how much time they need to commit and some guidance as to "best practices" is also advised. Mentors helped students with their projects,

helped them learn and in some cases even helped them to get jobs upon graduation. Many kept in touch past the grant period, continuing to provide professional guidance.

One Ph.D. program has sustained its mentoring program by turning it into a credit bearing class (one credit each semester). Students can get credit for being mentored: "Since it's a class, it's not as personal, but topics covered include things such as how to balance academic/home life, how to prepare for general exams, and how to interview at conferences. For some Ph.D. students, their mentor-mentee relationship has been incredibly successful and strong, and has been sustained throughout a career through shared research interests, presentations at conferences, and publications.

One grantee "encouraged" students to work with professional mentors, but "this ended up not working. We couldn't find enough librarians out there who were willing to take on that kind of responsibility on a multi-year basis. This was a surprise to us. We were hoping to make it a part of our institution, but we couldn't even do it for this one cohort." The grantee was able to modify the mentoring component in a second grant working with professional associations to help find mentors, which was much more effective. Others used individuals in the institutions hosting interns and residents as mentors. One grantee with a master's program for public librarians looked exclusively for library mentees. If she had to do it over again, she would have looked at leaders throughout the community, including museum directors and governmental managers. A few grantees recommended using LB21 funds to offer incentives or even pay mentors. Other grantees turned to former graduates of their programs to mentor current cohorts, reporting stellar results.

> **EXEMPLARY PRACTICES BY LB21 GRANTEES: MENTORING**
>
> · Give Ph.D. students the opportunity to mentor master's students, providing topic-specific guidance within their spheres of interest. One LB21 grantee deemed this essential for success of Ph.D. programs "and the maturation of students."

In contrast to mentors, the role of an advisor may be formal or informal but is almost always of a defined duration and fundamentally linked to some institutional relationship between the two (e.g., student and academic advisor). Advising is a just-in-time approach to help people develop skills and capabilities. Beefing up student advisement was the watch word for one grantee with previous grant experience where "it seemed like a lot of diversity candidates dropped out or had academic problems or had computer issues or technical issues with the online software." The first thing the program did was to improve advisement. Next, it set up a database with a set of responses to questions posed by students, so that anyone receiving an email could check what the response had been to others asking a similar question. In that way, all faculty spoke with "one voice."

Grantees with undergraduate as well as graduate students found that counseling was a necessary component to their program. In some cases, the counseling was provided to the library staff where the student was working, as well. These young people "were not adequately prepared for workplace responsibilities," and encountered situations at work that require some outside advice

for how to deal with them. "Challenges were resolved by clarifying expectations." Some of these students encounter difficulties balancing work, family, and school leading one grantee to offer a course in time management.

Funding Supports

Scholarships: A strong incentive and ticket to a free master's degree

By design of the grant projects, financial aid was a major component of their projects and the primary way in which grantees used their LB21 funds. Grantees noted that students said they felt very special receiving a scholarship, a ticket to a free master's degree. In at least one state, individuals attaining an SLMS certification (School Library Media Specialist) "automatically move into a new category of employee with higher salary—most needed the scholarship money—they didn't have the salary where they could pay for six semesters of full tuition. …Giving them help with tuition is our way to say that we value them and understand the importance of what they are doing."

Compensation: Paying for project administration, assessment, design, and technical support

Grantees also used LB21 funds to help administer their grant projects. Some grantees hired doctoral students to provide instructional design and technical support for faculty and instructors developing and teaching online courses, creating multimedia content, and performing continuous assessment of the program. One grantee wished she'd used funds for staff assistance, particularly for coordinating activities with partners involved in internships and mentoring programs, rather than relying on volunteers.

> **EXEMPLARY PRACTICES BY LB21 GRANTEES: ADMINISTERING GRANT PROGRAMS**
> · When establishing your grant project budget, calculate accurately the time and attention your grant project administration will require and include sufficient support staff for all activities.
> · Develop clear record-keeping systems and good lines of communication among the many participants, including the financial and grants office of your university.
> · Complex, multi-institutional projects experienced a range of administrative challenges, such as aligning semesters/quarters, differences in stipend rates, delays in transferring funds among institutions that adversely affected students. Early coordination and attempts to identify risks and develop mitigation plans is advisable for all future multi-institutional projects.

Other Funding Supports: Textbooks, stipends, substitutes for students who work

Some grant projects had funds left over because students who were accepted to their programs could not match the fees required otherwise. This included the ALA library support staff certification enrollment fee match ($175). Even with full scholarships, students had to pay travel and all housing costs. As one PI put it, that's "a huge issue." Grantees should also be aware of the additional costs borne by students, including the high costs of textbooks. According to the

Consumer Price Index, the costs of textbooks have risen 812 percent since 1978 (Perry, 2012). One grantee did use LB21 funds to purchase textbooks for scholarship students who might not have been able to afford the texts on their own.

Other uses for grant funding included giving funds to libraries whose workers were taking time off for school or study so that the libraries could hire temporary substitutes. Planned time off-the-job included time for formal learning but should expand to include reading, preparation for class assignments, and reflection. Classrooms need to be covered for this planned time off in public and academic as well as branch libraries. Often, the public or academic libraries lack sufficient personnel on duty and available to "float" to cover the open positions. Release from work allows the student to concentrate on learning without worries or guilt, and indicates an employer's full support for continuous learning.

Additional innovative uses of funds that demonstrate "out-of-the-box" thinking among LB21 grantees include:

§ Paying for copies of winners of the Hispanic book awards for use in students' schools
§ Inviting specialists from the outside to provide training
§ Modifying a program from nine credits to six to allow financially needy students to complete it more easily
§ Providing scholarships to reduce the gap between out-of-state and in-state tuition. This allowed the school to attract more students to the program from other states without burdening individuals financially.

Future LB21 grant applicants must take into account some of the lessons of previous project managers. For example, in one case, students were given a financial incentive ($50) to participate in a CE program. Some of those funds went unclaimed due to employer restrictions on accepting gifts. The grantee admitted that it probably should have given a stipend to its trainers who had spent a lot of time developing the course. This is in sharp contrast to a few grantees that spent money on honoraria for speakers.

EXEMPLARY PRACTICES BY LB21 GRANTEES: USE OF GRANT FUNDS

· Research slows when students are forced to take on work to support themselves or their families schoolwork suffers, so full funding to Ph.D. candidates is advised. Offering "summer stipends" for dissertation research will enable Ph.D. students to complete their studies on time and, as one PI phrased it: "When they are funded, their work quality is higher."
· Fund the differential between in-state and out-of-state tuition to attract a larger pool of quality applicants to your SLIS program.
· Have a back-up plan for use of funds should you find additional money is available due to unforeseen circumstances.

Recruitment Methods

Attracting Diversity: Some difficulty experienced in recruiting diverse students

Some of the highlights regarding attracting diverse students or participants to programs that were identified through this evaluation include the following:

§ Being flexible in program design and delivery is important and recognizing that additional responsibilities and costs may apply.

§ Including a risk mitigation plan within the project proposal can alert grantees of activities that might not yield their desired outcomes. Risk mitigation plans reduce threats to project objectives by identifying potential risks and developing options for handling a particular situation should it arise (contingency plan). Acknowledge a risk that might impact project schedule and cost and develop a level of acceptable risk for your project.

§ Using a critical path analysis can keep projects on schedule. Several grantee programs would have benefitted from a critical path analysis, as their initial attempts to recruit diverse students failed, affecting the schedule for all program follow-on activities.

Many different methods were used to help recruit diverse populations to participate in LB21 grant programs. Some grantees were sure to have a presence onsite at industry conferences to promote their programs. Others worked with esteemed professors at historically black colleges to determine how best to promote their program on-campus. The influence of recommendations by a "friend" cannot be overlooked. Use of social media to promote programs was not as pervasive in the marketplace at the time these programs initially were offered, but its inclusion in the promotional arsenal is imperative for program success going forward.

Many grantees indicated difficulty recruiting diverse students (e.g., ethnicity, race, gender, underserved populations, physically challenged), though some did not. Other projects broadened the definition of diversity to obtain the desired number of participants. One grantee "scoured the state" to find public library directors (with bachelor's degrees) to enroll in its master's program, ultimately opening the program for individuals working in public libraries in capacities other than director. Upon reflection, the PI realized that the program should have been more open originally to school librarians who expressed interest in it (her "Plan B").

With the exception of one grantee, advertising in national school library publications was not seen as effective in recruiting for school library media programs; many noted that the readership of such journals had already obtained master's degrees. Also, librarians were not particularly helpful in recruiting students to school library media programs. In general, snail mail was not effective and relying on an advertising model was insufficient, with some exception among several doctoral students who connected through the *Chronicle of Higher Education*.

In response to these challenges, LB21 grant programs took various innovative approaches to recruiting that proved successful:

§ **Recruiting at teacher conferences and association meetings, particularly those geared to reading or language arts.** This was beneficial in recruiting bilingual teachers.

§ **Presenting at a conference about the school library media specialist program, or networking face-to-face.** This made a huge difference in terms of generating interest for school library media (SLM) programs.

§ **Relying on a state Department of Education to disseminate information about a program.** This can be helpful, particularly when the agency is a partner in the grant project. Applicants often viewed this as a "stamp of approval" for the program. Emails distributed by state education authorities are generally opened and read, though public schools can have sensitive spam filters that may block mail blasts to teachers throughout a district.

§ **Offering a $500 incentive to school administrators to use to improve school libraries in their district and to complete an online "principal awareness" advocacy program to learn to support school librarians.** One administrator required all principals in his district to take the program. In turn, these principals turned out to be good recruiters of teachers for the program. This is an effective approach because principals do not typically understand the roles of librarians and the impact they can have in teaching with teachers.

§ **Recruiting school library media specialists who are Hispanic (or speak Spanish).** Participants were recruited with the help of one program's Advisory Council publicity using email to area school districts with a high percentage of Hispanic students. This program relied heavily on bilingual coordinators, principals, and librarians in the schools for "inside information" about applicants.

§ **Holding workshops throughout the state for prospective applicants to learn more about the grant and specific scholarship opportunities.** Eligible libraries in underserved communities should be informed about these workshops so that appropriate people can attend.

§ **Holding preliminary meetings with key library and higher education players.** For example, one PI gained valuable contacts and good ideas for a recruitment plan by meeting with school District Media Supervisors at one conference, and heads of historically black colleges and universities' Colleges of Education in Florida, along with representatives of the Educational Testing Service and the National Board at a Minority Recruitment Conference.

EXEMPLARY PRACTICES BY LB21 GRANTEES: RECRUITING A DIVERSE WORKFORCE

· Wait to use funds for the best candidates for your program; don't lower standards or students will burn out.

· Look to recruit better students locally for Ph.D. programs; these individuals often don't want to move across country (and may be unhappy even if they/their families make the effort).

· Offer a specialization on diverse populations in a master's program that includes working with community groups. This will have a more immediate impact by developing individuals to work in these communities than some other recruiting efforts. It also demonstrates a commitment to these communities that is likely to bear fruit in other ways.

· Do not overlook your own alumni as potential targets for Ph.D. programs, though this requires that your tracking mechanism can identify diversity among alumni.

EXEMPLARY PRACTICES BY LB21 GRANTEES: RECRUITING A DIVERSE WORKFORCE (CONT.)

·   Be proactive in your recruiting efforts. Efforts that should be sustained include working with other schools. For example:
   o   SLIS without Ph.D. programs should encourage formal and informal visits by those with Ph.D. programs to visit to speak with students working toward their master's degrees. These visits can be most effective if they include current Ph.D. students.
   o   SLIS should use their current master's students when they speak at schools offering bachelor in library science, but not master level.
   o   SLIS should take the longer-term view, seeing recruiting of students in two-year public institutions as investments in the future.
·   Hold a reception at ALA midwinter conference along the lines of a "job fair," giving each of the participating universities with Ph.D. programs allowed an area (table) to network with Spectrum Scholars.
·   Develop a webinar for potential Ph.D. students emphasizing the need for both scholarly research and practice in the profession.
·   Create a marketing and recruitment plan for your LB21 grant project that includes metrics for each activity and collateral to determine which vehicle was the most effective in terms of making inroads into specific communities (so that you can eliminate the less successful activities and focus subsequent efforts).
·   Be proactive and do not rely too much on a single recruiting method. A multi-pronged approach will yield greater success.
·   Train those involved in the recruitment process – don't assume that they will know how to do this effectively. Tap your university's Office of Diversity for its expertise in recruiting.
·   Cultivate relationships with community groups in the segments of the population you are targeting and include them in your discussions about librarianship and how they might work with you to help to educate and serve their community.
·   Include former graduates of your program (that exhibit the range of diversity you seek in future student bodies) in your recruitment effort.
·   Go where your target students are – in both the physical and virtual worlds.
·   Make learning a second language compulsory for all MSLS students and encourage those in public and school librarianship especially to take at least one course to develop cultural sensitivity.
·   Look to other professions with a largely female workforce (e.g., K-12 education) and levels of credentialed employees (e.g., nursing) and how they are responding to the issue of diversity/inclusion (benchmark).

Effectiveness of Grant Activities

This section describes conclusions related to each of the Effectiveness of Grant Activity themes.

Building program assessment and participant follow-up into program design improves the quality of feedback provided and eases the burden for grantees in completing interim and final grant reports. As required by the grant agreement, all grantees attempted to assess their programs, quantitatively in terms of outputs and qualitatively in terms of outcomes. Some programs collected data from participants for each course offered, using the information to

improve the course the next time it was given. Others used external evaluators to assess progress throughout the grant performance period. One grantee pointed out that grant specifications did not require formal tracking of participants; others attempted to go beyond analyzing evaluation forms returned at the end of a course. For example:

§ ULC's Executive Leadership Institute (ELI) tracked the progress of participants in terms of projects, presentations, publications, and promotions
§ ALA Library Support Staff Certification has begun to track individuals, hiring a research associate to help with that project

The Conservation Center for Art and Historic Artifacts (CCAHA) conducted one excellent example of follow-up. Approximately 6 months after each workshop, attendees were emailed an evaluation instrument "to determine the long-term impact of the program on the participant's institution. CCAHA also contacts a select number of participants to gain more in-depth feedback. The results are tabulated to review strengths and weaknesses of the program and to ascertain future needs."

Effective Grant Activities

Providing multiple opportunities for students to network with practitioners increases students' understanding of issues facing libraries, how libraries are adapting, and potential opportunities for a job upon graduation/completion. Gatherings of professionals take many forms in many locations. Opportunities to attend meetings and conferences (national, state/regional, and especially diversity-focused) and providing students with opportunities to present research (papers or posters) were hallmarks of successful programs. This section highlights the ways in which conferences/workshops/institutes, memberships in professional associations, internships and fieldwork, residencies, and partnerships/advisory panels contributed to the success of grant projects, both from the students' perspectives and that of the grantee institution. Effective grant activities are described further in the following section.

> ### *Conferences/Workshops/Institutes: Ample opportunities to network, present and visit museums transforms students and programs*

In considering student attendance at conferences, workshops, or institutes, the following topics were identified as highlights from the evaluation data gathered.

§ Zeroing in on ALA's Joint Conference of Librarians of Color
§ Meeting with local library associations
§ Creating local venues for student research presentations.

By all accounts—grantees, faculty, students, and mentors—funding for conference attendance was a characteristic of successful programs, providing multiple opportunities for students to network with practitioners, learn about issues facing the profession, and job prospects.

Most grantees that included conference attendance chose the ALA conference, with some specifying the Joint Conference of Librarians of Color. Others opted for attendance at the

American Association of School Librarians (AASL) or state library association conferences. Based on student completed evaluations submitted as part of the grantee final report, conferences based on specific topics (e.g., digitization, metadata, open source), technology (Humanities, Arts, Sciences, and Technology Advanced Collaboratory [HASTAC]), or diversity themes were the most successful. However, actual presentations by students at conferences were often below the target included in the original grant application. Holding a conference or inviting students to local library association meetings so that they can present research papers, for example, gave the local library community a sense of the caliber of student going to the school and a greater respect for what and how they were being taught. These meetings were enormously helpful for introducing/connecting students with local employers. One grantee (who brought students to conferences) also found it useful to have partners participate in panel discussions about the field, their interests, and diversity. This level of interaction between students and partners was helpful, keeping the partners engaged and interested in the students.

One grantee provided a professional development scholarship to students ($1,000); while it worked for some, not all students took advantage of the opportunity. "Some students felt shy in seeking out those opportunities. Some students were reluctant to use these funds." Additional encouragement of targeted populations to take advantage of these opportunities is warranted. Conference attendance and active participation is especially important to the success of Ph.D. candidates, with each presentation building the resume and giving future colleagues (SLIS faculty at other institutions) a glimpse of potential instructors.

> **EXEMPLARY PRACTICES BY LB21 GRANTEES: CONFERENCES**
>
> - Provide multiple opportunities for students to interact with colleagues on a professional level within LIS and in other disciplines.
> - Arrange library, archive, and museum site visits in cities where students and faculty are attending conferences.
> - Encourage those who attend conferences to reflect on the conference (as a whole as well as individual sessions), sharing with students unable to attend in a formal paper and/or informal report to class, blog, or online chat.
> - Have students participate in LIS events held locally, or develop your own so that they can network with professionals (and potential future employers).

Professional Memberships: Early exposure to the professional field

Other attempts by grantees to introduce students to the importance of professional association membership experienced more mixed results. Grants that paid for student memberships in library associations were considered important aspects of learning by grantees, but there are only a few indications that these memberships were maintained after the grant period. However, some of the grantees did indicate positive outcomes from these memberships. For example, several PIs indicated that graduates of their programs had assumed leadership roles in professional associations which suggests they maintained continued membership. Early exposure to professional societies (e.g., ASIST) made some Ph.D. Fellows, as one PI declared, "more active than typical doctoral students."

Internships and Fieldwork: Site and faculty mentors enhance placements

Creating internships and fieldwork that will be beneficial to students is important for LIS programs. Some features of these programs that help lead to success include:

§ Thinking more broadly about the function and nature of internships
§ Exposing students to the full operational spectrum of the library
§ Investigating news ways to provide mentors for internships and practicums
§ Designing structured assignments that take advantage of student subject matter expertise
§ Using internships as a recruitment tool, especially for minorities
§ Using accurate language to promote internship programs
§ Convincing practicing librarians and institutions to enthusiastically promote new programs.

Supporting scholarships through work-study collaborations, including practicums and internships, independent studies, or other experiential learning makes for more enriching encounters for students of library science. One grantee explained that the term "intern" did not convey the desired professional stature and suggested using "workplace assignment" and "placement" experience in the future. "Placements provide a highly relevant educational experience that is appreciated by students and that generally lives up to their expectations. …Usually the practicum or placement involves a number of weeks working in an appropriate LIS environment where students will be exposed to the widest possible range of activities and often undertake a formal project which can be completed during the placement. …As part of many placements, students are required to maintain a learning diary where they reflect on the classroom/work place linkages" (Juznic & Pymm, 2011, p. 248-49). Academic library directors, in particular, recommended that these assignments expose students to the full operational spectrum of the library, with one grantee insisting that residents "touch several departments." These libraries faced placement challenges, including a university structure that finds it difficult to assimilate a full-time employee for less than a year and cannot offer health insurance benefits (in most cases, however, students were able to extend student coverage or obtain coverage through a spouse). Some faculty unions had issues with student placements at their institutions.

> **EXEMPLARY PRACTICES BY LB21 GRANTEES: EXPERIENTIAL LEARNING**
>
> } Use terminology that accurately conveys the experiential learning opportunity and that will appeal to students. For example, reframing "continuing education" as "professional development" may make a difference in employer support for these learning opportunities.
> } Add an intensive title to your program to distinguish it from others: symposia, colloquia, capstone, or thesis.

Ideally, students had both site (not supervisor) and faculty mentors for their placements. However, this did not always occur; some students hungered for more professional supervision. LB21 grant-funded practicums and internships were possible only if a professional librarian was able to supervise, which one grantee noted was a drawback. Experimentation with remote faculty supervision was not considered. This caused some of the neediest and most interesting projects

to be eliminated from consideration. Further, there was no opportunity to gauge how effective student projects might be without professional supervision, or to consider alternative means of support for these types of placements in the future. This is an opportunity for further investigation and study.

Some grantees allowed students to identify institutions where they could intern and design the projects on which they would work. Others coordinated the internships with a set of pre-selected partners, including libraries and other departments on the university campus, students' employers, or local libraries, historical societies, or museums. Projects ranged from the strategic, active, and practical work (e.g., planning for digital libraries, preservation of rare books, scanning paper-based originals and converting media collections, evaluating/weeding collections for digital processing, creating and improving Web sites, preparing/improving methods for making materials locally accessible through digital means, creating metadata), to repetitive work on routine tasks.

Successful outcomes require structured, paid internship assignments and projects that meet the needs of host institutions (libraries, museums, historical societies, archives) and take advantage of student subject matter expertise. Mutually agreed upon projects were designed to provide an opportunity for success in completing professional research or practical projects that matched library priorities and took advantage of fellows' master's subject matter expertise. Students and their academic advisors valued more highly special programs in which students interned at a particular place and carried out specific projects (rather than just shadowing staff or filling in where needed).

Host libraries indicated that they benefitted from internships in the following ways:

- § Augmented staff
- § Accomplished special projects
- § Brought new abilities, ideas, and up-to-date methods to the library
- § Brought attention from students/faculty/administration which enhanced library and librarians' stature in the academic community
- § Gave insight into current LIS education
- § Increased interest among staff/students considering a professional library career, and
- § Provided the professional satisfaction of mentoring.

 "Academic libraries are turning increasingly to internship/residency programs to enhance their recruitment efforts," particularly to effect change of minority representation in library staff (Brewer & Winston, 2001, p. 307). An internship component allowed students to put into practice what they learned in the classroom by completing various projects. Many host institutions hired interns directly into full-time positions upon graduation, eliminating the time, effort, and expense of on-boarding new hires.

The ways in which internships were assigned varied among LB21 grantees. A few found it expedient to assign internships based on proximity to student residences. Others allowed students to choose their placements. One grantee chose to work with another institution's libraries (seven libraries on multiple campuses miles from one another). While the host institution (office of the

dean of libraries) may have been on board, individual library sites at first might have been inadequately prepared for the interns and reluctant to participate. This led to a range of satisfaction among students based on the tasks set out for them. Whatever the challenges encountered, all grantees (and most students) said that internships were worth the effort. They provided a rewarding learning experience that taught skills, as well as work ethic, organizational culture, and operations. Conducting a 360° evaluation of the program has led to improvement in all internships the university offers.

Several grantees voiced concern and puzzlement when practicing librarians did not enthusiastically embrace their new programs, promoting them to potential recruits or reluctantly agreeing to internship placements at their institutions. One grantee experienced a minor setback, from which it recovered, when one of the original collaborators pulled out of the project. One misunderstanding (between the host institutions and the grantee) was the use of imprecise terms in the "real world" (e.g., archives and digital libraries), which led students to sign on for one type of internship and be faced with another. This became a learning opportunity for faculty and how it approached teaching in a post silo-ed world where similar activities are conducted among related facilities (i.e., libraries, archives, museums), but there is little knowledge sharing and the likelihood of redundancies.

EXEMPLARY PRACTICES BY LB21 GRANTEES: INTERNSHIPS

·   Visit all placements before the term begins, making sure that the project and oversight that will be provided is appropriate for students. Establish agreement as to target activities and be sure that the time allotted is appropriate for the amount of work involved.
·   Sign a Memorandum of Understanding (MOU) with host institutions and provide students with a Handbook for placement work.
·   Check in with both partner institution and student on a regular basis to assess progress and deal with any issues that will prevent a successful completion.

Residencies: Uniquely branded opportunities distinct from mundane CE programs

Summer Institutes, residencies, and programs labeled "intensives" distinguished themselves from workshops and CE opportunities offered elsewhere. LB21 grants were more successful when they branded efforts to distinguish projects from "run of the mill" CE programs. Institutes and residencies offered during the summer were highly successful, drawing participants during a less work-intensive time of year when a week offsite is more plausible.

Residencies created by grantees took place in a variety of types of libraries with students taking on high-level projects to groom them as leaders. Examples of projects included program planning, grant writing, policy making, and facilities planning. Residencies, Summer Institutes, and Fellows programs, in particular, were a favorite of academic library participants. Through practica, students were able to experience an authentic context, working with skilled mentors. Further, professionals were able to get a boost within their organizations by having students digitize works.

Partnerships/Advisory Panels: Creative assets that attract funding, other support, and recognition

Considering developing partnerships and utilizing advisory panels, the following highlights to make these successful were identified from the data gathered in this evaluation:

§   Linking up with state libraries, associations, governmental agencies
§   Expanding collaborations to develop new courses
§   Keeping partners engaged beyond the specifics of grant program participation.

Stakeholders should be viewed as collaborators and partners. Grantees noted how the choice of the right partner(s) can influence decisions to register or fund a program. Feedback from students across the spectrum indicated that their decision to enroll in degree programs was directly related not only to the topic(s), but the presenters. The quality of a speaker's presentation could not be pre-judged; however, the mere inclusion of recognizable "experts" in their specialization, or national institutions, was enough to convince those hesitant to enroll. Likewise, listing IMLS as a project's sponsor might be seen as beneficial to the agency, but it has yielded enormous benefits in attracting additional funding, support, recognition, and participation from other organizations, within academic institutions in which the grantee might be situated, and among potential participants. Several grantees credited promotional material or Web sites that indicated their project was backed by IMLS for unsolicited support or prompting a local government agency to "sign on."

Partnerships contributed much to an institution's ability to deliver quality programs as well. Grantees that sought help from state libraries, state associations, and other governmental agencies at the beginning found them most adept in publicizing a program, recruiting individuals, or funding events. Similar programs in other states overlooked these potential sources for assistance, turning to them only as an afterthought when other avenues had failed. Several grantees made collaboration central to their LB21 grant projects, expanding partnerships beyond what had been present previously. Thus, partnerships started to include the development of new courses and programs. Furthermore, grantees used partners in a variety of ways. One grantee enlisted liaisons from partner community colleges to review their LIS course catalogs to determine what is most fundamental for work in community colleges; these selections were presented to the cohort as "suggested courses." Another grantee who brought students to conferences had partners participate in panel discussions about the field, their interests, and diversity. This interaction between students and partners was helpful, keeping partners engaged and interested in the students beyond the specifics of grant program participation.

> **EXEMPLARY PRACTICES BY LB21 GRANTEES: EFFECTIVE ADVISORY BOARD USE**
>
> ·   Avoid having too many organizations represented on a project development advisory board.
> ·   At the outset, make sure that all share the same goals and will share the workload, particularly grant writing and recruiting.
> ·   Expand the role of advisory boards to make the members part of every aspect of your project.
> ·   Add partners to the project as you determine that the current collaboration lacks needed skills.

Academic Success

Cohort Model: Relationships built over time and friends in the profession

When developing cohort models to improve the academic success of students in LIS educational programs, the following features can be used to help create effective programs:

§   Examining the ELI Fellows as a model
§   Nurturing better reflective thinking skills
§   Using cohorts for continuing education programs
§   Using cohorts to mentor upcoming cohort groups
§   Exploring cohorts as a potential post-graduation tracking tool
§   Providing additional support for online cohort learners.

LB21 grants that employed a cohort approach provided evidence that the bond created among learners lasted beyond the formal learning opportunity, forming a community to rely on for professional assistance and advice. Cohort arrangements involved groups of students taking all or a major portion of their coursework together as an intact group rather than randomly enrolling in courses at their own pace (Barnett and Muse, 1993). Several grantees employing online course delivery found that face-to-face meetings at the start of the program ("boot camp") or meet-ups "in our distance learning lab" foster closer ties. Knowing the individuals you work with on group projects in a virtual environment is important, though these cohorts "never really become as close to people taking class on campus." For one program however, the cohort-like environment in which students could share experiences and develop deeper interpersonal ties was important to participants.

The benefits of student cohorts in master's and doctoral programs have been recognized since the early 1990s, though cohorts have been used in educational leadership programs since the 1950s (Barnett & Muse, 1993). The development of strong emotional ties among cohorts has been linked to positive student outcomes, creating a comfort zone for small group participation among students who do not thrive in other types of learning environments (Maher, 2005). LB21 grantees also applied the cohort approach to their CE projects with some success. Beyond an individual benefit in terms of academic performance and scholarship, one grantee noted that participants in cohort learning display greater reflective abilities than other students. These are precisely the characteristics that Executive Leadership Institute (ELI) Fellows exhibit; "each class became a national community of colleagues that continue to rely on each other for professional and personal development advice and exchange." Fellows "use tools gained in ELI daily, particularly those related to change management and reflective thinking. Public library directors and other senior executives have reported that the way their organizations think and do business has significantly changed because of improved techniques for problem-solving and communication gained as a result of participating in ELI."

Some LB21 grantees used an initial cohort to mentor subsequent groups going through the program. For example, *PNLA Leads* used participants in its 2006 leadership institute to act as mentors for the 2007 cohort while attending local library association conferences, which provided opportunities to put into practice what they had learned. The peer-assist concept, in

which peers mentor and learn from one another, was a related effort to surround students with support. As one PI expressed: "It is our thinking, based on strong anecdotal evidence, that a strong cohort or peer group significantly improves retention and graduation rates, and provides alumni with help in job hunting and career development…The help of student peers was, and will continue to be, invaluable for those working in small and rural communities." One school library media grantee noted: "instruction from other school librarians helped participants [who were also school librarians] understand programs that current librarians are using at their schools. This gave participants the opportunity to not only encounter new ideas, but also the forum to ask detailed questions about pedagogy, technical skills, collection development plans, and program routines."

Cohort groups yielded great benefit to grantees. A cohort strategy worked so well that one grantee is actively seeking opportunities to use it in other Schools of Library Information Science (SLIS) programs it offers. As one PI put it, "When I asked students what features (of the program) really worked for them, they said the cohort model--building relationships over time and having friends in the same job. They had the ability to network consistently and be in the same class. Now that they are out in the workforce, they are communicating with the group all the time." The relationships developed among cohort members were deemed particularly beneficial for rural and small libraries where many solo librarians had no one on the premises, or nearby, to consult. One project observed heavy traffic on its listserv targeting rural and small librarians. The individuals in the Association for Rural and Small Libraries LinkedIn group engage weekly conversations, with recent discussions including ideas for Native American cultural children's programming; sharing social media strategies; interviews about popular library programs; and programming resources for libraries. Another benefit of the cohort approach is participants stay in touch with one another and know who has changed jobs and how to reach them. This could prove enormously beneficial to grantees for tracking students beyond program completion.

For some, travel is impossible, so watching/listening online, such as *WebWise* presentations, is the only option. Asynchronous options, with recorded sessions archived, provide additional opportunities for time-shifting participation that may be impossible if given online in synchronous mode only. One grantee noted that "students felt isolated and some were frustrated learning… on their own." The program tried a pilot for synchronous study in which students could meet together online at a fixed time for part of the class work, and students liked this better than the asynchronous method. Another grantee delivering the same course face-to-face or online found that students dropped out of the online class with greater frequency than those taking the classroom course. This may indicate a need for additional support for online learners, though the instructors in this class did not follow up to determine the reason students chose to drop the online course.

> **EXEMPLARY PRACTICES BY LB21 GRANTEES: USE OF COHORTS**
> · Whenever possible, use a student cohort approach, building a community of learners in your program, and supporting communication by providing access to and support for using social media tools that sustain beyond the grant period.
> · Use the peer assist model, which involves encouraging initial cohorts to mentor subsequent cohorts of students.

Faculty Relationships/Mentorship Programs: Advice on work-life balance, work ethic, and on-the-job interpersonal skills

Pre- and paraprofessional students especially benefitted from programs that surrounded them with support throughout their studies. This included counseling for studies and assistance in achieving work-life balance. PIs mentioned that these individuals needed help with the transition to professional status, models for appropriate work ethic, and handling interpersonal issues in the workplace. Mentoring has proven helpful in retention of minority librarians in academic and research libraries. Participants have greater job satisfaction and are promoted to leadership positions at a faster rate than those who do not participate in these programs (Olivas and Ma, 2009).

Specific Educational and Curricular Elements: Intensive, real-world problem-solving

To help students succeed in their educational programs, specialized educational and curricular elements can be incorporated into the program. Some examples include:

§ Producing enriching symposia
§ Including capstone projects for real-world problem-solving experience
§ Using class projects for work and to bolster resumes.

Results of this study reinforce the finding by Marshall et al. published in "Toward a shared approach to program evaluation and alumni career tracking" (2010, pp. 36-37) that "the practicum or similar experience was considered the most beneficial by graduates." Adding an intense educational component, such as regularly scheduled (i.e., weekly, monthly) colloquia at host libraries, introduced beneficiaries to current trends and issues facing academic research libraries across the U.S. It also provided opportunities to learn from practitioners and participate in discussions on relevant topics. Two grantees introduced these through carefully selected readings on context diversity. For example, some of the article authors and library association presidents were invited as colloquia speakers. In addition to the educational value of these sessions and the positive reception they received from participants, the symposia elevated the grant program to "something special." For Ph.D. students, performing at least one consultancy can be beneficial for the student while raising the profile and the stature of the SLIS/university.

As part of their programs, a few grantees included a capstone experience in which students were able to apply the concepts they had learned to solve an open-ended, real-life problem. Several grantees point to the outcome of student work as in indication of success. But more importantly, student feedback indicated that they felt proud of their final projects, happy they invested so

much time in them, and would do it all again. In two grant projects, more grant beneficiaries took advantage of the capstone or wrote theses than others at the school that offered these options to students. One PI indicated that the grant program gave scholars confidence to take jobs located away from their small towns in such organizations as the Central Intelligence Agency in Washington, D.C., and academic research libraries in Atlanta. Grantees pointed to the fact that students often used class projects for their work. For those seeking employment, noting these as accomplishments on their curriculum vitae appears to have been beneficial, though no student stated (in feedback on grant reports) that this was a deciding factor in obtaining a position.

Other Factors for Academic Success: Students shape their own learning

Allowing students to customize and shape their own learning experience was identified as another factor contributing to academic. Some examples of how this can be implemented include:

- § Allowing students to take courses on a part-time basis—"weekend college," for example
- § Demonstrating a degree of flexibility
- § Acknowledging and accommodating multiple learning styles.

A touchstone of effective learning is that students are in charge of their own learning; essentially, they direct their own learning processes (Barell, 1995). As one PI phrased it: "giving students greater leeway to tailor their experiences more may increase the value of the program for them." Students in LB21 programs also appreciated being able to take graduate classes on a part-time basis (or online) while working full-time, especially those involved in school library media certification or when traveling to/from a campus involved a long commute. One grantee implemented a "weekend college" model for school library media specialists that continues today; "the online module can be synchronous or asynchronous during the week. The weekend sessions meet once a month on Saturday."

At one university, students were allowed to select their placements. With that freedom came some degree of ownership. On an evaluation form, one student noted that his placement would have been more challenging if he were not a self-starter, as he received little in the way of direction or guidance. Other grantees offered students an option to substitute assignments with a research paper or independent study, noting that this requires the supervision of paid faculty that may not always be within an original project budget. In these instances, the desire to let students direct their learning must be accompanied by oversight by faculty and/or supervision at the host library placement to assure successful outcomes.

While courses on public librarianship were delivered in several programs, one grantee had a cohort of students already serving as directors of small, rural public libraries. The course "had to be adjusted so that we were able to not repeat what they're already doing. So we had to accommodate their needs." Allowing students to take electives in a concentration that interests them (e.g., academic libraries) can also demonstrate a degree of flexibility that perhaps goes beyond the norm.

Project organizers who appreciate the differences in learning styles (auditory, visual, and tactile) reinforce learning through each means of delivery, assuring that all participants understand the concepts and how to apply them at work. While program developers want participants to achieve the learning goals set out in a course syllabus, learners absorb more (and more quickly/easily) when they determine what they learn, when, and how. The NYPL *Leadership Now!* program took this lesson to heart by allowing participants to choose the type of training that appealed to their respective learning styles. In fact, a self-awareness assessment (Myers-Briggs) was a feature of the initial workshop. "People could have onsite training and could go to classes and conferences. That provided huge motivation for participants (having choices in their own development)."

EXEMPLARY PRACTICES BY LB21 GRANTEES: SELF-DIRECTED LEARNING

· Allow students to choose their own dissertation research topic. As one PI phrased it, our students, "have freedom and responsibility to develop their own research initiative and trajectory. In doing so they are guiding themselves and getting constant practice here at the school. That will stand them in good stead as they enter the profession, or as they assume a managerial responsibility."

Recruiting a diverse workforce: Additional efforts crucial once students are recruited

To help recruit and retain a diverse workforce, the following highlights indicating ways to support diverse students were identified from data gathered in this evaluation:

§ Identifying and providing academic supports minority students need to complete programs
§ Providing sufficient financial assistance
§ Focusing on experiential learning and relationship-building
§ Rethinking the push for Ph.D.'s to focus instead on master's degree candidates.

Grantees focused enormous efforts to bring diversity to their programs, some succeeding more than others. Often less thought was given to the needs of these diverse students beyond entering the program, though several grant programs excelled by supporting students through experiential learning opportunities and relationship building. Dropout rates for scholarship students were lower than anticipated and within acceptable ranges, with only a few programs reporting that students dropped out because they could not complete the work (academic or internship placement). Some students were called to military duty, became ill, moved out of state, or could not continue due to "family hardship." On the other hand, some students moved to enroll in programs, in part to be eligible for in-state tuition rates or internship placement. Several students who could not meet program work requirements or the GPA required for scholarship remained in their programs, finishing at a later date and at their own expense. A few students also took longer to obtain their doctorates and one chose to complete the master's level only.

Two grantees found it difficult to recruit Ph.D. students to work in academic libraries or keep them on the path to completing their doctorate. For example, one academic library program grantee believed that, in the eyes of students, the small scholarship the program was able to offer

was inadequate, particularly because students often had young families to support. Some students who accepted placements later declined in favor of other opportunities. The PI interpreted the library as a fallback position in case these doctoral applicants did not receive a better offer. In effect, it was just as well, the PI asserted: "We were inundated with talented, committed, and well-prepared students at the master's level. On reflection, we do not see the Ph.D. as a necessary credential for entering and working in the field." In fact, two of the four Ph.D. students in that program "have taken more time, and needed more of our special help to complete their degrees than students without this background." It is impossible to draw conclusions based on two projects. Still, this suggests that academic library fellowship programs may have an easier time seeking subject specialists at the master's degree level to achieve quality performance goals.

EXEMPLARY PRACTICES BY LB21 GRANTEES: RETAINING A DIVERSE WORKFORCE

·   Seek multiple opportunities for students to interact with external colleagues on a professional level.
·   Include teaching requirements in your program that give full responsibility for course design and delivery to your Ph.D. students.

Techniques for Successful Diversity Recruitment

The LB21 grants concentrating on diversifying specific aspects of the profession utilized multiple means for recruiting students. These efforts stand in sharp contrast to what one PI called "passive" recruitment by library schools that use Web sites to present information about the programs offered, application deadlines, or prospects upon graduation. As ALA noted: "We've seen many schools starting to do more on conversational recruitment," such as the efforts highlighted below.

Personal Contact and Connection: Minority professors are key

Schools of Library and Information Science (SLIS) that relied on faculties in other disciplines to identify potential candidates for dual degree programs were disappointed that those faculties did not pull their weight. However, grantees that identified and enlisted influential minority professors to "talk up" the program found this approach extremely effective. Several grantees used it on their own campuses and at other regional and state institutions, specifically, historically black colleges. One PI who did not go onsite to historically black colleges or Hispanic/Native American libraries said that if he had the opportunity to do a recruitment visit again, he would hold receptions or take people to lunch. Another grantee recognized that cultivating library school deans, particularly those at schools with no Ph.D. program, would be beneficial. These concentrated efforts require more personal investment than other traditional recruitment techniques, but develop longer lasting relationships and respect that goes beyond the immediate semester.

Working with Minority-Focused Organizations: Sustained pipelines for prospects

Some of the ways in with grantees reached used connections with minority-focused organizations to help recruit minority students included the following:

§   Linking up with recognized and trusted grassroots groups to attract candidates
§   Using Future LEADers of America, and REFORMA to reach Hispanics
§   Exploring creative ways to connect with Native American tribal communities.

LB21 grantees also noted the important role their advisory board members or partnerships with minority-focused organizations played in recruiting members from diverse communities. For example, including representatives from various Native American library/librarian associations on advisory boards for programs targeting this community may give projects better entre to the community. These included national associations, such as the American Indian Library Association and the Rural and Tribal Libraries ALA Committee, and state groups, such as the New Mexico Library Association's Native American Libraries (NAL) Special Interest Group (SIG). The use of recognized groups within communities can be helpful in attracting recruits to a program, provided they fully understand the program and see the benefits of having representation from their communities working in public libraries or in the schools their children attend. For example, a community informatics program developed longer-term relationships between the university and community groups. The program addressed a critical hurdle for these groups by helping them understand and trust that it is important and possible for their youth to obtain higher education degrees. Building relationships "with local black churches, detention centers, and radical library groups," and having students "talk about their views of working in those communities, and views of themselves, and of working in underserved communities" was important as the university measured student achievement.

Within the Hispanic community, groups that proved most helpful were Future LEADers of America, a nonprofit organization focused on transforming youth into successful adults, and REFORMA, the national association to promote library and information services to Latinos and the Spanish-speaking persons. However, LB21 grantees reported mixed results from working with REFORMA, depending on the active nature of individual chapters. Other grantees relied on ALA (Spectrum Scholarship Program and Black Caucus).

Reaching out to Native American tribal communities continues to be the most challenging of the various ethnic groups that LB21 grants target. Education attainment levels among American Indian and Alaskan Native youth are lower than other ethnicities. In 2008, just 22 percent of American Indians and Alaskan Natives aged 18–24 were enrolled in colleges and universities, compared with 26 percent of Hispanics, 32 percent of Blacks, and 58 percent of Asians/Pacific Islanders (Aud, Fox, & Kewal Ramani, 2010, p. 121). Because these individuals may not identify themselves as American Indian on college campuses, library schools are hard pressed to find them to even begin the conversation about a career in librarianship and an advanced degree. The identification of Native Americans enrolled in college can be accomplished only with the help of tribal communities. However, LB21 grantees indicated that tribal organizations were not as welcoming as other diverse populations. The program that achieved the most success in this community had a PI who was Native American. This underlines the importance of diversity among library leaders who serve as role models, enticing others within their underrepresented communities into the profession. According to Aud, Fox, and Kewal Ramani (2010, p. 128), when Hispanics, African Americans, and American Indians/Alaskan Natives were enrolled in post-secondary education, they were more likely to attend public 2-year institutions. Recruiting

students for LB21 programs from this group would require completion of a bachelor's degree first, extending the timeline for diversifying the field. However, at present, this remains the largest pool of potential targets for SLIS. According to the 2009-2010 update of ALA's *Diversity Counts*, there are 32,775 library assistants who are African American, Asian Pacific Islander, Native American/Native Alaskan, Latino, or multi-racial.

Other Effective Recruitment Efforts: The "grapevine" and engaged partners

LB21 grantees found word of mouth, using both traditional social networks and modern social networking, to be a highly effective way to promote a course or program. Word of mouth about a grant program ("the grapevine") is powerful. Beyond the school Web site, using partners to get the word out appears to be the fastest method for these grantees to announce a program and to enroll students within a matter of months. Involving partners in the interview process can also help to identify promising students who might otherwise have been overlooked, as a few PIs pointed out. When registration or evaluation forms asked participants how they found out about the program, one of the most prevalent responses was word of mouth. This included supervisors suggesting that participants attend a workshop or co-workers who may have attended in prior years. Students talked about their LB21 programs to colleagues at host institutions where they were interning, convincing others to explore the programs. Grantees focused on rural or small public libraries found that using former graduates to promote a program could be extremely productive. Several relied on an existing network of librarians in the region to identify students and send them to the program.

Motivating these target populations to take on library studies requires sustained effort, cultivating interest, and building students' confidence that they can complete the program, despite many challenges: English as a second language, cost of the program, working full time while studying, and responsibilities at home.

Grant Sustainment

This section describes overarching conclusions related to Grant Sustainment themes.

Sustainable Project Types

Sustaining courses and programs beyond the grant period proved challenging for many LB21 grantees, though some noted that elements of their grant program have continued. In most cases, the original courses developed with IMLS funding have led to the development of a series of courses or certificate program. For example, most Institutional Capacity grantees continue to offer the courses, programs, and certificates developed through their LB21 grants, at a minimum, as electives for a master's program. In many of the Institutional Capacity grant projects, the number of students taking these new courses, either within a concentration or as an elective, has increased. Many expanded some of their outside-the-classroom efforts to other courses and programs. One grantee was able to continue a course developed by SLIS Fellows in directed research as an elective. "The concept elicited great interest and discussion, and the course was deemed a success by the fellows and the faculty involved. Some of the topics and areas of interest covered in that experience (e.g., Web page development, library funding, outreach, job

seeking and library building/space/renovation) may be incorporated into existing SLIS courses in the future." As for programs that did not drastically change the curriculum of the school, one grantee noted that the program "had a major change on how my librarians viewed the desired qualifications of librarians in our libraries."

Three states bordering Montana – **S**outh Dakota, **W**yoming, and **I**daho – have recognized the success of the Professional Education and Employment for Librarians (PEEL) and joined **M**ontana for a follow-on grant, **SWIM**, a Regional Collaborative Library Education Project that will provide scholarships to educate 50 librarians and school library media specialists to work in the region's rural communities. In another state, one public library master's program pointed to similar developments based on its work. The clinical librarian program developed at Vanderbilt University is also used as a model for others. Another grantee secured an NSF grant "that brought a lot of research attention to problems in data curation," as well as a second IMLS grant for a Summer Institute.

Resources to Sustain Projects

Several LB21-funded programs "resulted in a substantial body of original instructional content" that remains available through individual instructor YouTube channels or institutional repositories. Other grantees maintain project Web sites, but some URLs that grantees provided are no longer available and result in error messages. The WISE project is a good example of a program in which the number of partners and scalability has sustained it beyond the initial grant period or scope, with the partners supporting the project through use and refinement efforts. During the pilot phase, a few courses were offered each semester, giving schools breathing room to overcome challenges related to starting a multi-institutional project and learn about each other's cultures and expectations. The courses also integrated students into a new course management system and accommodated different academic calendars (Montague & Pluzhenskaia, 2007, p. 38). The number of schools participating in WISE has increased from the original 10 to 16.

As a result of its LB21 grant project, one institution re-vamped its curriculum for teacher librarians and now generates revenue from the distance education programs. A second grant has continued as a result of the institution's desire to demonstrate the way in which the university is responsive to the state. The institution is funding a retired principal to facilitate the program and contacting school districts throughout the state to identify teachers to apply for the online program developed with LB21 funds.

One outgrowth of LB21 grants was the ability of grantees to expand the geographic region from which the SLIS traditionally draw students. Much of this is due to word of mouth, and is enhancing the reputation of participating schools. For example:

§   Long Island University's Palmer School has traditionally drawn its student body from the New York City area. The Enhancing Instruction in Special Collections/Rare Books program "has changed the pattern. While the largest numbers come from the Atlantic region just beyond the traditional catchment area, the School has seen an unprecedented influx of applicants and students from across the country, including Texas, California,

and North Dakota, and internationally from London and Edinburgh." Incoming students tell administrators at Palmer that they heard about the program from their professors, librarian bosses, other students, and friends.

§ Rutgers School of Communication, Information and Library Studies also attributed its enhanced reputation to courses developed with LB21 funding. For example, of students matriculating during the grant period, only one-quarter lived within an hour of Rutgers' New Brunswick campus, the traditional area from which Rutgers draws students. Since implementing the online courses, students have come from as far as Texas and California, and even from London (plus one student serving overseas with the military).

§ The Carolina Digital Curation Fellowship Program also expanded its reputation globally, inviting internationally renowned speakers, attracting international participants, as well as receiving requests to organize similar workshops overseas.

Relationships established for one grant project expanded and were incorporated into additional programs. For one Institutional Capacity grantee, coordinating internships helped the school "keep its ear to the ground" and understand what was going on in the community. This increased awareness informed changes in the curriculum to meet the demand that had become apparent.

Grant Outcomes on Participants

Placement Opportunities

Many participants that obtained positions have received positive feedback from their current employers. For example, one PI related an unsolicited comment from a professor and former dean of an ALA-accredited LIS: "The impact of the LEAD curriculum in training higher qualified school library media specialists will have crucial future impact for both pre-service and in-service professional development." However, the economy had a significant impact on some LB21 grant projects included within the timeframe of this study, demanding a degree of flexibility among grantees and understanding from IMLS; extending timelines for grant completion; allowing for repurposing of funds, and leeway in commitments to work in the region. The following examples illustrate the range of flexibility required:

§ Students in Montana's PEEL program had to meet a project employment requirement (work 2 years in a professional position in a library). Few qualifying positions were available in the years following scholarship recipients' graduation, and some individuals reneged on their agreement to relocate to serve the state post-graduation.

§ Most grant projects reached their targets for employment within 6 months of completion, but one program fell short (57%), due in part to the economy. The local public library did not post a full-time, entry-level librarian position for a span of approximately 24 months while the grant program was in process.

§ When students who had agreed to stay in the New York metropolitan area as a condition of their scholarship found there were no jobs to be had, the grantee authorized them to seek job opportunities elsewhere.

Efforts to support Ph.D. candidates and early career faculty should be seen as efforts to raise the visibility of a university. Presenting research at LIS conferences is expected of all Ph.D. students.

Therefore, SLIS should encourage individuals to look at a wider range of scholarly gatherings to assure that their school and the research of its students are recognized by scholars in related fields. Hosting conferences, promoting Ph.D. research through webinars, engaging in community research projects, and contracting for consultancies provide additional opportunities to increase the visibility of students.

> **EXEMPLARY PRACTICES BY LB21 GRANTEES: FLEXIBILITY WITHIN PROGRAMS**
> · Allow students some leeway in choosing intern placement projects and mentors, but provide guidance to assure success.

Outcomes on Grantee Institution/Organization

Institutions receiving multiple grants—simultaneously, overlapping, or sequentially—appear to have made greater, major revisions in their program content and delivery, extending innovations made in one program to others. This serves in contrast to institutions awarded only one LB21 grant within the period covered by this evaluation study, where incremental innovations refined and improved existing courses. In these institutions, additional courses were developed, but no major rethinking of the programs offered occurred.

Lasting impact

One grantee pointed to an unanticipated outcome for its community informatics program. The LB21 grant opened up reflective conversations in that institution; as a result, "major changes" in its graduate program have been attributed to the grant project. "We have hired a few more minority faculty. Awareness in the school has been raised significantly so it has probably affected admissions policies. Our Assistant Dean for student affairs became involved in community informatics activities and she has an impact on advising students [about] what is in the program." Of all the planned activities and projects conducted by students and faculty alike, the PI reports:

> "The most successful is the community informatics club. It is totally student driven. They started it, they run it. They won a university award for it. It's a perfect place where students can find out about it (community informatics), can take it in their own directions and can have their own projects. They did a youth media program in Urbana, making videos with youth and provided computer training. One lesson for me: the power of the voice of students. We should give them the autonomy to take things in the direction that they want to take them. That has more effect on other students and the administration. If students speak out publicly…it brings an immediate response; if faculties talk about it, it is not noticed as much. …This provided a mechanism that supported them and they realize that their voices carry a lot of weight, and giving them the autonomy and support. This helps them organize and do things on their own. That was one of the biggest lessons I learned: to recognize they have their own interests, own knowledge, and ways of knowing what will work, and let them run with it."

Means of Tracking Participants and Barriers to Tracking

With so many institutions currently working within an online learning platform that tracks students through their academic career (course-embedded assessments), it is difficult to recall how great the struggle was in years past to compile a full record of an individual student, or group of students. Tracking students post-graduation is easier now because academic institutions are using sophisticated alumni tools to solicit donations and participation in social media, including LinkedIn groups, for example. Comments about the difficulty of tracking students should be viewed in the context of the period covered by this evaluation, 2003–2009, when tracking students beyond graduation to learn what they were doing professionally and where they were working was fraught with challenges.

Typical of many of the LB21 grantee stories, faculty involved with Indiana's *Building an Effective Digital Library Curriculum* met regularly with students to hear about their progress on projects, but the school made no efforts to track the students after completion. One PI proclaimed: "We don't have mechanisms for doing follow-up, especially if [students] don't think they are successful. If they have something to brag about, they are always happy to be contacted." One PI relied primarily on spreadsheets, though she and others noted that the program assistant used Facebook to keep in touch with the students. One grantee used Filemaker Pro to track students in an SLMS program. The database tracked student progress through the program, containing contact information for follow-up queries or surveys and interface with the institution's College of Education (COE) Office of Accreditation and Quality Assurance.

Academic institutions value tracking students while they are enrolled, monitoring and documenting academic progress and commitment. However, colleges and universities rarely considered tracking post-graduation. Most grantees had only rudimentary means for keeping in touch with students after graduation, primarily contact between a student and professor via email or "just by bumping into former students" at library conferences. But few institutions did anything to make it easy for these connections to be contributed to a database or central system to maintain contact for career tracking or other purposes. None appear to rely on the alumni office for assistance in maintaining records. Even when PIs know how many participants have acquired jobs a few weeks or months after graduation, they cannot always say whether they are employed in the specialty field studied. Following are examples of attempts grantees made to monitor student progress post-graduation:

- § One grantee relied on observations of mentors and area library coordinators' observations that "participants continue to assume leadership roles," coordinating "book fairs and other fundraisers, author studies, school-wide family reading events," and more.
- § One grantee used informal means that the program itself recognized as inadequate: a secretary listing email addresses. The grantee knew who found a job, though, because the school district telephoned to ask for recommendations.
- § Another grantee conducted surveys post-graduation to find out if the program had helped the school library media specialist once he/she was in the field. The grantee also tried to follow up 2 years after graduation, but found it difficult to collect a sufficient number of responses to analyze the feedback.

§ Library conferences are a good way to maintain ties with students and some SLIS hold receptions at annual events; one grant project used an annually updated email list to help build its network.

§ Alumni mailing lists, newsletters, Facebook and other social media carrying the message, "This is your school too" are also utilized by SLIS. One grantee commented that they typically receive messages from alumni: "I don't know if you know it yet, but so-and-so just got a great job."

Programs with cohorts were more social—they know who has moved jobs, where students have gone, and how to reach them. In some communities, such as states with well-connected library associations or islands, everyone knows who everyone is. They see one another regularly and maintain tabs on where they are working.

However, there are signs that the lack of tracking students is changing. For example:

§ One grantee has collected email addresses for students going through its data curation course and now has "a person whose job it is to develop a more systematic way of continuing to collect information about their careers."

§ Another PI admitted that the program "did not come up with any great new way" to track LB21 grant program participants over time. However, she indicated, "We have a database and try to get graduates to report back on what happens to them, but it's not 100% reporting."

§ Indiana University tracked students in its Career Transitions Executive Leadership Program (CTELP) for 3 years post-graduation, including where they work and awards they have won, to determine whether they have taken on leadership roles faster than other students (the answer is yes).

§ One Ph.D. program is planning a formal survey 5 years post-graduation to see if graduates have complied with their original letter of intent to teach preservation or become an administrator (with what specific responsibilities) for archival preservation/conservation.

Workforce Issues in Library and Information Science I (WILIS) was a collaborative research partnership of the University of North Carolina Chapel Hill School of Information Science and the University of North Carolina Institute on Aging. Funded by IMLS through the LB21 grant program, WILIS I "is a comprehensive study of the career patterns of graduates of LIS programs in North Carolina since 1964" (Morgan, Farrar, and Owens, 2009, p. 192.) This was followed by a second grant for WILIS 2, a survey of 39 LIS programs in the United States and Canada. "Programs were asked to select a random sample of 250 of their master's degree graduates from the previous five years… The final data set contains graduates from 2000 and 2009. Fewer than 4 percent of these respondents graduated prior to 2003" (Marshall et al., 2010, pp. 31-32).

The WILIS project faced some of the challenges mentioned earlier with regard to multi-institutional projects, differences in data collection efforts and tools used, but these were largely overcome, thanks to the persistence of project staff. Perhaps most interesting in the context of this section of the LB21 evaluation study is the comparison of data presented in Table 6 of the 2010 Library Trends article (p. 38), Ways Graduates Stay Connected with Their Programs which shows that "The top three ways graduates stayed connected with their program were: (1) by keeping in touch with other students, (2) reading e-mail listservs, and (3) meeting others at

professional conferences" (Marshall et al., 2010, p. 37). This demonstrates the importance of SLIS using social media not only to keep in touch with students they already have accurate work-related contact details, but as a mechanism for expanding their database through colleagues in their cohort. Data sets for WILIS 1 and 2 have been made publicly accessible through WILIS 3 at http://wilis.unc.edu/wilis-3-2. The research team has developed "an interactive program-specific data system to enable LIS programs to explore their own data and benchmark with other programs… By documenting the process of data archiving, the products of WILIS 3 will serve as a model for other IMLS grantees to share their data, potentially increasing IMLS's return on investment."

Grant Outcomes on Field

This section describes overarching conclusions related to Grant Outcome themes.

Types of Impact

"Interdiciplinarity has become an important trend in higher education. Recent studies suggest that students around the globe are often trained too narrowly and that some specific problems demand the perspective of multiple disciplines" (Newswander & Borrego, 2009, p. 552). "Crossing of disciplinary borders is regarded as a necessary approach to solve societal problems and to increase wealth-creation, as it is expected to generate more innovative and more excellent research" (Siune & Aagaard, 2003, p. 50). John Kotter of the Harvard Business School has long advocated for eradication of silos within organizations – vertical or horizontal – calling them detrimental to creativity and an impediment to an organization's ability to move swiftly to take advantage of opportunities in the marketplace (Kotter, 2011).

Top innovation executives emphasize collaboration across functional boundaries. They suggest that product managers add a component to innovation projects and watch for success, and make someone responsible for imagining how that innovation would benefit another product. This approach is used by several LB21 grantees to determine "what works" and how what was initially viewed as an enhancement of one course can be engineered into other programs, scaled from pilot or proof of concept to organization-wide viability.

Spanning boundaries can have positive effects on individual programs and the field. LB21 grant efforts to cross disciplines, expanding what had been tried in the past, yielded surprising benefits to grantees and important changes at institutions. The benefits of crossing boundaries extend vertically and horizontally. Collaboration across divisions in the field (among libraries, museums, archives, and schools; certified and non-certified library workers) improved understanding of what related professionals do and have to offer, and guided curricular change. Grantees that included certified and non-certified library workers in CE activities observed that this improved the understanding of what professionals do and what non-certified library workers have to offer. For example:

§ Through Kent State University's Crossing Boundaries project, teacher and library media specialists increased their general level of awareness of the vast resources available in museums and via the Web. One teacher claimed to have "a deeper knowledge and value

of museum resources. I was unaware of the various types of museums, the number of museums, and the incredible support of museum staff and online resources" prior to participating in Crossing Boundaries.

§ CCAHA also targeted librarians, museum workers, and archivists through its national training program. *A Race Against Time* workshops were offered at seven sites around the country; venues included the Rock & Roll Hall of Fame (Cleveland, OH) and Museum of Modern Art (San Francisco, CA). According to participants of this and two other LB21 CE grant projects, locating sessions in museums/archives/historical societies can be extremely beneficial, contributing to a greater understanding of the entity and how it functions.

Prior to LB21 projects, few Institutional Capacity grantees realized the close relationship between archives and libraries, with respect to their preservation and digitization projects. Further, grantees did not recognize that the silo-ed approach to teaching these concepts was inhibiting a school's ability to produce librarians prepared to enter libraries and archives with the skill sets those institutions demand. Grantees who discovered this through the LB21 grant funding period have capitalized on these relationships, cross-selling courses from related programs, for example.

Organizers of CE projects recognized the positive impact that museum and school collaborative efforts can have on academic achievement. Participation in online curricula at C.W. Post (LIU) has made the school more open to allowing students to transfer credits from accredited programs and internships. (Prior to the LB21 grant, students had to "jump through hoops" to transfer credits.) New institutional relationships were formed in the rare book conservation program where students can take courses for credit to their degree, including internationally, and some students from these institutions have already enrolled in courses at Post. One of these relationships has led to a new dual degree master's program to be administered by New York University.

Grantees in complex, multi-institutional projects experienced a range of administrative challenges, such as aligning semesters/quarters, differences in stipend rates, delays in transferring funds among institutions that adversely affected students. Early coordination and attempts to identify risks and develop mitigation plans is advisable for all future multi-institutional projects.

VI.   Recommendations

The LB21 Grant Program is structured to ready a workforce to meet the needs of communities throughout the United States, assuring that those just entering the workforce are adequately prepared and that existing institutions and staff are able to meet new challenges as they arise. The purpose of this Chapter is to highlight actions that can minimize the hurdles that delay grant projects, from project conception through the funding period and beyond, and address larger issues in the inter-related and often overlapping fields of library, archive, and museum work and management. Recommended activities for IMLS, future grantees, and library practitioners are designed to:

§   Maximize the value of projects beyond individual institutions
§   Improve the track record of the profession in terms of recruitment of students with diverse backgrounds to LIS programs
§   Improve retention of diverse students while in formal LIS programs (completions at the master's level and advancement to the doctoral)
§   Assist student placement upon graduation
§   Increase participation in professional development opportunities throughout a career, assuring growth and diversity of skill sets available within institutions that deliver information services to communities (libraries, museums, archives)
§   Deepen ties among information professionals who undertake similar responsibilities for preserving access to cultural heritage collections, including librarians, museum curators, and archivists
§   Assure the sustainability of courses and programs beyond the grant period, transplanting elements that have been successful within a specific course to other programs, and promoting awareness of success for replication elsewhere
§   Assist grantees in communicating the successes of their grant projects to the wider community of scholars and practitioners
§   Help the profession track individual achievements that, in turn, would provide evidence of the impact IMLS funding (of individuals and programs) has had on the profession and its ability to continue through the century.

The recommendations are grouped by audience addressed: IMLS; organizations and institutions considering developing grant projects; and practitioners, i.e., librarians, information specialists, researchers, and archivists in the field today. They build on the findings and conclusions discussed in Chapters III, IV and V.

For IMLS

Throughout the evaluation, the staff of IMLS was frequently praised for their work with grantees. They were also commended for the lengths to which the agency goes to help grantee projects be successful by providing guidance and supporting decisions made throughout the life of the grant and sometimes extending periods of performance when grantees were experiencing challenges to full implementation or completion. The agency was also praised in terms of the (prudent) risks it takes in funding projects that push the boundaries of the field, seeking to

"increase the capacity for research, innovation, and rapid skills acquisition" (Levy, 1997, p. 36).

The purpose of this section of the Recommendations chapter is to allow IMLS to continue to make prescient decisions as to projects to fund in the future. At the same time, these recommendations will allow IMLS to become more involved in the dissemination of developments to the field, engage researchers and practitioners, and continue to be an innovation incubator for librarianship.

1. **Make distinctions among grant programs clearer to potential grantees in terms of focus of a category within the LB21 Program and relationships between LB21 grants and other IMLS grant programs.**

   This study documented the varied ways in which grant recipients defined "diverse populations" (Research questions 7-1 and 7-2[6]). Comments by grantees indicated that they were not always sure where their project fits within the LB21 grant categories. IMLS should be explicit as to the aspects of diversity it would welcome in future grant proposals. By suggesting target communities underrepresented in LB21 grants to-date, IMLS can spark ideas among potential applicants as they review grant announcements and shape their projects, incorporating appropriate aspects of diversity relating to their projects.

   In several instances, LB21 grantees indicated that the grant program did not specify requirements, require tracking of participants, or were not written for specific tasks such as curricular changes, so measures were not taken to attempt these activities. As the benchmarking findings indicate, it's important to be explicit about elements the agency wants to have included in grant projects. In descriptions of grant program applications, including additional suggestions as to helpful elements might prompt grantees to add a component they had not considered.

   Designing a project for consideration within a specific grant program can help grantees focus the effort, determining clear outcomes and metrics to monitor over time. One grantee noted that there appears to be no category into which applied research fits easily. "It was difficult to fit into the mode of quantitative and empirical research that IMLS likes to fund." However, the profession needs more applied research that impacts real life training and real libraries. Including a place for this research within the LB21 Grant Program would be a worthwhile investment for IMLS in fostering innovative and useful research in the field.

   In addition, IMLS should consider a more streamlined approach to categorizing its LB21 grant categories. Beyond helping applicants determine the best fit for their project idea, a new arrangement could help IMLS evaluate similar projects. Alternative arrangements to

---

[6] A complete list of the research questions is provided in Appendix B.

be considered would include:

- § Type of activity IMLS wishes to encourage (e.g., collaborations that go beyond interconnected subject matter, public-private partnerships, information/media literacy/fluency)
- § Type of institution offering the learning opportunity (e.g., SLIS, association/organization, library/library system)
- § Workforce development, regardless of employer type
- § Cultural heritage artifacts (e.g., preservation, conservation, digitization, creation)
- § Participant (e.g., master's, Ph.D., support staff, Native Americans)
- § Ultimate community that would benefit from the learning offered (e.g., urban, rural, multilingual, African American).

Several IMLS grant programs parallel one another within the library and museum communities, creating a silo-ed approach to thinking about the cultural institutions of the United States. At the same time, IMLS encourages libraries, archives, and museums to collaborate on projects, sending somewhat of a mixed message. IMLS should work to eliminate the now artificial barriers between types of institutions, concentrating on the values and activities they hope to encourage within the information field (e.g., leadership, diversity, digitization, community, lifelong learning).

IMLS can help future grantees by aligning IMLS grant programs with agency objectives, as detailed in the agency's latest strategic plan for 2012-2016.[7] These priorities should be emphasized in grant announcements. Two of the benchmarking partners interviewed discussed the importance of carefully developing grant application solicitations to ensure that the desired types of project applications are received. One benchmarking interviewee discussed the value in determining agency priorities in advance of creating grant solicitations to ensure that future grantees are able to advance these priorities. Another benchmarking interviewee focused on the importance of creating grant solicitations that are specific enough to solicit the desired types of projects but not too specific so as to exclude innovative projects. Creating a crosswalk that links grant programs to specific agency priorities will help grantees understand the broader implications of their project ideas as they are formulated and developed.

2. **Make required interim and final quantitative and qualitative grant reports more meaningful and easier to update during and beyond the period of performance.**

Determining what was effective among a range of activities associated with grant projects, and how effective these activities were, was more subjective than objective among many grantees (Research area of inquiry: Effectiveness of grant activities).

---

[7] IMLS's strategic plan, labeled Creating a Nation of Learners: Strategic Plan 2102-2016, can be found at http://www.imls.gov/assets/1/AssetManager/StrategicPlan2012-16_Brochure.pdf

Findings indicate that some grantees struggled to identify meaningful metrics to measure progress toward established project goals and found recordkeeping throughout the grant period burdensome, particularly when the project lacked sufficient administrative staffing. The IMLS Web site provides a comprehensive set of resources to help PIs develop an appropriate evaluation process for each project.[8] In LB21 award notifications to grantees, IMLS encouraged (but did not require) the use of Shaping Outcomes, the online curriculum in outcomes-based planning and evaluation developed at Indiana University with LB21 funding to assist in developing useful metrics for projects.[9] Indiana University is set up to track completions and can corroborate completions. If this online program continues to meet IMLS's objectives in terms of outcomes and metrics, completion of this program should be required of all applicants. The agency also should consider how the online program could be used with other IMLS grant programs beyond LB21, including grant proposal reviewers.

IMLS is working on new reporting requirements for grant projects that highlight project lessons learned and best practices. The agency's latest strategic plan foreshadows a new funding framework for reviewing proposals that draws on its core values to determine criteria for impact on the profession. This includes the assessment of how a proposal:

§ Demonstrates importance to the field, advancing knowledge and crossing disciplines.

§ Has the potential for high impact, being both replicable and scalable, with a clear plan to continue the effort, if proven effective, beyond the period covered by the grant.

§ Includes measurable outcomes, including Web sites and tutorials, publications and presentations that endure, but also engages others to respond and comment (funders, partners, stakeholders, competitors, such as other libraries, museums, SLIS, and interested individuals), tracked over time. IMLS could make sharing these presentations easier by establishing an LB21 or even an "all IMLS grant" SlideShare channel, for example, allowing presenters to upload presentations to a single location, and those seeking presentations of IMLS-funded projects to find them in one place. The agency could also recommend that any publication based on grant activities be published in an open source journal. Academic institutions could retain the rights if publications are archived for open access in an institutional repository. Working papers could be submitted to the Social Science Research Network (ssrn.com) for wider outreach.

§ Contributes to a range of efforts funded by IMLS, aligned with other IMLS grant programs and LB21 grant projects, all expanding partnering opportunities for future research and demonstration projects. Thinking about a portfolio of projects will help IMLS allocate resources more effectively across grant programs.

---

[8] These can be found online at http://www.imls.gov/research/evaluation_resources.aspx
[9] To learn more about this resource, visit http://www.shapingoutcomes.org

LB21 grantees using outside evaluators to assess their programs produced more objective outcome assessments than those who did not. For SLIS grantees, identifying qualified evaluators on their own campus should be encouraged. IMLS could allocate a portion of each grant award to be used to employ an outside evaluator and work with evaluators over time to determine the best set of approaches for LB21 grants. However, this would do nothing to develop evaluation skills within the library, archive, and museum community. Each year, IMLS calls on individuals to review grant proposals to determine which projects should be funded. Providing these individuals with additional training so that they can perform independent and on-going assessments of the LB21 grant projects they have recommended for funding is a good investment for IMLS to consider.

In addition, IMLS could develop a list of "flags" to help these external evaluators identify projects not on-target for meeting their goals, including poor interim reporting, inconsistent spending unaligned with the project timeline, and multiple changes in personnel. These individuals could be given additional training to help them evaluate projects, including the online Shaping Outcomes tool mentioned above. This will ensure that all outside evaluators are conversant with the agency's expectations for project evaluation.

The current quantitative form used as a cover sheet for final reports is designed to reduce the burden on grantees to complete, but does not allow for meaningful analysis, with a single response allotted to indicate several types of outputs or visitor groups, for example. A spreadsheet with one workbook per grant, one item per spreadsheet, could provide the detail necessary to review progress made within a particular grant and compare quantitative results across similar grants with greater meaning than can be done at present. Providing grantees with guidance as to essential elements for their qualitative report also would facilitate future evaluation efforts. Grantees could attach additional documentation in an appendix, but a more structured approach would facilitate more fruitful analysis.

In addition to the structure and content of these reports one way to facilitate updates beyond the grant period is by making it easier for grantees to record their performance such as comparing forecasts at the outset of a workshop with actual number of participants. Once PIs move on, recordkeeping is difficult. Also, keeping track of what transpires beyond the period covered by the grant is useful to the profession. Final reports often indicated that "the Principal Investigator is in the process of writing and submitting manuscripts to journals based on the findings from the project," but no attempt to follow-up was made to see where that article was published, or if it was published at all. Making annual updates for 3–5 years post-closeout of the grant and maintaining project Web sites (where applicable) part of the requirements for award could improve future analysis of project impact.

Lists of presentations given at conferences and articles submitted for publication are limited measures of value. Continuing the chain—how and where these projects are

cited— will provide much needed impact values for projects. An annual update to a citation map will allow IMLS to visualize the interrelationships among projects and analyze the value based on journal impact factors, identifying high-impact articles, uncovering relevant results in related fields, and discovering emerging trends.

By creating a dashboard for reporting performance, IMLS could make it easier for practitioners to understand what has transpired with funded projects, and easier for grantees to update progress beyond the grant period. Today, interested parties can search the IMLS Web site for grants awarded by grant name (e.g., Laura Bush 21st Century Librarian Program), issue area (e.g., workforce development), institution, location, year, or keyword. Such a search provides little information about the grant however. To find out how a particular project is proceeding, or what happened at the end of the grant, requires contact with the grantee, finding a presentation by the PI or graduate assistant at a conference, or discovering an article about the project through a literature search. While grant final reports document what has transpired and intentions beyond, there is no way to judge whether additional conference presentations were made or articles about the project published.

Along these lines, each of the benchmarking partners indicated that they provide information regarding grant activities and outcomes on the Internet through a database of grants. The goal of these databases is to inform other researchers or the public of project outcomes and what has been successful. Two benchmarking partners described that the onus of keeping these databases up-to-date is on the grantees. This can be accomplished by requiring grantees to update the database at specified time intervals as a condition of the grant funding, which was suggested by two of the benchmarking partners. One benchmarking partner indicated that submitting a grant's final evaluation to the Web site is a condition to close out the grant and if a grant is not closed out, the grantee will no longer be eligible to receive funding from any division of the organization.

If IMLS were to establish and maintain a dashboard of grant portfolio goals, the burden of maintaining and updating individual grant information would be minimal, and the results could be shared with the public automatically. The dashboard would assist IMLS in setting priorities, aligning the grant funding with the values expressed in the agency's strategic plan, allocating resources to assure greatest value for its investments, and determining the optimal funding plan for the portfolio over multiple years to assure an innovative portfolio of next generation grant projects.

Maryland's StateStat is an example of managing excellence and transparency in the public sector.[10] Several government agencies are using these types of dashboards to determine project priorities and allocate resources, indicating key drivers and metrics (e.g., Decision Lens). If IMLS implements a dashboard like this, it should be set up so

---

[10] Available at https://data.maryland.gov/goals

that individual project outcomes roll up to the agency's goals and objectives delineated in its latest strategic plan.

3. **Create a learning community for LB21 grantees and potential grant applicants to connect and discuss best practices and lessons learned. As with individual grants, the agency can be more effective if it facilitates both online and in-person interactions among grantees.**

The impact of the LB21 grant projects on the field is one of the three ways in which outcomes were catalogued in the report findings (General area of inquiry: Grant outcomes on the field), the other two being outcomes on participants and grantee institution/organization. This recommendation is made to assure that the outcomes are broadcast to the largest community, utilizing social media in a way that most grantees did not (Research question 8-3) and is consistent with other findings that encourage cross-pollination and replication of "what works" in subsequent projects/programs. This is only possible if these stories are publicized and shared.

Learning communities encourage "interactive dialogue among professionals about professional knowledge and practice," creating positive outcomes that extend beyond individual learning and transforming "the collective thinking of individuals into something bigger than the sum of its parts" (Wesley& Buysse, 2001, p. 114). Truly transformational learning communities afford members multiple opportunities and avenues through which to communicate, learn, interact, and create. Where social tools are designed simply to facilitate sharing, learning communities encourage knowledge transfer. The most successful and longest-lasting learning communities are ones that continually facilitate exchange and knowledge transfer by providing the most current information available, well-moderated forums, and continual evaluation to ensure that users' needs continue to be met (i.e., feedback loops). This is achieved not through the creation of a knowledge repository, but a knowledge refinery where knowledge builds and grows.

The cultivation of learning communities should be viewed as an integral part of the agency's work to enable, connect, and support those involved in improving the profession through research and practice. Participants within learning communities can share their ideas and experiences, and evaluate and discuss information in an informal setting and collaborative manner. It is important to build a community in which it is safe and acceptable to experiment with new ideas – a place where learners work together and support one another.

IMLS participates in a number of library conferences and other events throughout the year, and encourages its grantees to present at these conferences as well. However, PIs often wait until the project is complete before discussing what they are seeing as the project moves along. Creating semi-informal meetings of grantees at library conferences, with brief presentations and facilitated discussions could trigger rapid-fire adoption of "what works," and brainstorming among participants for solutions to common challenges. Learning communities could be facilitated in association with these conferences or

meetings and grantees could be required to attend. Two of the benchmarking partners that were interviewed indicated that they require grantees to attend a certain number of conferences during the grant period, as this is a means by which information about the grants and their work is shared during the project rather than only after its completion. Through these conferences and meetings, grantees are able to collaborate and discuss what is effective, as well as what has not been effective, in terms of completing grant activities. In more than one instance, LB21 grantees (and their partners) participated in panel discussions or other presentations at conferences that furthered interest in their projects and concepts among those present. While the grantees identified these events as useful for recruiting, a similar forum for discussion could spark innovation among those in the audience, adopting a practice that they hear about and would like to try at their institution.

Since the grants covered in this evaluation were awarded, an array of tools have come into routine use for facilitating collaborative work by connecting people to people for brainstorming efforts, people to ideas through research documentation/reports, for example, and applying collective intelligence to problem solving (e.g., Q&A sessions). Before selecting any tool, IMLS must determine what it hopes to achieve through these interactions among grantees and the role it will play in supporting those interactions, supplementing discussion with access to resources, and creating additional mechanisms to facilitate knowledge management. These mechanisms could include such things as a searchable database of "lessons learned" culled from various grantee listservs, discussion groups, or communities of practice. The learning communities should be designed to:

§ Assist potential grantees in planning their projects
§ Help grantees make better decisions throughout the grant period
§ Improve grantees' ability to identify and apply research-based findings
§ Increase the capacity to bring about changes in the field with tangible results ultimately benefitting communities across the nation.

Social networking tools such as listservs, wikis, blogs, and discussion forums should be available for generating ideas and fostering creativity and innovation among LB21 grantees, but care must be taken not to adopt the tools simply for the sake of adding a social media component to the LB21 Program. If discussion groups are built around LB21 grant categories, for example, communities should focus on a concept, problem, or "hot topic," (e.g., development and delivery of online courses). Another type of tool might concentrate on the target setting (e.g., school, public, or academic libraries; urban/large districts or rural/small areas). Web-based communities do best when they are providing a forum for discussions augmented by real-time chats, space for posting/downloading files, and online events such as webinars. For example, IMLS could host monthly presentations (e.g., webinars, podcasts, videos) by PIs about individual projects/topics.

A community of practice (CoP) is an excellent mechanism for capturing tacit knowledge, but requires careful planning and cultivation (through moderation), and should not be an

end unto itself. Highly successful CoPs have active moderators facilitating the discussion, posting resources to support the conversation, and summarizing lessons learned. CoPs are built around a common interest, shared sense of purpose, or common set of needs. An active moderator ensures that participants receive more value from the community than they contribute.

A chaired model can help to institutionalize the initiative. Using a chaired model to build the community requires a sponsor to validate categories of expertise, identifying and connecting additional experts to develop the content. One or two champions can be designated within each sub-domain, assuming similar responsibilities for building content, identifying experts and institutionalizing the initiative. Experts inform content at each level, delivering expertise through engagements or events.

Access GE is an example of this type of intelligently designed community presenting big picture concepts into which users can drill down to precisely the concept and document/person/discussion that will answer the question at-hand.[11] Users can tap into expertise, insights, or other (third-party) perspectives from analysts, researchers, and other thought leaders. Designed with a taxonomy that accurately categorizes content and expertise within each domain, as depicted below, the categories target almost every business issue to be encountered by any industry or size of organization. A similar approach for IMLS grantees could make this a place where grantees can search and browse for answers to questions, engage with thought leaders on issues of concern, and connect directly with members of the community to explore further.

Exhibit IV-1

Domain Levels of Access GE

Level 1 – Domain	**1** Growth	**2** Leadership Development	**3** Operational Effectiveness	**4** Finance Best Practices
	Innovation	Organization	Operations Management	Financial Planning
Level 2 – Sub-Domain	M&A	People & Leadership	Process Improvement	Investor Relations & Governance
	Sales & Marketing		Sourcing	Risk Management & Compliance
	Strategy		Information Technology	Treasury & Investments
	Global & Market Expansion			

There is a 3rd level of detail beneath each sub-domain
(49 categories)

---

[11] Access GE can be found at http://www.gecapital.com/en/insights-trends/access-ge.html.

Creating a closed LinkedIn group for LB21 grantees is another way that IMLS could facilitate grantee discussion on issues they are facing during the grant planning period, the grant award period, or the grant sustainment period with their peers. There is a LinkedIn Group for grantees of the U.S. Department of Housing and Urban Development's Sustainable Communities Grant Programs that could serve as a model for IMLS (http://www.hud.gov/sustainability).

4. **Fund projects designed to help SLIS faculty and libraries prepare for promoting the success of students of diversity.**

LB21 grants have concentrated their efforts to bring greater diversity to student enrollment (and completion) at the master's level (Research question 7-3), but little has been done through LB21 grants to help library schools value diversity and incorporate diversity issues and multiculturalism into the curriculum to "make faculty and students aware of the importance of diversity" in terms of collection development and outreach, "and have diverse faculty and students" (Kim & Sin, 2006, p. 89). Faculty need to understand the benefit of having a diverse student body and what that means in terms of modifying recruiting practices and supporting these students through their studies. As the Knowledge River grant project at Arizona discovered "not all ethnic minorities have the same needs and often tailor-made solutions are required to adequately meet the needs of different populations" (Overall & Littletree, 2010, p. 74).

Libraries too must prepare for an increasingly diverse workforce. As Wagner and Willms (2010) point out in their review of the Urban Library Program, multiple barriers to diversifying the workforce are in place in libraries today. Existing staff do not always appreciate the effort "required to assimilate rapidly to academic and library cultures and a new work ethic often in a language they struggled with in order to communicate" (p. 136). They are resistant to change, particularly as paraprofessional certification is introduced, threatening to "dumb down" the profession. In urban environments, civil service rules and union contracts can dampen hiring and promotional prospects for support staff beyond the clerical. Development of cultural sensitivity training for academic and public library staff could help to eradicate some of the challenges administrators face as they attempt to make changes in staffing.

5. **Consider expanding the types of institutions that can apply for grants, encouraging more individual libraries and consortia to apply for grants as well. For some, raising the limits on the amount of money to be offered to students (and the ways in which money can be spent) may be in order.**

The range of LIS education and training opportunities offered by grantees was limited, and may have affected the number and type of participants, based on the types of institutions that can apply for LB21 grant funding (Research question 1-1): archives, Federally recognized Native American Tribes, historical societies, libraries, nonprofits that serve Native Hawaiians, professional associations, regional organizations, state library administrative agencies, State or Local government, public or private non-profit

institutions of higher education. While this appears to be a broad list, there are still some organizations that are not eligible. For example, one grantee mentioned that prison libraries were not able to benefit from LB21 grants. Libraries of all types – public, academic, and "special" – should be encouraged to develop demonstration projects.

Only a few LB21 grants were awarded to library consortia. Library consortia provide professional development opportunities for staff of member libraries; many have consortia staff to oversee and provide administrative support for LB21 grant projects. With income derived from its member libraries and state coffers, consortia have been feeling the effects of the economic downturn, often resulting in consolidations. Merged consortia now need to cover a wider geographic region and types of libraries. These library consortia already offer considerable numbers of continuing education programs, but do little evaluation as to which have been most effective (beyond distributing evaluation forms). These would be perfect incubators for research studies using targeted topics and types of libraries/levels of staff. Programs run at this state or regional level could provide the profession with additional knowledge of "what works" in an accelerated fashion, particularly with the help of state libraries.

For projects that involve fellowships for individuals possessing a Ph.D. in other disciplines, IMLS should assure that the LB21 scholarship packages offered are competitive with other fellowships. For example, the Council on Library and Information Resources (CLIR) postdoctoral fellowships for data curation provides a $60,000 annual salary, with benefits comparable to other academic staff at the host institution. As an example of additional support (beyond their salaries) offered to fellows, the American Association of Health Science Libraries (AAHSL) Leadership Fellow Program allows each fellow a maximum of $7,200 for travel expenses for orientation, conference attendance, site visits, and capstone. AAHSL also supports mentors' participation in orientation meetings and capstone presentations.

A recent fact sheet produced by ALA indicates there are 121,169 libraries in America in 2013. Only a handful of these are represented in the LB21 grants included in this study. The academic libraries represented in these grants were not the primary grantee, often acting as the placement for interns. IMLS should encourage more academic libraries to apply for LB21 grants directly. While grants were awarded to academic institutions, these were primarily to SLIS that may have partnered with the library (e.g., for digitization projects) but were not designed as grant projects to be led by the library. Beyond budget cuts, academic libraries today face enormous challenges in terms of planning for the future: How are academic libraries going to change over the next decade, including their use of technology in the delivery of services? Academic librarians today are struggling with the role of the library in scholarly repository development, the future of embedded librarianship, resource sharing, and space planning, among other topics. LB21 grants might guide the profession as to what is possible, as it did with document and now data curation.

In a knowledge economy, an information literate workforce is essential. Library school

graduates going to work in an organization other than a public or school library should be supported through LB21 scholarships too. Information professionals work in a myriad of types of organizations, using their critical thinking, research, knowledge management, and training skills to develop lifelong learners among coworkers, assuring that they not only have access to information, but highly developed research skills, an appreciation as to how those skills can best be applied in their work, and training to think critically about their personal, team, department, division, and organization's information needs. Inclusion of qualified information professionals throughout the workforce strengthens our competitive advantage in the global economy.

At the very least, IMLS should encourage academic libraries, partnering with faculty in various disciplines, to develop subject-specific information literacy projects that are woven into the fabric of their program and course delivery. Beyond this, IMLS should consider how it uses the research conducted by LB21 grantees and others to work with other federal agencies, such as the Labor and Commerce departments, as they reframe workforce development activities. This effort would demonstrate how IMLS is implementing its resolve to partner with other federal agencies, as indicated in its latest strategic plan. Teaming with the American Society for Training and Development (ASTD), for example, to assure that all workers can develop their information literacy skills could be an important contribution that LIS makes beyond the four walls of the library.

6. **Consider expanding the use of the LB21 program to include more pre-professionals, including a diverse population with associate or baccalaureate degrees, by supporting those institutions that participate in the national ALA-APA Library Support Staff Certification (LSSC).**

LB21 grant projects are designed to recruit diverse populations into master's degree programs, but a large pool of potential applicants was largely ignored by the grantees involved in this evaluation, thereby affecting the number of students in these programs (Research question 2-3). While the LB21 pre-professional grant category was not included in this study, the importance of this community as a potential for professional development cannot be ignored. The better their skills, the more responsibilities they can assume and roles they can take on in the libraries where they are employed. As the Joint Commission found when accrediting hospitals, all staff must be included in quality improvement programs, participating in continuing education opportunities, not simply doctors and nurses.

IMLS should consider how individual libraries and library systems could be encouraged to work with library support staff groups around the country, including ALA's Library Support Staff Round Table. Support staff provide essential assistance, enabling local libraries to function effectively throughout the nation. They too must be part of continuous improvement programs in libraries.

Surveys that ask librarians why they entered the field routinely point to the fact that they began working in libraries when in high school or as an undergraduate, sometimes part of

a work-study agreement for financial aid (Morgan, Farrar, & Owens, 2009, p. 204). In Colorado, "seventy-four percent of the LIS students were working in libraries at the time of the study – evidence that when recruiting new librarians, perhaps the best place to look is to the paraprofessionals already working in libraries" (Steffen & Lietzau, 2009, p. 186). However, "three-quarters of nonretiring paraprofessional respondents had no interest in pursuing a degree in LIS," offering a variety of reasons for that response (Steffen & Lietzau, 2009, p. 187). Creating the right set of incentives, including an adequate response to the 44 percent that indicated "financial constraints" as the reason is important before investing additionally in grant projects targeting pre- and paraprofessionals (Steffen & Lietzau, 2009, p. 187).

The projects covered in this evaluation that worked with pre- and paraprofessionals employed in public and academic libraries found that these individuals often needed additional moral support, but participation in the LB21 grant projects led to a percentage of these students moving on to formal education at the master degree level, and some to the doctoral level. IMLS should work with support staff associations to connect local chapters with demonstration projects around the country. Additional information about the benefits of pre-professional development should be made available in publications and presentations emphasizing how this can be accomplished with little expense and great returns. Giving small amounts of money to libraries participating would subsidize temporary coverage while these individuals are participating in learning opportunities.

Partnering with local community groups that support youth was helpful in recruiting LB21 grant participants. Identification of these groups in localities with highly diverse communities (and librarians predominantly white and women) could help to link libraries that could host student workers with youth involved in one of these mentoring pre-professional programs. Academic librarians conducting information literacy workshops for undergraduates also are in a position to identify students who would excel in the field, but they need some guidance in terms of how to recognize and encourage these students to consider librarianship.

IMLS can look to other efforts that target underserved youth, providing them with jobs (at competitive wages) that allow them to work part-time while going to school, ultimately transitioning to full-time employment. Arthur Langer's Workforce Opportunity Services program, for example, acts as a clearinghouse helping "young adults from low-income and underserved populations learn marketable technology skills and become professionally, personally and financially independent" (2010, n.p.). Initial training is supplied and then these individuals are ready to step into an information position on a part-time basis while attending school (community college or undergraduate). The ultimate goal is to have the students graduate and move into a full-time position at the place where they were employed part-time.

Just as IMLS recognizes the value of ALA accreditation of master's programs, it should embrace the growing number of community colleges delivering LSSC-approved courses. Graduates of these programs will have the competencies required to work in libraries, and

ALA will have a comprehensive database of individuals to be encouraged to complete their undergraduate degrees and move on to the master's level over time.

7. **Consider extending the grant period, particularly for the degree program grant categories. Recruitment is an important piece of these programs, and one with which several grantees struggled. Allowing the grantees additional time for recruitment may result in fewer challenges.**

Grantees were often challenged in terms of finding suitable candidates for scholarships, delaying the start of grant projects or full distribution of funding on schedules devised for the grant proposal process (Research question 2-1). The period of performance for LB21 grants also affected completion of programs, especially for doctoral candidates (Research question 5-2). The frequency of requests for extension suggests that longer funding periods could be helpful. The addition of the planning grant category may have had a positive effect, emphasizing a more rigorous planning phase outside a formal project grant, thereby allowing the grant project to proceed on-time. Further research, comparing similar types of grant projects with and without initial planning grants, is advised.

One challenge in targeting students within a specific population is the amount of time it takes from launching a recruitment campaign until admission. One positive move in this direction in recent years has been the addition of the planning grant category, assuring thorough planning of each project is completed before the period of performance begins. Even grantees ready to begin the day they are notified of their LB21 grant award often find it difficult to enroll all of the students by the fall term. One grantee suggested that an intervening year between grant award and the beginning of a program could be sufficient for them to recruit and enroll the full complement of scholarship students. An alternative might be to move the date of announcement for those LB21 grants that will require a start in the fall term (as fall terms today frequently begin in August).

Ph.D. programs face additional challenges when recruiting. As one PI explained, "it's not easy to get into a Ph.D. program" and if an institution cannot find talented individuals for admission – diverse or not – "People who don't have great qualifications will not be considered." Even if LB21 grant funding is available for scholarship, it cannot be given to people who will not be able to complete the program and contribute to the profession. This can further delay completion of an IMLS grant. Qualified individuals must "step away from their careers to get a Ph.D.," in some cases taking " a significant pay cut to get a Ph.D. – which is often a hardship." This recommendation is supported by the NRC assessment of doctorate programs, including its 2009 publication, *A Guide to Methodology of the National Research Council Assessment of Doctorate Programs*.

With so many grantees requesting extensions, IMLS may want to consider whether the agency has set realistic targets for grant periods. Additionally, some grant programs target individuals with advanced degrees in another discipline, dual or doctoral degrees that often require more than 3 years for students to complete. These programs compete for diverse populations with other scholarship/fellowship programs. A formal study of the terms of awards for fellowship programs competing with LB21 scholarships is advisable.

8. **Emphasize the level of effort it takes to administer a grant project, advising potential grantees not to underestimate this in their budget request.**

   In discussions of how funding was used by grantees, some pointed to compensation of individuals who helped with elements grant administration and alternative arrangements (General area of inquiry: Types of grant activities, p. 34). Grantees noted how helpful their grantee collaborators and advisory board members were in providing much needed assistance to their projects, often beyond initial commitments of matching funds, though few mentioned looking to them to help administer aspects of the grant. The effort spent recruiting, particularly recruiting targeted diverse populations, is time-consuming and best accomplished through sustained conversations where collaborators and advisory boards could be of enormous assistance. In its grant guidelines, IMLS should remind grantees to consider the time and effort it takes to administer a successful grant and recommend how they might factor this into budget requests, suggesting that this could include salary for a full- or part-time administrative staff member or arrange for release time or temporary coverage of duties. One way to achieve the partial matching fund requirement of LB21 grants is to seek partners who can support aspects of grant administration.

9. **Remain flexible, allowing grantees to make changes during the course of the grant period. Several grantees specifically noted this as a benefit of the LB21 grant program and an element that allowed them to steer projects back on track after unexpected challenges arose.**

   Flexibility within a grant project, in terms of allowing students some latitude in terms of their course of studies, selection of mentors, and internship placement, was found to improve student outcomes. Grantees also noted their appreciation for assistance provided by IMLS staff throughout the lifecycle of their grants. This recommendation extends what works for grantees to the agency itself.

   Allowing for modifications to work plans during a grant period was recommended as a best practice by one of the benchmarking partners. This interviewee stressed the importance of not requiring grantees to carry out a course of action that is not producing effective results solely because it is the course of action laid out in the grant. The assistance IMLS provides its grantees throughout the grant process is invaluable, both for individual grantees and the profession. As grantees encounter difficulties, it is helpful for them to feel that they need not hide what is transpiring, but can be open about the situation and jointly explore solutions. Having IMLS help grantees think of ways to make a project successful, such as suggesting ways in which unused funds might be put to good use through expansion of a project beyond the original scope, was pointed to as being extremely helpful to several of the PIs.

10. **Help institutions develop mechanisms for tracking participants of grantee demonstration projects.**

    Tracking graduates from grant projects is a challenge that few grantees included in this

study were willing or able to tackle (Research question 8-2). Even SLIS whose academic institution has sophisticated alumni tracking mechanisms in place have been slow to make more than a half-hearted effort to keep up with where their scholarship students have been placed and what they have accomplished. Some grantees indicated that they are beginning to do so by hiring research associates to work on the project. To fast track some of these projects, IMLS could introduce specific grantees to MBA-MSIS programs looking for not-for-profit organizations as a source for capstone projects.

One interesting existing model for tracking participants is StudentTracker from the National Student Clearinghouse.[12] The tool provides enrollment, graduation, and professional certification data. Practitioners would have to see a reason for adding their certification details to such a system, but with this type of information appearing regularly on each LinkedIn profile, this should not be a significant hurdle. ALA's Reach 21 project PI identified the National Scholarship Providers' Association (http://www.scholarshipproviders.org) as instrumental in demonstrating what could be accomplished for scholarship administration, to track what's happening with the student, as some of its members currently do.

The multiple iterations of the Workforce Issues in Library and Information Science (WILIS) project funded by LB21 grants demonstrate that tracking of information professions – particularly those who work in libraries – can be accomplished.[13] The shared survey allows data from 39 programs to be compared and provides a mechanism for benchmarking individual programs over time. Archiving the data for future analysis is the work set for WILIS 3. WILIS 2 revealed the fact that many SLIS did not even have complete alumni lists, requiring the project to use a commercial service, Alumni Finder, to obtain current contact information for alumni. As the PI for the project shared, "A lesson learned is that it is important to take a proactive approach. Programs should take an early approach to track students and set up a system to do this at the program or university level." University alumni offices should be the first point of contact for establishing any mechanism of this kind.

For individuals difficult to locate, there is a 21st century approach to augmenting the collection of contact information today: social media crowdsourcing techniques. Crowdsourcing can tap the collective intelligence of LIS graduates and minimize labor and research expenses. However, once individuals are located, there remains the issue of motivating them to respond to a survey. "The achieved response rate for all three phases of the (WILIS) survey was 40.5 percent. Response rates for individual programs varied widely from less than 20 percent to over 80 percent" (Marshall et al., 2010, p. 32). Incentives need to be devised that would motivate program beneficiaries to participate in future tracking efforts. One benchmarking partner suggested providing something to

---

[12] StudentTracker can be found at http://www.studentclearinghouse.org/colleges/studenttracker.
[13] More information on this project can be found by going to http://wilis.unc.edu.

graduates, such as a newsletter with valued information or stories and updates about classmates, to help provide an incentive to respond to tracking requests. The benchmarking interviewee indicated that this approach has been helpful for some of their grantees.

11. **Explore purchasing commercial, off-the-shelf (COTS) grants management software for use by all grantees. Provide some initial set-up so that it is ready for IMLS grantees to use and include a tutorial or other training for PIs.**

    Grantees used funds for administrative support of their projects (General area of inquiry: Types of grant activities), often utilizing general purpose tools as opposed to products designed specifically for grant management. For example, many grantees – often teaching faculty with many responsibilities other than their LB21 project – managed complex grant projects using spreadsheets. Several with grants management programs pointed to administrative decisions to change the tools in the middle of their project with no assistance provided to help migrate the data. This caused unnecessary stress among PIs. IMLS should explore if a commercially available grants tool would be suitable for managing LB21 projects, offering the software as part of receiving an IMLS grant and including some guidance in how to use the tool to help the PIs make the most of the tool for their project management.

For Future Applicants

The following recommendations are made to potential grant applicants to help them refine the structure of their grant projects, process of implementation, and supports for learners inside and outside the classroom while in the process of attaining a degree and beyond. Where the recommendations above were designed to assure that IMLS makes the best decisions when selecting grant projects and working with grantees, recommendations below are meant to assist applicants in securing LB21 grant awards and secure investments made by institutions and organizations in the future of the profession. Additional thoughts on how to best work with IMLS through the grant period also are provided.

1. **Be sure that there is an individual willing to assume responsibility for and champion projects developed with grant funding. This will improve chances that elements of the project are sustained.**

    Sustainability of programs, partnerships, and products of grant projects requires commitment of more than funding (General area of inquiry: Grant sustainment). For example, after developing a successful CE program, one grantee passed the project to another university department to continue. While the original lessons developed through the LB21 project remain available, there has been no further development in what was by all accounts a highly successful online program. Grant projects need strong leadership that lasts beyond the period of performance for the grant if the project is to be sustained.

2. **Seek out partners in your grant projects and utilize them well. Not only can partners share the burden of the work during the grant period, they can often assist**

in sustainment. Bring them in during the planning phases of the project and keep them engaged throughout.

Strategic use of partners for grant projects can help sustain the project beyond the period covered by LB21 funding (Research question 3-3). Managing all components of a complex grant project is time-consuming, and no single entity has all of the skills needed for completing every element. Distributing responsibilities among partners is one way to ensure that adequate attention is given to every aspect of the project. One benchmarking partner discussed the benefits of collaborations or creating alliances, which has been effective at producing valuable outcomes and helping to increase sustainability. Additionally, benchmarking partners indicated that collaborating with organizations focused on diverse populations helps to broaden participation in programs to these diverse populations. While one IMLS project report mentioned that perhaps there were too many at the table at the initial advisory board meetings, no grantee regretted having an advisory board or other partnership. Grantees found that partners and advisory board members frequently volunteered to increase their participation in other aspects of a grant project as well as they became involved in project planning efforts. This was particularly true of partners who "stepped up to the plate" to be included in enhancements of course work as mentors or hosts for internships, for example.

Working with partner institutions to coordinate internship placement and projects is essential for a rewarding experience on the part of the student and a useful project deliverable at the end of the internship assignment. Both partners should sign off on projects, as well as the student. Care needs to be taken that the projects can be completed within the designated period of performance, taking into account that the students also have academic assignments to complete. A balance of expectations is necessary, and a degree of flexibility should be designed into each project as well. Executing a MOU or other contractual document between the host institution and student worker can establish the responsibilities of each, as well as a timeline for completion, and serve as a reference for the grantee should issues arise. At least one grantee created a handbook for student internships. In today's social era, making that handbook dynamic by including comments of interns could give it greater impact among incoming students. Making the handbook available to other grant projects, and other academic institutions, is another way to multiply the outcomes of the efforts involved in putting the document together and continually evaluating it based on student feedback.

3. **Be sure to factor in sufficient administrative support for your project and consider using an external evaluator to conduct an objective evaluation of the project.**

Grantees found project management a challenge (General area of inquiry: Types of grant activities). Nearly all LB21 grantees underestimated the amount of administrative support their project required. If the PI is carrying a full course load teaching or needs to work on publications in order to obtain tenure the grant project may take a back seat for weeks at a time. A few grantees used a portion of their grant to fund a graduate assistant to help coordinate internships and partnerships, counseling students with academic and work-

related issues as they arose, or logistics associated with Continuing Education events. These positions were often cited by the grantees as important elements to ensuring the grant projects operated smoothly. Such individuals can provide great insight into program operation and logistics and should contribute to interim and final reports. Keeping good records throughout the project can make summative evaluations easier to complete.

Grant project assessment is vital for individual grantees, as well as IMLS, so that all can understand what occurred and the impact that the grant has had in a larger context. Objective evaluation throughout the period of the grant, conducted by an external evaluator, can be a worthwhile use of funds. Several grantees used this method of evaluation and their final reports were more informative than many who attempted to provide anecdotal evidence that their project met its goals.

4. **Consider the audience for your project when determining the amount of funding to offer, as well as the grant activities to provide. Conduct research on the population of interest, particularly for diversity-focused grants. It is critical to have an understanding of what types and level of support are needed.**

This evaluation looked at how funding was used by LB21 grantees, including differences between recipients of full and partial scholarships (General area of inquiry: Types of grant activities). Many grantees distributed funds to greater numbers of students by providing partial instead of full scholarships. However, students from underrepresented communities within LIS often need full scholarships in order to consider participating in these programs. They have few assets to tap and there are many types of expenses beyond tuition that will need to be met. Potential participants in several programs did not follow through with formal applications because they were not able to afford some of the matching fund requirements of their program or for fear of anticipated costs associated with learning in other programs.

Extensive research on the population of interest during the planning phases, particularly for grants with an emphasis on recruiting diverse students, will ensure that funding amounts and grant components offered under the grants are adequate for laying the foundation for students from diverse backgrounds to succeed. For example, a few of the Master's Diversity grantees indicated that money for books provided under the grant projects was important in ensuring the students were able to excel in their classes. According to the Consumer Price Index, the cost of college textbooks has risen 812 percent since 1978 (Perry, 2012). Costs for textbooks can seem incidental to some, but can mean the difference in terms of accepting a scholarship or not, particularly when the grant is targeting economically challenged populations. Providing laptops or facilitating arrangements for students to obtain consistent Internet access was another commonly overlooked aspect important to many of the students of diversity. One PI indicated that the institution had learned from a previous grant that providing full tuition did not guarantee that students would be able to afford the other essentials like books and laptops.

Additional advisement and mentorships were often important for students of diversity. Just as many of these students have fewer financial assets to tap, they often have fewer social assets as well. Many come from families where higher education is not encouraged, or life situations in which they have stresses beyond those experienced by the typical student. One grantee with a diversity-focused project noted the importance of advisors paying extra attention to these students, including checking in with them at the beginning of each semester to ensure things were going well. As the grantee mentioned, these "check ins" often turned into longer conversations regarding issues the students were facing but did not want to burden their professors by bringing them up. This allowed the advisors to work with the students to mitigate any potential risks the issues may have caused for the student further into the degree program. A realistic assessment of the level of financial support and models that will provide adequate academic and personal support is advised.

5. **Consider innovative ways to maximize use of grant funds and strategize how to sustain support once the grant ends.**

Attendance at conferences, be they annual national library association conferences or state library meetings, were found to be an excellent use of funding to enhance educational experiences and increase networking opportunities for students with potential future employers (Research question 2-6). Student testimonials (written or video) sent to prospective grant partners or posted on project Web sites, or presentations made at gatherings of partners, can ignite additional support for travel to conferences covering costs not included in LB21 grants.

While student rates apply to registration fees, other costs may be higher than anticipated. Expenses can be estimated based on prior year experiences. Alternatively, grantees completing the application process may want to use the General Services Administration's per diem rates for travel throughout the United States as they compute their project budget. Another way to minimize students' conference costs is to proactively seek participation of students as registration assistants, workshop monitors, and other volunteer positions in exchange for sitting in on sessions of interest to them. This is particularly effective for local events where no travel is involved.

Using funds to bring experts to campus as occasional speakers, facilitators of specific workshops, or symposia throughout the life of the grant can broaden students' view of the profession and what is possible for them to achieve. These interactions were considered by grantees (in interviews and final reports) and students (in evaluations) to be highlights of their program. Bringing a single speaker (or series of speakers) to campus can be a cost-effective way of introducing more students to experts if funding multiple student trips to conferences is not possible. Bringing speakers to campus also enables non-LB21 scholarship students to benefit from these experiences. Videotaping these sessions, making synchronous or asynchronous access possible to others who cannot be in the room, is a way of getting the most for minimal expense. Simply arranging webinars or conference call talks in the classroom (e.g., via Skype or Adobe Connect) are also ways

of increasing student interactions with practitioners.

Subsidizing travel to/from host institutions for internship assignments can allow students to take on interesting assignments a bit further afield without sacrificing too much monetarily as they devote more to travel time. This can create a broader geographic region of coverage for schools looking to partner with libraries, museums, historical societies, and archives a distance from the campus. For example, a student at C.W. Post on Long Island could consider a project at a CUNY library located in The Bronx with some financial support for train travel.

6. **Develop grant projects designed to help practitioners work in a multicultural society.**

Communities benefit when library staff mirrors the population served, and one way to provide this beyond recruiting a diverse student body is to make administrators, faculty, and students of all types more culturally aware and sensitive (Research question 7-1). Most of the LB21 grants included in this study focused on recruiting a diverse population for enrollment and completion of master's and doctoral programs. Given the challenges grantees faced in recruiting sufficient numbers, particularly within specific populations, LB21 grantees should provide cultural sensitivity training to individuals serving these communities. Including this within a master's program, particularly within a public library concentration, can be helpful. Additional continuing education opportunities are needed for those currently working in the field as well.

It is important to note that library schools are not alone in recognizing the importance of diversity among professionals. Other professions are grappling with similar concerns regarding diversity and LIS can learn much from their approaches. For example:

§ **Education (P-12).** Recognizing that teachers of color serve as role models in the classroom, many teacher education programs have developed pipeline programs, which involve "collaboration between university-based teacher education programs and feeder institutions, mainly secondary schools… Less intensive pipeline programs build interest in teaching… bringing secondary students onto campus… Connecting prospective teachers of color with excellent mentors appears to be a critical component to recruitment success." These programs also offer scholarships, with the proviso that recipients will teach in local schools, and additional academic and cultural support. Other programs include multilingual and multicultural teacher preparation. In these programs, coursework and fieldwork are accessible and relevant (Sleeter and Milner, 2011, pp. 85-87).

§ **Social work.** Prescribed content on diversity is no longer required in schools of social work, though students are expected to have that competency (Ortiz & Jani, 2010, pp. 186-187). Like librarians, social workers interact with diverse populations, who are often economically-challenged. As diversity is not uniform across the United States, a "one size fits all" approach is not appropriate for social work education or LIS (Melendez, 2007, p. 3). The National Association of Social Workers has issued

Indicators for the Achievement of the NASW Standards for Cultural Competence in Social Work Practice (2007) to address concerns in this area.

§ **Nursing.** The increased need for nurses to care for the aging baby boom generation over the next few years makes recruiting nursing students a priority for the profession. Also a traditionally female profession, technological advances have altered the roles of nurses and may make it a more attractive profession to males, similar to that which has occurred in the library profession. Another similarity between nursing and librarianship is the certification levels that exist in terms of training at the associate, bachelor, master's, and doctoral levels.

§ **Dental hygienists.** Dental hygienists interact with diverse population groups, much like librarians. A 2009 study conducted by the American Dental Association on the ethnic and racial profile of dental hygiene students and faculty during the years of 2008 to 2009 showed that 78.6 percent of students and 90 percent of faculty were non-Hispanic white (Snyder, 2012, n.p.). A recent dissertation by Tracye A. Moore, *The Diversity Dilemma: A National Study of Minorities in Dental Hygiene Programs*, concludes: "pipeline programs are needed to recruit and retain minority dental hygiene students and faculty." Many groups recognize the need for diversity in this profession, but the American Dental Education Association and the W.K. Kellogg Foundation have awarded grants for Minority Dental Faculty Development, promoting "the kind of institutional growth that fosters a sustained commitment to faculty diversity."

§ **Journalism.** Schools of journalism around the country are grappling with similar issues regarding recruitment to assure that the media have journalists that will be attuned to stories of interest to diverse communities. A good deal can be learned from the range of interactions among associations of journalists (e.g., Society of Professional Journalists), foundations (e.g., Poynter), and groups of communities of minority journalists (e.g., UNITY) with schools of journalism and professionals. As reported by the Manship School of Mass Communication at Louisiana State University (2008), "Recent research by the Forum on Media Diversity at the Manship School indicates that…about 60 percent of journalism/mass communication programs indicated that they offer at least one course on diversity issues. Many offer more than one" (p. 105). The lessons learned in those schools, many of which are on the same campus as a school of library and information science, can inform efforts to provide cultural sensitivity programs to all graduate students who will deliver services to increasingly diverse communities in the future.

7. **Consider the power of word of mouth to disseminate information about your grant project, and how you can use a project Web site to pre-sell the program and later to archive newly developed educational materials.**

Word of mouth was utilized by one-third of the Master's Diversity grant projects included in this study (General area of inquiry: Effectiveness of grant activities). "Word of mouth is generally considered to be the most powerful form of marketing available…Simply said, it's low cost, even free. But it is also a lot of hard work" (Rothman, 2013, n.p.). In the age of social networking, referral marketing appears to be

more effective than traditional means. It has the power to amplify the message, often going "viral," with potentially longer carryover effects (Trusove, Bucklin, & Pauwels, 2009, p. 90).

While LB21 projects have used multiple means to inform prospective students about their programs, including several types of paid advertisements, one of the most effective means has been word of mouth, including the use of past participants (graduates) of the projects and programs. This was also true for internship programs, with participants "talking up" their projects with other students and workers at host institutions. Many grant program participants were viewed as "stars" among the student body, and became leaders once they graduated, in a position to take on interns or hire other graduates from programs they know and respect.

While several grantees relied on practicing librarians to "get the word out," these efforts were often disappointing. For example, presentations, poster sessions, or simple networking among participants at conferences for teachers were reported by the grantees as being more effective for projects involving school library media specialists than similar efforts at library-related events. Even more effective was attending conferences of principals who often saw the value of these certifications for their schools and encouraged teachers to take advantage of these opportunities.

Strategies for targeting specific populations also benefit from word of mouth endorsements and encouragement. Working with groups that are already well respected within a community (e.g., tribal authorities) can be a better option, though cultivating a relationship with them can take more time. Ultimately, it will be a better use of time than funding advertisements that are likely to remain ignored by these target populations.

Once hearing about a program, prospective students may want to explore what it's all about on their own, prior to making contact with the institution. Establishing a project Web site at the outset can serve as a useful marketing tool for such students. As the project proceeds, this Web site should be used to keep information about the grant project current. If the material available is not interesting and informative, prospective students may never contact the school. The Web site can also become a record of the project, permitting others access to educational materials developed for the project that could be useful to other programs. Maintaining a Web site today is not nearly as technically difficult as it had been in the past (possibly the responsibility of a graduate assistant) and updating the project past the grant period of performance, including presentations and articles by the PI, graduate assistant, or program participants could aid practicing librarians as they become aware of the project. Most importantly, make sure that posted program requirements and course syllabi are up-to-date. Many grantees remarked that their program Web sites do not always reflect new programs, certificates, and pre-requisites for taking certain courses.

8. **Do not rely on any single method for delivering learning opportunities, providing experiential learning outside of the classroom, or otherwise supporting students. Permitting students to choose the mix that works best for them will improve their performance.**

Multiple means of engaging students beyond the classroom was more effective than single interventions (Research question 2-6). For many of the diverse students and those currently employed in library settings in particular, courses must be available and accessible when and where individuals want them. Once developed, they should be offered to assure that the maximum number of learners benefit from them. Understanding how individuals learn, when they can get to class, and how far they are willing to travel can help institutions design courses that can be delivered in the classroom as well as online; during the day, evenings, or weekends; and on campus or in a room at a local library that is closer to a group taking the course.

Projects that offered an array of extra-classroom learning experiences, including mentoring, advising, internships/residencies, conference attendance and presentation experience, and symposia/colloquia were more successful overall (based on PI reports and feedback from students) than projects that concentrated on a single mode of student support beyond the classroom. PIs from these projects often cited these extra learning experiences as the reason LB21-funded students experienced strong placement rates and success in the field.

According to grantees, students participating in LB21 grant projects often expressed gratitude when they were able to direct their own studies, selecting from a set of electives for course work, venues for internships, or even an independent research project in place of an internship. Additional direction may be helpful in guiding students to making the best decision among multiple choices, but students tend to work harder and achieve better results when they feel that they have some degree of control.

9. **Create mechanisms that assure knowledge shared is effectively transferred.**

Grantees with multiple grant projects were able to transfer elements from one project to the next, and in many cases from one program to another; transfer of "what works" from one institution to another can have wider impact (General area of inquiry: Grant outcomes on grantee institution/organization). Assessment remains at the heart of learning, not only to affirm that the learner has achieved the goal, but also to aid in the improvement of the teaching methods or re-shaping of the content for the future. Feedback for continuing education courses should be conducted by most course deliverers and rigorously reviewed to identify areas in need of modification. Feedback on newly developed courses or curricula is also important and often necessitates assessment processes beyond the standard end-of-course survey. Most assessments were conducted immediately upon completion of a course, but to really gauge what was most useful requires time between completion and assessment to see how what was learned in a formal setting has been applied in the workplace.

10. **Consider whether students participating in your program would benefit from being treated as a cohort.**

LB21 grantees found significant benefits to learners when they treated students as cohorts (Research question 2-6), particularly at the beginning of a program. However, giving students leeway to determine whether to continue in this initial cohort, or expand studies beyond the prescribed track, is another way in which SLIS can exhibit flexibility in their approach to programming. LB21 grantees found that giving students options to direct their learning, in terms of courses, internship placement, and mentors, also had positive effects on academic achievement.

Beyond academic achievement, members of cohorts tend to maintain contact with one another and know who has changed jobs and how to reach them. This could be enormously beneficial to grantees for tracking their students beyond completion. In some grant projects, student cohorts were even able to assist one another in obtaining post-graduation employment. SLIS must find the correct balance for their institution and the students in their programs.

11. **Explore how tools used by your institution might be used for tracking and assisting students post-graduation.**

Tracking students beyond completion is important to IMLS, and can benefit institutions and students as well (Research question 8-2). Since the LB21 grants included in this evaluation were conducted, academic institutions have made enormous investments in learning platforms that deliver more than content for coursework to students. These robust tools track student progress in courses taken, but often contain rich contact data that can be used by SLIS beyond graduation in any student tracking activities. E-portfolios, developed as a showcase of individual student projects and accomplishments, can be hosted for alumni as a service – a convenient way of documenting achievements in a system that the student is already comfortable using. Schools will need to work with their university system to determine how best to archive student records of accomplishment.

12. **Remain attuned to the needs of the field and continually evaluate and adjust curricula to assure that students graduating have the competencies required.**

Curriculum development was a substantial element of LB21 grant projects (Research question 1-1). For a length of time, library school curricula were divorced from the needs of modern libraries and information centers, in part due to the length of time needed to get syllabi approved in an academic setting, but also because curricula were driven by the interests of tenured faculty. Studies showed that library directors were unhappy with new graduates who were not prepared and newly graduated librarians felt inadequate, causing great anxiety (Bosque & Lampert 2009, p. 261).

Much has been done in recent years to speed modifications in curricula, including the use of adjuncts – itself controversial – using expertise to fill gaps in what needs to be taught

but could not with existing full-time faculty. LB21 grantees found that the use of adjuncts was a win-win situation for the schools and the students, providing a balance of theory and practice across their curriculum. Effective integration of adjuncts into the teaching mission of a school in ways that make them feel a part of fulfilling the mission can make this strategy more successful. SLIS are not alone in taking this route. According to a 2008 study by JBL Associates for the American Federation of Teachers, "contingent faculty members teach 49 percent of the more than 1.5 million undergraduate classes taught each term at U.S. public colleges and universities" (pg. i).

In addition to other ways in which SLIS administration and faculty keep current with trends in the field, maintaining contact with recent graduates, ascertaining how they are doing and progressing in their work can be most beneficial. Schools must strive to use new mechanisms, including social media, to maintain a dialogue and learn from their graduates what is needed in the field.

13. Use SLIS receptions for alumni at annual library conferences to formally gather updated contact information for all alumni.

One way grantees mentioned that they remained in touch with students after graduation was "running into them" at conferences (Research question 8-1). Annual conferences at the national, state, and regional levels are gathering places for those in the profession and provide an opportunity for SLIS to improve their connection with alumni. Establishing a registration desktop for sign-in, manned by current students, is one way to begin the process of updating SLIS alumni files while providing networking opportunities for students. These events could be used to highlight changes being made to the curricula and encourage alumni to become mentors or become sites for placement of interns. As alumni are frequently the best recruiters for programs, particularly within targeted diverse populations, maintaining that interaction between school and alumni is important.

14. Make certain that all students know that they are beneficiaries of IMLS grants.

Differentiation between scholarship recipients and non-recipients is impossible if students are not told that they are beneficiaries of IMLS grants (Research question 5-4). This grant study was one-dimensional in that it focused on the experiences of the grantee; future grant evaluations would benefit in determining "what works" (in terms of diversity recruitment and retention/completion/placement) from the viewpoint of beneficiaries of LB21 scholarships. Assuming that tracking mechanisms are in-place, grantees should distinguish between LB21 scholarship students and others in their programs. In order to determine the difference between LB21 scholarship recipients and other graduates in terms of academic achievement, placement, and leadership over the long-term, students must be told (and reminded) that they are the beneficiaries of IMLS funding. This will help in future research studies targeting beneficiaries of LB21 grants.

15. While conference attendance remains one of the most effective learning opportunities offered by LB21 grantees, the use of technology permitting additional students to participate and interact with experts should be employed as well.

Video-based activities are beginning to be incorporated into IMLS grant efforts. For example, some grantees recorded videos for online access as part of their diversity recruitment effort (Research question 7-3). The use of webinars as a tool for continuing education has exploded in the years since these grants were originally conceived. Webinars for librarians are offered by library associations at the national and state level, library consortia, government agencies, library-related organizations (e.g., Copyright Clearance Center), commercial vendors, open courseware, and groups unrelated to libraries but interested in workforce development. Using webinars, in addition to other educational experiences, can be a cost-effective way to enhance learning. They can also serve as a teaser for continuing education programs that are lengthier and more costly. Using a web conferencing system such as Skype or Adobe Connect to engage experts in conversations with students, in the classroom or as part of a weekly colloquium, can be beneficial to the student and limit costs associated with travel to in-person workshops or speaker series. However, this should not be a substitute for all face-to-face interactions.

Expanding the concept of conference attendance benefits to learning by including students and library support staff in local library and information-related meetings, even informal gatherings, should be encouraged. What they miss in terms of travel experiences, they gain in terms of networking with potential employers. Many of these meetings occur on-site at local libraries, allowing students to visit and hopefully return.

The simplest way to increase return on investment for creating and maintaining online learning objects is to assure reuse. This requires that materials once created are made available to as wide an audience as possible, accessible to anyone interested, for example, by recording webinars and posting them to the web. In this manner, a one-time cost produces materials can be accessed multiple times, and by anyone, at a more convenient time or when an individual is in need of building or reinforcing that skill.

For the Greater Library Community

The LB21 grants reviewed in this study point to specific ways in which libraries can help SLIS as they train the next generation, including encouraging younger individuals to consider librarianship as a career, particularly those from diverse communities, including support staff already working in libraries. Librarians in the field are in a position to identify potential future librarians. Working with library schools, local or those offering online programs, librarians can begin some of those conversations that can ultimately end in admission to library school. Promoting the availability of scholarships among these individuals considering their future careers would be helpful.

LB21 grantee efforts to enhance the education experience that helped to keep learners on-track through their courses of study also provide lessons for libraries and librarians. Successful

interventions included mentoring and advising/coaching, internships, conferences, professional association membership, and learning opportunities. Specific recommendations for libraries/librarians are outlined below.

§ Libraries (and librarians) must become more active in local and national grant projects, volunteering as mentors and hosting internships. SLIS need mentors for their students and placements for interns. Libraries can be proactive in pursuit of these opportunities, with participating library staff benefiting from the mentor-mentee relationship. Interns can complete projects that languish due to lack of skilled staff to take on these projects in addition to existing work. Finally, LB21 grantees found that interns often transition to full-time employment at the institutions where they are placed, minimizing costs related to recruiting and training new staff.

§ Advisement and coaching provided to library school students was beneficial and similar efforts are needed at libraries and within library systems. Providing coaching opportunities can assure that library staff learn how to execute new tasks.

§ Conference attendance had positive effects on students and can reinvigorate library staff as well. Encourage and support travel to conferences and have attendees report on what they have learned to those not able to attend.

§ Memberships in professional associations benefit not only the member, but also the institutions where they work. These memberships can provide access to "members only" knowledge and activities.

§ Venues for learning opportunities, physical and virtual, can be offered and shared. Hosting an event is another way to minimize travel costs while maximizing staff participation in a learning opportunity.

Today's practitioners have a vested interest in developing the next generation of librarians, archivists, and museum workers, who will be working by their side in a few short years. This includes encouraging staff to take on new responsibilities and leadership roles, particularly those individuals who have not had these opportunities in the past. While SLIS focuses on recruiting and educating librarians from diverse backgrounds, libraries themselves must provide opportunities for these stars to shine, adopting some of the innovations described in this study and testing additional approaches to transforming their libraries and communities.

The LB21 grants also suggest that eliminating the silos that impede organizational effectiveness is wise. In libraries, vertical divisions that keep individuals within a department apart from the work and knowledge of others is often matched by horizontal barriers of complicated hierarchies, not to mention the division of labor between certified librarians and support staff. Within the field, silos that do not encourage conversation among librarians, archivists, and museum workers often result in duplicative efforts. Sharing knowledge and expertise with related institutions can have a multiplying effect on efforts to preserve cultural heritage. Efforts to recognize where boundaries exist and begin to eradicate them are both a profession-wide obligation and institution-specific.

The work of building learning communities cannot be left to IMLS and LB21 grantees alone. The question to ask is whether your library, archive, or museum is truly innovation-ready.

Libraries must deal with and anticipate the effects of existing challenges facing libraries today, such as the quickening pace of technologic change, rising expectations of users, and increasing demands for staff time. To paraphrase San Jose State University President Mohammad Qayoumi, libraries must "aggressively test and adopt the best" (p.5). The LB21 grants reviewed in this study open a window on the types of partnerships that need to be created and sustained in order to make the changes required in the profession. Strategies for adopting advanced technologies, exceeding the expectations of users, and managing human capital require innovative thinking by all practitioners.

Technology is rapidly changing how information is managed and delivered to users. Appreciating the options and understanding the impact on library policies and procedures requires a strengthening of existing skills and a willingness to acquire new ones. Investing in development of one's own staff, contributing to the development of the next generation of library worker, is every library's/librarian's responsibility. All libraries must encourage staff to participate in learning opportunities throughout their career providing these opportunities to staff and offering for participation, such a time off and/or funding. These learning opportunities should be aligned with the needs of the workplace, recognizing that those needs are changing all the time. All staff – credentialed, library support staff, and volunteers – should be included in training opportunities to assure that communities have expert advice available to them no matter to whom they turn.

At the organizational level, libraries can do no better than follow the U.S. General Accounting Organization's (GAO) model for strategic human capital management. This is centered on four human capital cornerstones: leadership; strategic human capital development; acquiring, developing, and retaining talent; and results-oriented organizational cultures (U.S. Government Accountability Office, 2004). Thinking strategically about a library, its place in the community, and its future will help to guide decisions concerning the skill sets that need to be in place in order to realize the organization's goals and how it will acquire them.

Economics will play a role in the ability to hire librarians in the near-term. If the anticipated retirement of librarians is postponed, no new talent will be brought in through direct hiring. Learning is what libraries value. Bringing new skills into the institution when there is a hiring freeze can only be achieved through learning opportunities for all staff, including professional, support, student worker, and volunteer. A commitment by every staff member to learn one new thing each year—a tool, a language, a skill—can introduce multiple skills to the workplace, allowing libraries to deliver new services using new technology to do so.

Career pathing can help staff members set a direction for their own learning, identifying the competencies they will need to acquire in order to progress in a particular direction. An employee's developmental needs are also identified based on a comparison of skills required by the employee's current job, his/her skills and past experience, and the requirements of future career aspirations. Every worker should be encouraged to create an individual development plan (IDP) designed to maximize current job performance and build toward a coherent and relevant strategy for continued future development.

The only way that professional development can be effective is if each staff member identifies

his/her career goals within the context of the organizational objectives, developing a personalized action plan. The IDP should outline the systematic steps that individuals commit to undertake to build on their strengths and eliminate weaknesses as they improve job performance and pursue career goals. The mutual interests and concerns of the individual and the organization must be considered in the IDP process. All learning opportunities offered must be aligned with the mission and goals of the organization. Based on LB21 grant findings, support of individual learning – agreement as to what should be learned, but flexibility in the way in which this is accomplished – is advised.

Consider how SLIS, library associations, and library consortia can play a role. Several of the activities that LB21 grantees found helpful in their own projects should be considered by libraries throughout the country, particularly in relation to leadership development, including the implementation of mentoring programs made available to staff. Alternatively, this could involve participation in library mentoring programs offered through library associations, such as local chapters of the Special Libraries Association (SLA) and the Young Adult Library Services Association's (YALSA) virtual mentoring program.

Identify areas within your library that are "at risk" because there are not sufficient numbers of workers who know how and can complete the necessary activities to the expected standard (i.e., not enough "backup" and workers with different understandings as to what constitutes "good"). Improving library performance and delivery of quality service at no additional cost can be achieved using the methods highlighted in successful LB21 grant projects, including job shadowing, coaching, and peer-assist.

Information and knowledge management is necessary in all areas of study and work, on the individual level, within and among teams, and organization/enterprise-wide. We know from the recently released fifth Ithaka S + R (2012) U.S. Faculty Survey that academic libraries continue to struggle with how to work effectively with faculty in the classroom and supporting research, how to remain involved within an environment using a learning platform (e.g., Blackboard), and how to support learners as they participate in MOOCs. Librarians encourage scholarship through research and new knowledge creation (based on what has come before).

Embedding information literacy skill building within a discipline can benefit the students, take the pressure off faculty (who may still be utilizing techniques they honed earlier in their career and not as adept using newer tools), and foster a new respect for those involved with information management, in the library and elsewhere. When they graduate, these students will be better able to discover knowledge resources they need, be better equipped to create new knowledge, and capable of continuing to hone their information seeking behaviors as tools evolve in the future. The underlying question is how libraries can play a more influential role in the development of practitioners in every field (while they are students and beyond) and assist in productive business, industry, and scholarly research, taking on an expanded role to ready a 21st century workforce prepared to take on the challenges of an increasingly complex and competitive global economy.

In today's global knowledge economy, information literacy and lifelong learning are the driving factors of economic success on three levels: nation/society, organization, and individual. Socio-

economic and political developments are best advanced by people who recognize their need for information (and the entities that help them access, organize, and manage information). We extoll the virtues of a citizenry that can actively participate in government and is able to make use of e-government opportunities. This can only be achieved if we have media-literate, informed voters, productive citizens, and government workers.

In recent decades, the emphasis of work in libraries has shifted from being collections-centric (acquisition, organization, and management of closed stacks) to increasing access, from open stacks to virtual anywhere. While others have been studying within their field, LIS has trained librarians to apply excellent information seeking, organization, and management skills to any subject area. Today, all workers have information that they must find, organize, retrieve for re-use, and share, but find themselves woefully ill-equipped, often "learning on the fly."

Librarians work to share, both what is in our libraries and what is known about conducting research. A new role for librarians is emerging, that is one that enables new knowledge creation: Connecting people with materials, experts, and ideas, no matter where they reside – around the corner or halfway around the world. This can only be achieved if information literacy programs are not sidelined, but integrated into subject learning modules at the K-12 level, embedded in course management platforms at the university level, and an element of every organization's knowledge management strategy.

References

American Library Association. (2008). Serving non-English speakers in U.S. public libraries: 2007 analysis of library demographics, services and program. Retrieved from http://www.ala.org/offices/sites/ala.org.offices/files/content/olos/nonenglishspeakers/docs/Linguistic_Isolation_Report-2007.pdf

American Library Association. (2007). Serving non-English speakers in U.S. public libraries: 2007 analysis of library demographics, services and programs. Retrieved from http://www.ala.org/offices/sites/ala.org.offices/files/content/olos/nonenglishspeakers/docs/Linguistic_Isolation_Report-2007.pdf

Aud, S., Fox, M., & Kewal Ramani, A. (2010). Status and Trends in the Education of Racial and Ethnic Groups (NCES 2010-015). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Barell, J. (1995). Critical issue: Working toward student self-direction and personal efficacy as educational goals. Retrieved from http://www.ncrel.org/sdrs/areas/issues/students/learning/lr200.htm.

Barnett, B., & Muse, I. (1993). Cohort groups in educational administration: Promises and challenges. *Journal of School Leadership, 3*(4), 400-15.

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report, 13*(14), 544-59.

Bennis, W., & O'Toole, J. (2005). How business schools lot their way. *Harvard Business Review, 83*(5), 96-104.

Boer, A., Bothma, T., & Olwagen, J. (2012). Library leadership: Innovative options for designing training programmes to build leadership competencies in the digital age. Retrieved from http://www.hbdi.com/uploads/100021_resources/100839.pdf

Bosque, D.D., & Lampert, C. (2009). A chance of storms: New librarians navigating technology tempests. *Technical Services Quarterly, 26*(4), 261–86.

Brewer, J., & Winston, M. (2001, July). Program evaluation for internship/residency programs in academic and research libraries. *College & Research Libraries, 62*(4), 307-15.

Charan, R., Drotter, S., & Noel, J. (2001). *The Leadership pipeline: How to build the leadership-powered company*. San Francisco: John Wiley & Sons.

Decision Demographics. (2012). Diversity counts 2012 tables. Retrieved from http://www.ala.org/offices/sites/ala.org.offices/files/content/diversity/diversitycounts/diversitycountstables2012.pdf

Flagg, G. (2002). IMLS grants address librarian shortage. *American Libraries*, 33, 14.

Ithaka S + R (2012). Barriers to adoption of online learning systems in U.S. higher education. Retrieved from http://www.sr.ithaka.org/research-publications/barriers-adoption-online-learning-systems-us-higher-education

JBL Associates. (2008). Reversing course: The troubled state of academic staffing and a path forward. Produced for the American Federation of Teachers. Retrieved from http://www.aftface.org/storage/face/documents/reversing_course.pdf

Juznic, P., & Pymm, B. (2011). Students on placement: A comparative study. *New Library World, 112* (5/6), 248-60.

Kim, K., & Sin, S. (2006, Spring). Recruiting and retaining students of color in LIS programs: Perspectives of library and information professionals. *Journal of Education for Library and Information Science 47*(2), 81-95.

Kotter, J. (2011). Breaking down silos. *Forbes, (May 3, 2011).* Retrieved from http://www.forbes.com/sites/johnkotter/2011/05/03/breaking-down-silos/

Langer, A.M. (2010). Workforce, development & mentoring. Retrieved from http://www.alanger.com/workforce-development-mentoring.html

Levy, P. (1997). *Collective intelligence*. (R. Bononno, Trans.) New York: Plenum. (Original work published 1995).

Magurran, A. (2000, December 10). Backseat drivers: Genes, the authors argue, are merely bit players in the game of life. *The New York Times*. Retrieved from http://www.nytimes.com/ books/00/12/10/reviews/001210.10magurrt.html

Maher, M. (2005). The evolving meaning and influence of cohort membership. *Innovative Higher Education, 3*(3), 195-211.

Manjarrez, C.A., Ray, J., & Bisher, K. (2010, Summer/Fall). A demographic overview of the current and projected library workforce and the impact of federal funding. *Library Trends, 59*(1-2), 6-29.

Manship School of Mass Communication. (2008). Diversity that works: Report and recommendations of a conference on successful programs in higher education diversity. Retrieved from http://uiswcmsweb.prod.lsu.edu/manship/MassComm/FocusonDiversity/ForumonMediaDiversity/item15929.html

Marshall, J.G., et al. (2010). Toward a shared approach to program evaluation and alumni career tracking: results from the Workforce Issues in Library and Information Science 2 Study. *Library Trends 59*(1/2), 30-42.

Melendez, M. P. (2007). *Describing the impact of required diversity courses on beginning social work students developing multicultural competence*. Unpublished doctoral dissertation, Case Western Reserve University.

Montague, R., & Pluzhenskaia, M. (2007, Winter). Web-based information science education (WISE): Collaboration to explore and expand quality in LIS online education. *Journal of Education for Library and Information Science*, *48*(1), 36-51.

Moore, T. A. (2012). The diversity dilemma: *A national study of minorities in dental hygiene programs.* Unpublished doctoral dissertation. Retrieved from http://www.ndhaonline.org/uploads/3/0/0/8/3008766/t.moore_diversity.dilemma.ppt.pdf

Morgan, J., Farrar, B., & Owens, I. (2009). Documenting diversity among working LIS graduates. *Library Trends, 58*(2), 192-214.

Morse, K. (February 2003). Does one size fit all? Exploring asynchronous learning in a multicultural environment. *Journal of Asynchronous Learning Networks* 7 (1): 37-55.

National Association of Social Workers (2007). *Indicators for the Achievement of NASW Standards for Cultural Competence in Social Work Practice.* Retrieved from http://www.socialworkers.org/practice/standards/naswculturalstandardsindicators2006.pdf

Newswander, L. and Borrego, M. (2009). Engagement in two interdisciplinary graduate programs. *Higher Education: The International Journal of Higher Education and Educational Planning, 58*(4), 552-562.

Qayoumi, M. (n.d.) *Are we innovation ready? A bold new model for higher education*. Retrieved from http://www.sjsu.edu/president/docs/are_we_innovation-ready.pdf

Oberg, D. (2012, Spring). Ignoring the evidence: Another decade of decline for school libraries. *Education Canada, 52*(2), 31.

Olivas, A., & Ma, R. (2009, Winter). Increasing retention rates in minority librarians through mentoring. *Electronic Journal of Academic and Special Librarianship, 10*(3), Retrieved from http://southernlibrarianship.icaap.org/content/v10n03/olivas_a01.html

Ortiz, L., & Jani, J. (2010). Critical race theory: A transformational model for teaching diversity. *Journal of Social Work Education, 48* (2), 178-191.

Overall, P., & Littletree, S. (2010). Knowledge River: A case study of a library and information science program focusing on Latino and Native American perspectives. *Library Trends, 59*(1-2), 67-87.

Perry, M. J. (2012, Dec 24). The college textbook bubble and how the "open educational resources" movement is going up against the textbook cartel. American Enterprise Institute blog post. Retrieved from http://www.aei-ideas.org/2012/12/the-college-

textbook-bubble-and-how-the-open-educational-resources-movement-is-going-up-against-the-textbook-cartel.

Rothman, D. (2013, May 9). Igniting word of mouth: How WOM reduced teen smoking in South Carolina. Retrieved from http://blog.marketo.com/blog/2013/05/igniting-word-of-mouth-how-wom-reduced-teen-smoking-in-south-carolina.html

Siune, K., & Asgaard, K. (2003). *Research Management Processes under Rapid Change.* The Danish Institute for Studies in Research and Research Policy. Retrieved from http://www.afsk.au.dk/ftp/remap/2003_9.pdf

Sleeter, C. E., & Milner, H. R. (2011). Chapter 3: Researching successful efforts in teacher education to diversity teachers in *Studying diversity in teacher education*, edited by A.F. Ball and C.A. Tyson. Bowman & Littlefield.

Snyder, J. (2012). Building diversity in the dental hygiene workforce. Retrieved from http://www.warschawlearninginstitute.com/Access-Article-2012.pdf

Steffen, N., & Lietzau, Z. (2009, Fall). Retirement, retention, and recruitment in Colorado libraries: The 3Rs study revisited. *Library Trends 58*(2), 179-91.

Trusove, M., Bucklin, R., & Pauwels, K. (2009, September). Effects of word-of-mouth versus traditional marketing: Findings from an Internet social networking site. *Journal of Marketing, 73*(5): 90-102.

U.S. Census Bureau. (2010, Apr 28). New Census Bureau report analyzes Nation's linguistic diversity. Press Release. Retrieved from http://www.census.gov/newsroom/releases/archives/american_community_survey_acs/cb10-cn58.html

U.S. Government Accountability Office. (2004, March 1). Human Capital: A Guide for Assessing Strategic Training and Development Efforts in the Federal Government. GAO-04-546G. Washington, D.C.

Wagner, M., & Willms, D. (2010). The urban library program: challenges to educating and hiring a diverse workforce. *Library Trends, 59*(1-2): 128-146.

Wesley, P.W., & Buysse, V. (2001, Summer). Communities of practice: Expanding professional roles to promote reflection and shared inquiry. *Topics in Early Childhood Special Education, 21*(2), 114-23.

Yin, R.K. (2009). *Case study research: Design and methods*. (4th ed.). Thousand Oaks: Sage.