A Demographic Overview of the Current and Projected Library Workforce and the Impact of Federal Funding

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Abstract

The first section of this article examines the size of the library workforce and the projected demand for librarians in the United States. Information on the library workforce is segmented into several national data collection efforts. To develop a more comprehensive picture of the size and scope of the profession, we have analyzed data from: the American Community Survey, the Quarterly Census of Employment and Wages, National Center for Educational Statistics' Academic Libraries Survey and Common Core of Data, and the Institute of Museum and Library Services' (IMLS) Public Library Survey. All sources, except the American Community Survey, provide a sufficient number of observations for state-level analysis. The review highlights a profession experiencing modest growth for the paraprofessional segment of the workforce and stable demand for ALA-accredited MLS librarians for the last six years of available data. The state-level analysis reveals no consistent pattern of change in the size of the library workforce as a proportion of each state's population, although when significant change is observed, it is most often due to a decline in the size of the workforce relative to the state population. The national and state-level analyses provide a point of departure for a discussion of the federal grant program designed to address library workforce issues, the IMLS Laura Bush 21st Century Librarian Program. This program supports training initiatives that include master's-level and doctoral programs, in addition to continuing education, preprofessional recruitment, research, and programs to build institutional capacity in graduate schools of library and information science. The second section of the article summarizes the program's goals, provides descriptive statistics profiling

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grantees based on the agency's administrative data for 2003–5, and highlights promising developments in library and information science education and practice identified and supported by IMLS since the program's inception in FY2003 through 2009.

Overview of Statistical Data on the Library Workforce

At the present time, there is no single source of data that provides a comprehensive portrait of the library workforce. The publicly available data either report on a single library sector or rely on samples that are too small for detailed analysis by state, library sector, and other attributes of interest. We provide descriptive analyses, using a number of different data sets to build a more comprehensive picture of the state of the library workforce in the present day.

For a broad view of the library workforce, we reviewed annual estimates by the Bureau of Labor Statistics between 2003 and 2008 for library technicians (or paraprofessionals), librarians, and the general Education, Training and Library Occupations category of North American Industry Classification System (NAICS), of which both are a part (see table 1). This analysis paints a picture of a library professional sector that has seen little change in the last six years. Between 2003 and 2008, the estimated number of librarians fluctuated within a narrow band of approximately 6,600 workers nationally. In 2003, the total estimated number of librarians was 153,300, compared to 151,170 in 2008. While the total number of library technicians has grown slightly over the six year period, from 108,940 in 2003 to 113,510 in 2008, it has not grown substantially as a percentage of the library technical workforce.[1]

In 2003, library technicians accounted for 41.5 percent of the library workforce. The number of technicians grew slightly in the intervening years and then dropped to 42.9 percent in 2008, which is essentially the same proportion as the 2003 estimate when accounting for measurement error. Overall, the year-to-year growth among library technicians was modest in comparison to the total Education, Training and Library Occupations category. In only one of the six years reviewed was the rate of growth larger among library technicians than the average growth rate in the general NAICS Education category. For librarians, the annual growth rate was consistently lower than the rate of growth for both library technicians and for the general Education and related occupations category.

Analysis by State and Sector

Below the aggregate estimates at the national level, states vary considerably in the size of their library workforce and their ratio of librarians to library technicians. Table 2 provides estimates of the total number of librarians and library technicians by state, along with the total workforce size for their relevant NAICS category.

Table 1. Estimates of Workforce Size and Growth Rate for Librarians, Library Technicians, and the Education, Training and Library Occupations Category, 2003–8

	2003	2004	2005	2006	2007	2008
Library Technicians	108,940	113,520	115,770	113,940	114,150	113,510
Growth Rate		4.20%	1.98%	–1.60%	0.18%	–0.60%
Librarians	153,330	149,680	146,740	148,610	148,800	151,170
Growth Rate		–1.02%	–1.02%	1.01%	1.00%	1.02%
Total Education, Training, and Library Occupations Category	7,831,630	7,891,810	8,078,500	8,206,440	8,316,360	8,451,250
Growth Rate		0.76%	2.37%	1.58%	1.34%	1.62%

Source: National Occupational Employment and Wage Estimates, May 2008, Bureau of Labor Statistics.
Note: Growth rates are calculated as a percentage of the previous year's workforce within the same occupational category.

For most states (thirty-nine), librarians make up the majority of the library technical workforce. In some states, such as Florida, Texas, Kentucky, and West Virginia, and in the District of Columbia and Puerto Rico, librarians make up more than two-thirds of the library technical workforce. Among the states where library paraprofessionals make up the majority of the library technical workforce, the percentage ranges from 46 percent in Connecticut to as high as 73 percent in Idaho. The last column in table 2 provides an estimate of the percentage of the state's education workforce that is made up of by librarians and library technicians. Across all the states listed, excluding Idaho, Maine, and the District of Columbia, librarians and library technicians make up less than 5 percent of the state's education workforce. Among some of the most populous states, Texas and California, librarians and library technicians make up the smallest portion of the education category, at 2.1 percent each.

To get more detail about the attributes of the library workforce, we turned to the American Community Survey (ACS). The public use microsample of the ACS provides details about the age, gender, and racial distribution and other attributes for both librarians and library technicians. For this analysis we have limited the sample to librarians. The three-year combined ACS sample (2006 to 2008) was used to increase the reliability of the estimates in the subgroup analysis. Though the sample is quite large, there are not enough observations for state-level breakdowns and they are not reported.

Table 3 provides a simple breakdown of the most commonly identified industries for librarians by NAICS code in the ACS. On the whole, librarians are concentrated in three primary industries: libraries and archives (37 percent), elementary and secondary schools (30 percent) and

colleges and universities (24 percent).[2] These three industries account for ninety-one percent of the librarian workforce nationally.

Figure 1 highlights the age and gender distribution of librarians in the American Community Survey three-year sample broken into eleven age categories. For each category, men and women are displayed separately. The estimates above each bar denote the percentage of all librarians in the ACS sample. For each age category, women account for a larger portion of the librarian workforce. However, among earlier cohorts of librarians (below thirty-four years of age), there is a much closer gender distribution, with differences of less than three percentage points for each of the three youngest age categories. Among older cohorts the differences become much more pronounced. Fifty percent of the librarians in the country (approximately 60,000 librarians) were over the age of fifty in the circa 2007 ACS sample, with women making up the overwhelming majority.

The gender and age distribution among librarians is not the same for all employment sectors. Among public librarians, the largest librarian employment sector, the median age is fifty-five years of age and 89.3 percent of these librarians are women. For primary and secondary school librarians, the median age is fifty-three years old and 94.5 percent are women. Academic librarians have the lowest median age at forty-five years and a less severe gender difference with 74.3 percent being women.[3]

The American Community Survey is the only publicly available source of data that reports the racial and ethnic distribution of librarians in the United States. According to the self-reported racial and ethnic categories in the sample, the overwhelming majority—four out of every five librarians—in the current workforce are non-Hispanic whites (see figure 2). Among the other subgroups, 8 percent are non-Hispanic African Americans, 5 percent are Hispanic or Latino, 5 percent are non-Hispanic Asian/Pacific Islander, and 2 percent are non-Hispanic Native American/Alaska Natives.

Table 4, which is drawn from the Bureau of Labor Statistics' Occupational Outlook Handbook, provides the estimated growth rate for librarians and library technicians over the next ten years. The projected growth rate for each group is 8 percent and 9 percent, respectively, with an anticipated 172,400 librarians and 131,200 library technicians needed in 2018. The projected annual growth rate for library technicians is approximately .86 percent per year, which is relatively close to the actual growth rate for this group over the past six years (.83 percent). However, the projected growth rate for librarians (approximately .76 percent per year) stands in contrast to the lack of employment growth for librarians over the past eight years. Moreover, the economic downturn may have an even stronger negative impact on the growth of a largely public sector workforce like librarians. The lack of growth in the number of librarians during a period

Table 2. Estimated Number of Librarians and Library Technicians by State and as Percentage of the NAICS Educational Training, Library Employees Occupational Category, May 2008

	Librarians	Library Technicians	Percent of Total Librarians and Library Technicians	Percent of Total Librarians and Library Technicians	Total Librarians and Library Technicians	All Education, Training, and Library Employees	Librarians and Library Technicians as a Percentage of all Education, Training, and Library Employees
Alabama	2,290	64.7%	1,250	35.3%	3,540	108,160	3.3%
Alaska	320	55.2%	260	44.8%	580	21,550	2.7%
Arizona	2,430	58.1%	1,750	41.9%	4,180	138,380	3.0%
Arkansas	1,560	60.7%	1,010	39.3%	2,570	70,530	3.6%
California	9,750	45.9%	11,510	54.1%	21,260	1,002,580	2.1%
Colorado	2,700	48.4%	2,880	51.6%	5,580	129,720	4.3%
Connecticut	2,490	54.0%	2,120	46.0%	4,610	127,910	3.6%
Delaware	490	60.5%	320	39.5%	810	23,240	3.5%
District of Columbia	1,680	67.2%	820	32.8%	2,500	34,610	7.2%
Florida	7,600	76.8%	2,300	23.2%	9,900	401,920	2.5%
Georgia	3,950	64.9%	2,140	35.1%	6,090	275,900	2.2%
Hawaii	670		*			43,330	
Idaho	510	27.1%	1,370	72.9%	1,880	34,030	5.5%
Illinois	7,820	52.4%	7,100	47.6%	14,920	385,340	3.9%
Indiana	2,850	48.2%	3,060	51.8%	5,910	162,970	3.6%
Iowa	1,200	39.7%	1,820	60.3%	3,020	97,280	3.1%
Kansas	1,900	54.8%	1,570	45.2%	3,470	92,850	3.7%
Kentucky	2,290	68.8%	1,040	31.2%	3,330	107,750	3.1%
Louisiana	2,320	59.0%	1,610	41.0%	3,930	104,800	3.8%
Maine	930	44.9%	1,140	55.1%	2,070	41,710	5.0%
Maryland	4,540	61.0%	2,900	39.0%	7,440	177,340	4.2%
Massachusetts	4,710	56.4%	3,640	43.6%	8,350	215,880	3.9%

Michigan	4,350	52.5%	3,930	47.5%	8,280	242,320	3.4%
Minnesota	2,290	50.1%	2,280	49.9%	4,570	156,780	2.9%
Mississippi	1,590	65.7%	830	34.3%	2,420	75,320	3.2%
Missouri	3,140	56.1%	2,460	43.9%	5,600	161,250	3.5%
Montana	690	61.6%	430	38.4%	1,120	28,660	3.9%
Nebraska	1,080	54.3%	910	45.7%	1,990	55,190	3.6%
Nevada	680	52.3%	620	47.7%	1,300	52,940	2.5%
New Hampshire	940	56.6%	720	43.4%	1,660	45,140	3.7%
New Jersey	4,640	52.4%	4,210	47.6%	8,850	279,110	3.2%
New Mexico	960	58.9%	670	41.1%	1,630	56,100	2.9%
New York	11,630	63.9%	6,570	36.1%	18,200	668,300	2.7%
North Carolina	4,780	57.9%	3,470	42.1%	8,250	256,960	3.2%
North Dakota	570		*			20,930	
Ohio	7,310	50.9%	7,060	49.1%	14,370	319,120	4.5%
Oklahoma	2,400	55.4%	1,930	44.6%	4,330	98,800	4.4%
Oregon	1,610	47.2%	1,800	52.8%	3,410	105,550	3.2%
Pennsylvania	6,430	58.7%	4,530	41.3%	10,960	341,000	3.2%
Puerto Rico	1,890	76.5%	580	23.5%	2,470	68,340	3.6%
Rhode Island	730	57.9%	530	42.1%	1,260	32,780	3.8%
South Carolina	2,230	55.9%	1,760	44.1%	3,990	108,130	3.7%
South Dakota	490	44.5%	610	55.5%	1,100	22,820	4.8%
Tennessee	3,070	68.2%	1,430	31.8%	4,500	145,130	3.1%
Texas	10,520	71.9%	4,110	28.1%	14,630	681,930	2.1%
Utah	870		*			70,060	
Vermont	580	64.4%	320	35.6%	900	25,980	3.5%
Virginia	4,780	64.4%	2,640	35.6%	7,420	229,740	3.2%
Washington	3,370	55.1%	2,750	44.9%	6,120	162,430	3.8%
West Virginia	810	71.7%	320	28.3%	1,130	39,790	2.8%
Wisconsin	3,100	51.2%	2,960	48.8%	6,060	153,660	3.9%
Wyoming	*		540			17,570	

Source: IMLS analysis of National Occupational Employment and Wage Estimates, May 2008, Bureau of Labor Statistics.
Note: * Estimate not released by BLS. Empty cells were not calculated due to missing data. Data for Guam and the Virgin Islands was not reported consistently and is not displayed.

Table 3. Most Commonly Identified Industries for Librarians, 2006–8

NAICS Industry	Percent
Libraries and Archives	36.7%
Elementary and Secondary Schools	30.0%
Colleges and Universities, Including Junior Colleges	24.2%
Legal Services	1.5%
Justice, Public Order, and Safety Activities	0.8%
Hospitals	0.7%
National Security and International Affairs	0.6%
Performing Arts, Spectator Sports, and Related Industries	0.4%
Civic, Social Advocacy Organizations, and Grantmaking and Giving Services	0.3%
Religious Organizations	0.3%
Other Schools, Instruction and Educational Services	0.3%
Insurance Carriers and Related Activities	0.3%
Museums, Historical Sites, and Similar Institutions	0.3%

Source: IMLS analysis of American Community Survey data from the U.S. Census Bureau, 2006–8.
Note: The industries listed account for 96.4% of the librarians in the sample.

of national economic growth, coupled with the economic downturn, suggests that the BLS estimates for librarians in 2018 are likely to have overstated future demand.

However, even if the librarian workforce growth rate remains flat over the next ten years, retirement attrition alone will present serious challenges to maintaining the current size of librarian workforce. As we reported above, a significant number of librarians are currently approaching retirement age. Based on the three-year sample of the ACS, half of all working librarians (over 79,000) are over fifty years of age. However, the most current graduation statistics for new library science master's degrees is approximately 6,700 graduates per year (Snyder, Dillow, & Hoffman, 2008). If this graduation rate were to continue over the next ten years, adding approximately 67,000 new librarians to the workforce and the number of librarian positions remains stable, age based attrition will likely outpace the supply of newly training librarians entering the field. The development of online master's degree programs, some of which have rather large enrollments, may affect the rate of increase of degreed librarians entering the field. However, the data is not yet available to estimate the size of this impact.

To deal with changes like these in a strategic manner, much more information is needed about the dynamics of the librarian workforce below the national level. As with other segments of the U.S. labor force, national-level statistics may not reflect what is occurring at the state level. In order to look at the state-level variation in more detail we have developed two additional state level tables. Table 5 looks at changes in the size of the librarian workforce relative to state population. Table 6 examines the size of the librarian workforce in the three major subsectors: public, academic and school libraries.

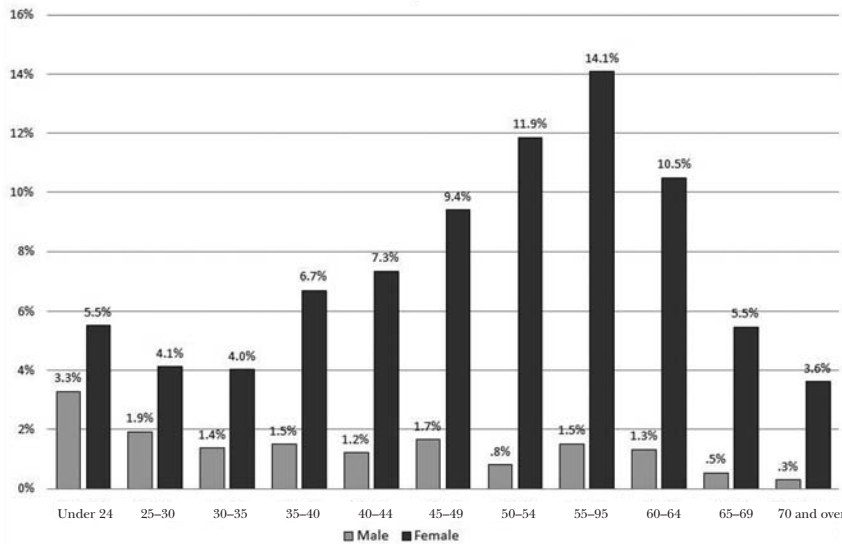

Figure 1. Gender Distribution of Librarians as Percentage of All Librarians. Source: IMLS Analysis of American Community Survey, 2006–2008 U.S. Census Bureau

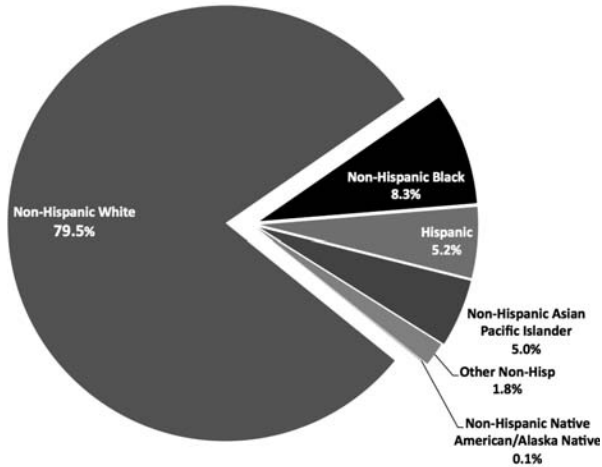

Figure 2. Percentage of Librarians by Race/Ethnicity, Circa 2007. Source: IMLS Analysis of American Community Survey, 2006–2008 U.S. Census Bureau

Table 5 provides a standardized measure—the ratio of librarians to the state population to explore changes in the size of each state's library workforce over time. For this analysis, we looked at ten years worth of data from 1998 to 2008. The midway point of 2003 was included to monitor the rate of change in the interdecennial period. For each state and year,

Table 4. Estimated Demand for Librarians, Library Technicians, and Library Assistants, 2008–18

Occupational Title	Employment, 2008	Projected Employment, 2018	Change, 2008–18	
			Number	Percent
Librarians	159,900	172,400	12,500	8
Library technicians	120,600	131,200	10,600	9
Library assistants, clerical	122,000	135,500	13,500	11

Source: Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2010–11 Edition*. Retrieved March 14, 2010, from http://www.bls.gov/oco/ocos068.htm
Note: Data in this table are rounded.

the total population estimate is listed alongside estimates for the total number of librarians and the corresponding ratio of librarians to population, which is scaled to one librarian for every 10,000 state residents. The five-year and ten-year rates of change are also given, under the 2003 and 2008 ratios, respectively.

The first thing worth noting in table 5 is that there appears to be no consistent pattern across the states, in either the direction or rate of change. For example, while only eleven states experienced limited change in their ratio of librarians to state population (less than .30) over the ten-year period, eighteen other states lost or gained at least one librarian per 10,000 state residents. The majority of the states that experienced this dramatic change in the number of librarians (fourteen) lost ground. For some of these states, the change came slowly. For Connecticut, New York, Oregon, Virginia, and Wisconsin the ratio of change appears to have been gradual, trending in the same downward direction over the ten-year period. However, for the other nine states, change occurred, for the most part, over one of the five-year intervals. Alaska, Georgia, Nebraska and the District of Columbia experienced the bulk of their change between 1998 and 2003. In contrast, Alaska, Indiana, Mississippi, New Jersey, and Utah experienced the bulk of their "loss" between 2003 and 2008. It should be noted that both five-year intervals coincide with relatively strong periods in national and state economic growth.

For a more detailed picture of the types of librarians in each state's library workforce, we compare state level data across three sector level surveys: the IMLS Public Libraries in the United States survey, the NCES Academic Library Survey, and the state education reporting that makes up the Common Core of Data. Table 6 lists the total number of librarians from each of the three subsector data sources and the percentage of the total that each group makes up for a given state. Though somewhat dated, this compilation of survey data does reveal a number of important facts about how academic, public, and school librarians are distributed across the country.

Across twenty-eight of the fifty states and the District of Columbia,

school librarians make-up at least half of the professional library workforce. In one quarter of these states (seven), school librarians make up two-thirds of the workforce in these three categories. Across all states, except for California, Massachusetts, Michigan, New York, Ohio, and the District of Columbia, school librarians make up the plurality of the three groups of professional librarians. In both Massachusetts and the District of Columbia, academic librarians are the largest group. For the other four states the largest group among the three is public librarians. While public librarians outnumber academic librarians on the national level, there are a large number of states (twenty-five) where academic librarians account for a larger share of the librarian workforce than public librarians. In states as far ranging as Vermont, Alabama, and Idaho, academic librarians outnumber their pubic librarian counterparts.

Summary of Cross-Survey Analysis

The data collected and reported by the Bureau of Labor Statistics (BLS), the National Center for Education Statistics, and IMLS provide an important point of departure for examining the size of the library workforce at both the national and state levels. Except in the case of elementary and secondary schools, library services, and workforce information have been collected consistently for well over a decade. Based on the BLS data it appears that the aggregate size of the library workforce has not grown substantially between the years 2003 and 2008, and has failed to keep pace with the modest growth in the broader educational sector of which it is a part. At the state level, however, changes are more varied. Less than half of the states lost ground in their aggregate librarian workforce on a per capita basis over the past ten years. Where significant changes were seen (among eighteen states), they were more likely to be losses.

While a great deal can be learned by looking across multiple surveys, there are several significant challenges that stand in the way of a truly comprehensive portrait of the state of librarians in the workforce. First, the vast majority of workforce data consists of generic staffing counts within individual sectors. The Public Library Survey, the Academic Survey, and the NCES Common Core of Data each provide detailed information on the size of the workforce but these data provide very little detail in terms of the attributes of the workforce. For two surveys, the American Community Survey and the Public Libraries in the United States survey, a distinction is made between librarians and library technicians or paraprofessionals. However, the basis of these distinctions is different. Whereas the PLS distinguishes between librarians that possess a degree from an ALA accredited program and those who do not, the BLS uses the NAICS employment category distinction for librarians and library technicians. The Academic Library Survey does not distinguish between librarians who receive degrees from an ALA accredited program and those who do

Table 5. Librarian Workforce Change by State and Population, 1998, 2003, and 2008

State	State Population Estimate, 1998 (1)	Total Librarians, 1998	Librarians per 10,000 Residents, 1998	State Pop. Estimate, 2003 (2)	Total Librarians, 2003 (3)	Librarians per 10,000 Residents, 2003	5 Year Change, 1998–2003	State Pop. Estimate, 2008 (2)	Total Librarians, 2008 (3)	Librarians per 10,000 Residents, 2008	10 Year Change, 1998–2008
Alabama	4,351,037	2,580	5.93	4,500,752	2,110	4.69	–1.24	4,661,900	2,290	4.91	–1.02
Alaska	615,205	410	6.66	648,818	460	7.09	0.43	686,293	320	4.66	–2.00
Arizona	4,667,277	1,730	3.71	5,580,811	2,400	4.30	0.59	6,500,180	2,430	3.74	0.03
Arkansas	2,538,202	1,470	5.79	2,725,714	1,410	5.17	–0.62	2,855,390	1,560	5.46	–0.33
California	32,682,794	10,550	3.23	35,484,453	11,630	3.28	0.05	36,756,666	9,750	2.65	–0.58
Colorado	3,968,967	1,930	4.86	4,550,688	1,820	4.00	–0.86	4,939,456	2,700	5.47	0.60
Connecticut	3,272,563	2,780	8.49	3,483,372	2,650	7.61	–0.89	3,501,252	2,490	7.11	–1.38
Delaware	744,066	230	3.09	817,491	430	5.26	2.17	873,092	490	5.61	2.52
District of Columbia	521,426	1,640	31.45	563,384	1,580	28.04	–3.41	591,833	1,680	28.39	–3.07
Florida	14,908,230	5,890	3.95	17,019,068	6,420	3.77	–0.18	18,328,340	7,600	4.15	0.20
Georgia	7,636,522	3,860	5.05	8,684,715	3,390	3.90	–1.15	9,685,744	3,950	4.08	–0.98
Hawaii	1,190,472	610	5.12	1,257,608	800	6.36	1.24	1,288,198	670	5.20	0.08
Idaho	1,230,923	310	2.52	1,366,332	300	2.20	–0.32	1,523,816	510	3.35	0.83
Illinois	12,069,774	5,850	4.85	12,653,544	9,540	7.54	2.69	12,901,563	7,820	6.06	1.21
Indiana	5,907,617	3,540	5.99	6,195,643	3,700	5.97	–0.02	6,376,792	2,850	4.47	–1.52
Iowa	2,861,025	1,340	4.68	2,944,062	1,620	5.50	0.82	3,002,555	1,200	4.00	–0.69
Kansas	2,638,667	1,700	6.44	2,723,507	1,600	5.87	–0.57	2,802,134	1,900	6.78	0.34
Kentucky	3,934,310	1,810	4.60	4,117,827	2,100	5.10	0.50	4,269,245	2,290	5.36	0.76
Louisiana	4,362,758	2,310	5.29	4,496,334	2,440	5.43	0.13	4,410,796	2,320	5.26	–0.03
Maine	1,247,554	730	5.85	1,305,728	710	5.44	–0.41	1,316,456	930	7.06	1.21
Maryland	5,130,072	3,330	6.49	5,508,909	3,560	6.46	–0.03	5,633,597	4,540	8.06	1.57
Massachusetts	6,144,407	3,710	6.04	6,433,422	5,080	7.90	1.86	6,497,967	4,710	7.25	1.21
Michigan	9,820,231	4,000	4.07	10,079,985	4,550	4.51	0.44	10,003,422	4,350	4.35	0.28
Minnesota	4,726,411	2,120	4.49	5,059,375	1,870	3.70	–0.79	5,220,393	2,290	4.39	–0.10
Mississippi	2,751,335	1,850	6.72	2,881,281	1,980	6.87	0.15	2,938,618	1,590	5.41	–1.31

Missouri	5,437,562	2,820	5.19	5,704,484	3,150	5.52	0.34	5,911,605	3,140	5.31	0.13
Montana	879,533	670	7.62	917,621	770	8.39	0.77	967,440	690	7.13	–0.49
Nebraska	1,660,772	1,240	7.47	1,739,291	1,060	6.09	–1.37	1,783,432	1,080	6.06	–1.41
Nevada	1,743,772	590	3.38	2,241,154	660	2.94	–0.44	2,600,167	680	2.62	–0.77
New Hampshire	1,185,823	750	6.32	1,287,687	930	7.22	0.90	1,315,809	940	7.14	0.82
New Jersey	8,095,542	5,250	6.49	8,638,396	5,590	6.47	–0.01	8,682,661	4,640	5.34	–1.14
New Mexico	1,733,535	890	5.13	1,874,614	1,210	6.45	1.32	1,984,356	960	4.84	–0.30
New York	18,159,175	13,580	7.48	19,190,115	13,220	6.89	–0.59	19,490,297	11,630	5.97	–1.51
North Carolina	7,545,828	4,460	5.91	8,407,248	4,640	5.52	–0.39	9,222,414	4,780	5.18	–0.73
North Dakota	637,808	480	7.53	633,837	480	7.57	0.05	641,481	570	8.89	1.36
Ohio	11,237,752	7,340	6.53	11,435,798	6,480	5.67	–0.87	11,485,910	7,310	6.36	–0.17
Oklahoma	3,339,478	2,150	6.44	3,511,532	1,930	5.50	–0.94	3,642,361	2,400	6.59	0.15
Oregon	3,282,055	1,760	5.36	3,559,596	1,610	4.52	–0.84	3,790,060	1,610	4.25	–1.11
Pennsylvania	12,002,329	6,080	5.07	12,365,455	6,080	4.92	–0.15	12,448,279	6,430	5.17	0.10
Rhode Island	987,704	680	6.88	1,076,164	910	8.46	1.57	1,050,788	730	6.95	0.06
South Carolina	3,839,578	1,950	5.08	4,147,152	2,180	5.26	0.18	4,479,800	2,230	4.98	–0.10
South Dakota	730,789	390	5.34	764,309	460	6.02	0.68	804,194	490	6.09	0.76
Tennessee	5,432,679	2,470	4.55	5,841,748	3,400	5.82	1.27	6,214,888	3,070	4.94	0.39
Texas	19,712,389	10,090	5.12	22,118,509	10,440	4.72	–0.40	24,326,974	10,520	4.32	–0.79
Utah	2,100,562	1,010	4.81	2,351,467	1,080	4.59	–0.22	2,736,424	870	3.18	–1.63
Vermont	590,579	460	7.79	619,107	530	8.56	0.77	621,270	580	9.34	1.55
Virginia	6,789,225	4,860	7.16	7,386,330	4,860	6.58	–0.58	7,769,089	4,780	6.15	–1.01
Washington	5,687,832	2,640	4.64	6,131,445	3,320	5.41	0.77	6,549,224	3,370	5.15	0.50
West Virginia	1,811,688	720	3.97	1,810,354	750	4.14	0.17	1,814,468	810	4.46	0.49
Wisconsin	5,222,124	3,380	6.47	5,472,299	3,120	5.70	–0.77	5,627,967	3,100	5.51	–0.96
Wyoming	480,045	260	5.42	501,242	340	6.78	1.37	532,668	*		

Source: This table draws on two sources of data: (1) State population estimates are from the Census Population Estimates Program: http://www.census.gov/popest/estimates.html. (2) State-level estimates of librarians are based on Library Occupational Employment and Wage Estimates for the respective year. These data can be found at: http://www.bls.gov/oes/oes_dl.htm.
Note: * Estimate not released by BLS. Empty cells were not calculated due to missing data.

Table 6. State Level Comparison of Librarian Estimates Across Three National Surveys, 2006

Total Librarians (Three Surveys)Total Librarians (with ALA MLS), FY2006

	Total Librarians (Three Surveys)	Total Public Librarians (with ALA MLS), FY2006[1]	Percent Public Librarians	Total Academic Librarians, 2006[2]	Percent Academic Librarians	State-certified Library Media Specialists, 2006[3]	Percent School Librarians
Alabama	2,095	268	12.8	402	19.2	1425	68.0
Alaska	265	55	20.9	43	16.2	167	62.9
Arizona	1,816	494	27.2	325	17.9	997	54.9
Arkansas	1,136	105	9.3	190	16.7	841	74.0
California	6,757	3238	47.9	2,264	33.5	1255	18.6
Colorado	1,715	569	33.2	294	17.1	852	49.7
Connecticut	2,034	743	36.5	497	24.4	794	39.0
Delaware	275	52	19.1	92	33.5	131	47.5
District of Columbia	502	146	29.1	315	62.7	41*	8.2
Florida	5,789	1898	32.8	1,093	18.9	2798	48.3
Georgia	3,662	676	18.5	721	19.7	2265	61.9
Hawaii	577	173	30.0	132	22.9	272	47.1
Idaho	309	64	20.7	81	26.2	164	53.1
Illinois	5,109	1712	33.5	1,189	23.3	2208	43.2
Indiana	2,429	897	36.9	577	23.8	955	39.3
Iowa	1,059	235	22.2	299	28.2	525	49.5
Kansas	1,442	269	18.7	269	18.7	904	62.7
Kentucky	1,775	259	14.6	402	22.6	1114	62.8
Louisiana	1,881	322	17.1	365	19.4	1194	63.5
Maine	1,218	150	12.3	141	11.6	927	76.1
Maryland	2,431	653	26.8	576	23.7	1203	49.5
Massachusetts	2,794	1122	40.1	1,418	50.8	254	9.1
Michigan	3,395	1321	38.9	789	23.2	1284	37.8
Minnesota	1,888	522	27.6	486	25.7	881	46.6
Mississippi	1,326	115	8.7	240	18.1	971	73.2
Missouri	2,623	401	15.3	587	22.4	1635	62.3

Montana	498	48	9.5	71	14.3	379	76.2
Nebraska	856	107	12.5	186	21.7	563	65.7
Nevada	634	176	27.7	103	16.2	355	56.0
New Hampshire	661	189	28.6	155	23.4	317	48.0
New Jersey	3,833	1409	36.8	606	15.8	1819	47.4
New Mexico	570	119	20.8	163	28.6	288	50.6
New York	9,219	3466	37.6	2,459	26.7	3295	35.7
North Carolina	3,995	682	17.1	1,020	25.5	2292	57.4
North Dakota	305	29	9.4	87	28.5	189	62.1
Ohio	4,368	2061	47.2	858	19.6	1449	33.2
Oklahoma	1,559	207	13.2	289	18.5	1064	68.2
Oregon	1,075	383	35.6	289	26.9	403	37.5
Pennsylvania	4,612	1049	22.8	1,329	28.8	2234	48.4
Rhode Island	671	212	31.6	166	24.7	293	43.6
South Carolina	1,923	425	22.1	350	18.2	1149	59.7
South Dakota	241	40	16.7	61	25.3	140	58.0
Tennessee	2,445	283	11.6	569	23.3	1593	65.1
Texas	8,201	1599	19.5	1,616	19.7	4986	60.8
Utah	684	171	24.9	244	35.7	270	39.4
Vermont	418	54	13.0	106	25.4	258	61.6
Virginia	3,560	837	23.5	717	20.1	2006	56.4
Washington	2,554	796	31.2	480	18.8	1278	50.1
West Virginia	575	92	15.9	119	20.7	365	63.4
Wisconsin	2,468	623	25.2	595	24.1	1250	50.7
Wyoming	233	39	16.9	50	21.4	144	61.7%

Source: This table draws on three sources of data: (1) Miller, K., Manjarrez, C., Henderson, E., Craig, T., Dorinski, S., Freeman, M., Keng, J., McKenzie, L., O'Shea, P., Ramsey, C., Sheckells, C. (2008). *Public Libraries Survey: Fiscal Year 2006* (IMLS-2008–PLS-02). Washington, DC: Institute of Museum and Library Services; (2) Holton, B., Hardesty, L., and O'Shea, P. (2008). *Academic Libraries: 2006* (Supplemental Tables) (NCES 2008-337). Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education; (3) National Center for Education Statistics, Common Core of Data, 2006.

Note: Data for Guam, Puerto Rico, and the Virgin Islands was not reported consistently and is not displayed. The school librarian estimate for the District of Columbia was not released by NCES for FY2006. The number that appears in the cell with at "*" was drawn from FY2005 CCD.

not (Holton, Hardesty, & O'Shea, 2008).[4] The Common Core of Data identifies librarians based on functional activities and state certification as library media specialists, which does not require a master of library science degree in all states (Sable & Plotts, 2009).[5] While the varying definitions may be reflective of the employment practices in each sector they present real challenges to a comparative, cross-survey analysis.

Attribute information such as age, gender, wages, racial or ethnic composition is sorely needed and can only be found in the American Community Survey. Unfortunately, the number of respondents in even the three-year ACS samples is insufficient for detailed subgroup analysis. Aggregate national level analysis can be done, but this information is of limited value for targeted regional or state-level planning.

Impact of IMLS Funding on Education in Library and Information Science

Against the basic backdrop of this national and state-level analysis, we turn now to a more detailed review of a federal program designed to support library and information science (LIS) education in the United States. Since its first competitive grant awards for libraries in 1998, IMLS has provided grants for the education of library and information science students and for continuing education of practicing librarians and library staff. Initially, education and training grants were made within the National Leadership Grant (NLG) program. The funding level was modest, with less than $7,000,000 appropriated for the entire NLG program in its first year. The program criteria stipulated that NLG awards were to be made for innovative, model projects. In 1998, only three awards were made for recruitment and education of master's degree students; two of these focused on diversity recruitment and one on the preparation of school library media specialists recruited from the ranks of classroom teachers, (Bogart, 2004, p. 345).

Funding increased in 2003 with the establishment of the 21st Century Librarian Program (now designated as the Laura Bush 21st Century Librarian Program or LB21). With this program, substantial federal funds were dedicated for the first time to the recruitment and education of a "new generation" of librarians. The program was established with a budget of just under $10,000,000, and the focus shifted from innovative model programs to the needs of the profession for MLS-degreed librarians, for faculty to help prepare new librarians, and for current librarians and library staff to update their skills to meet changing needs. The stated aim of the new program was "to recruit new librarians to help answer a critical national shortage . . . recognizing the key role of libraries and librarians in maintaining the flow of information needed to support formal education; to guide intellectual, scientific, and commercial enterprise; to strengthen individual decisions; and to create an informed populace" (Bogart, 2004,

p. 324). It was estimated in 2003, that as many as 58 percent of the professional librarians then employed in libraries would retire by 2019 (Bogart, 2004).

The 2003 funding priorities were to

- recruit and educate the next generation of librarians; in particular, to increase the number of students enrolled in nationally accredited graduate library programs preparing for careers of service in libraries;
- develop faculty to educate the next generation of library professionals; in particular, to increase the number of students enrolled in doctoral programs, particularly in programs that will prepare faculty to teach master's students who will work in school, public, and academic libraries;
- enable pre-professional library staff to make the transition to librarianship, especially in locations where recruitment is historically difficult; in particular, to increase the number of students enrolled in preprofessional education or training programs that will enable them to provide enhanced service in underserved communities and prepare them for master's-level education;
- provide the library community with information needed to support successful recruitment and education of the next generation of librarians; in particular, through funded research, to establish baseline data and evaluate current programs in library education for their capacity to meet the identified needs. (Bogart, 2004, p. 325)

In 2003, IMLS received seventy-six applications requesting more than $27,000,000 and made twenty-seven awards totaling $9,898,338 (Bogart, 2004, p. 325). Funding for the program has increased significantly since then, with $24,525,000 appropriated for 2010.

Now, with the experience of seven years of grant awards, some assessment of the early years of the program is possible. Since most grants have been made for three-year periods, and because many grants were extended to enable as many students as possible to complete the programs, analysis of student statistics for this article was restricted to the years ranging from 2003 to 2005.[6]

Somewhat surprisingly, more master's level students were reported as having benefited from IMLS funds than were anticipated. In the years 2003 to 2005, schools anticipated recruiting 1,633 master's level students and reported that 2,460 students completed the programs.[7] In some cases, this difference is attributed to the fact that schools were able to stretch their funds to include more students, thus reducing the cost per student. In other cases, the popularity of new online courses resulted in higher enrollment in distance education programs. A consortium led by Syracuse University for Web-based Information Science Education (known as the WISE program, http://www.wiseeducation.org/), enabled students enrolled in any of the

member institutions to take distance education classes at any other member school. (Note, however, that reporting from the WISE program may have resulted in some duplication of data on students, since the number of students enrolled in WISE courses who also received IMLS-funded scholarships from their home institutions is unknown.) This program, still operating successfully with fourteen institutional members, including three universities in Canada and one in the United Kingdom, has greatly increased the number of specialized classes available to LIS students.

At the PhD level, the number of completing students was slightly lower than projected. This is primarily attributable to the fact that the maximum grant period was three years until 2006, when IMLS began permitting four-year awards for doctoral programs. From 2003 to 2005, projects anticipated supporting sixty-four doctoral candidates and reported sixty-one as having completed the PhD by the end of the grant period.

In addition to the general goals of increasing the number of professionals with master's and doctoral degrees in library and information science, IMLS has pursued two specialized goals: increasing diversity within the profession and promoting the development of new curricula to ensure that new professionals truly have the skills needed for the twenty-first century. Diversity in recruitment and education has been emphasized from the beginning of the program with an evaluation criterion for "degree to which the project identifies the diversity of the communities within its scope and explains how the project will address the library service needs of those communities, particularly the needs of traditionally underserved groups and/or communities" (Institute of Museum and Library Services, 2003, p. 29).

Statistics on student recruitment and completion indicate that the goal to increase diversity in the profession has been generally successful. From 2003 to 2005, projects anticipated recruiting 995 "diverse," or nontraditional, master's students and twenty-nine doctoral students, and reported 1,525 master's students and twenty-seven doctoral candidates as having completed programs by the end of the grant period.[8] However, it should be noted that the reliability of these statistics is unknown because of inconsistencies in reporting. Moreover, the definition of diversity for purposes of the grant program is quite broad. As stated in the program guidelines (see previous paragraph), 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.

At this time, information on the placement of graduates who received IMLS-supported scholarships is not available. However, two IMLS-funded projects at the University of North Carolina at Chapel Hill have been

undertaken to gather and disseminate information on graduate placement and retention of librarians in the larger library community. The Workforce Issues in Library and Information Science (WILIS) team, funded in 2005, with Joanne Gard Marshall as Lead Principal Investigator, studied the career patterns of graduates of LIS programs in North Carolina in order to build an in-depth understanding of educational, workplace, career, and retention issues faced by LIS graduates. Since North Carolina has an LIS program in a historically black institution (North Carolina Central University), the researchers were able to include a focus on career and retention issues faced by minorities, in addition to those for the larger population of librarians. A subsequent project, WILIS 2, funded in 2007, enabled the research team to refine the career-tracking survey and methodology to be usable by all LIS programs, recruit other schools to participate in a national launch of the career-tracking model, and explore options for sustaining the work and disseminating results on an ongoing basis. Several articles based on the study have been published in fall 2009, in a special workforce issue of *Library Trends*.

In addition to increasing professional diversity and improving career-tracking of librarians, IMLS has devoted substantial resources to enhancing the skills of librarians. To support the development of new curricula to meet changing demands on information professionals, IMLS established a category for "Programs to Build Institutional Capacity" in 2004. This category does not require student recruitment, though in many cases the grants have provided student fellowships in addition to developing new courses. Much of the new curricula relates to the management of digital resources, with emphases variously on: digital preservation and archives (Northeast Document Conservation Center, in a partnership with Simmons College, 2004); digital libraries and digital information management (Indiana University, 2004; Rutgers University, 2004; The University of Texas at Austin, 2004; Drexel University, 2005; Long Island University, 2007); digital humanities (University of Maryland, 2008); and digital curation (University of Arizona, 2006; University of Illinois Urbana-Champaign [with concentrations in curation of science, 2006, and humanities, 2008]); University of North Carolina at Chapel Hill, 2006 [and a new concentration in curation of public information resources funded in 2009); Simmons College (concentration in cultural heritage information, 2009); and Syracuse University (concentration in e-science, 2009). Other specialized curricula have been developed in rare books and special collections (Long Island University, 2004); online programs in school library media and youth services (Rutgers University, 2004, and Florida State University, 2005); library management and leadership (Indiana University, 2007); ethics and technology (College of St. Catherine's, 2007); community information (University of Illinois Urbana-Champaign, 2007); and multiculturalism (University of Arizona, 2008).

In addition, the Building Institutional Capacity category provided funding for the WISE consortium in 2004 and 2006, as well as the development of a post-master's certificate of advanced study in health sciences librarianship at the University of Pittsburgh in 2009. Other programs with emphases on new or expanded areas of study were funded under the categories of master's level programs and doctoral programs, including concentrations in archives, preservation and conservation, and library management and leadership. In total, these grants have expanded and enriched the LIS curriculum to ensure that graduates of United States schools of library and information science do indeed have the skills of a new generation of librarians for a new generation of library users. Many of these new courses are offered online, enabling LIS schools to offer educational opportunities to students who do not live near a school of library and information science, who have full-time jobs, or who want to take courses not available at their own institutions.

One significant result of the expansion of curricula in the area of digital libraries and digital curation, beyond the preparation of students with new skills, has been the ongoing conversation among educators and between educators, researchers, and practitioners. A new group, International Data Curation Education Action (IDEA), was formed and has convened at the International Digital Curation Conference and in conjunction with other meetings. In addition, the University of North Carolina at Chapel Hill has established a Digital Curation Exchange ("a space for all things digital"), designed "to serve as a 'town center' for the practitioners, researchers, educators, and students of digital curation" (Hank & Davidson, 2009). The site, developed under the direction of principal investigator Helen Tibbo, aims to serve as a repository for the exchange of syllabi and other course materials relating to digital curation education. A research project funded in the National Leadership Grant program in 2007, at Purdue University, directed by Scott Brandt in collaboration with Carole Palmer at the University of Illinois Urbana-Champaign, has developed data curation profiles for researchers in a number of disciplines to determine their needs for assistance in managing their research data as well as the degree to which each discipline profiled is open to sharing their data more broadly. This information will be used by the Purdue Library to develop data management and preservation services for those disciplines that are willing to share their data. These types of new services have the potential to transform library services and practices in the post-bibliographic era. They also demonstrate the value of partnerships between researchers and educators in LIS schools and librarians working in research libraries. Librarians in these institutions are positioned to see how research is being transformed across many disciplines and to develop new services to support new research practices; LIS faculty can bring experience in research methods as well as

students who can contribute to project work while gaining valuable field experience.

This renewed emphasis on the internship as an important experience in LIS education has been one of the most significant developments in the introduction of digital curation to the LIS curriculum. Among the programs that have developed significant internship experiences as a component of digital education are University of Illinois at Urbana-Champaign, UNC-Chapel Hill, University of Maryland, and the University of Michigan. Many of these involve partnerships with other LIS programs, as well as digital humanities centers and data archives (Ray, 2009).

A final area of expansion of the LIS curricula relates to the relationship between libraries (and archives) and museums, which has become closer in the digital environment. Cultural heritage institutions that make significant portions of their collections available online realize that they must adopt standards for the creation of digital content and metadata, and for preservation and interoperability to ensure that relevant resources can be found regardless of parent institution and can be preserved into the future. The archival perspective, with its emphasis on appraisal and selection, digital life cycle, and long-term preservation, is as relevant for museum content as it is for libraries and archives. The conversation around "convergence" among libraries, museums, and archives has been particularly fruitful in the area of education. An IMLS-supported workshop held in Sarasota in 2008, in a collaboration between the Florida State University School of Information and Library Science and the Ringling Museum of Art, resulted in a report (see http://chips.ci.fsu.edu/), as well as special issues of *Library Quarterly*, *Archival Science*, and *Museum Management and Curatorship* on the theme of convergence, all edited by project director Paul Marty. IMLS has supported the development of programs focusing on museum libraries and archives, and related topics in the broader field of cultural heritage, in LIS programs such as Pratt Institute and Simmons College.

Conclusion

The statistics presented here indicate a modest increase in demand for library technicians and a continuing, stable demand for librarians over the next decade, although opportunities will vary by specialization as well as by state. With 50 percent of librarians over the age of fifty in 2007, and more than 20 percent over the age of sixty, a large number of retirements can be expected.

Based on current data, the IMLS 21st Century Librarian Program has met its stated overall objectives and has in some cases exceeded them significantly. It has contributed to the enrichment and diversity of the library and information science profession in ways that were not anticipated either in 1998, when IMLS made its first awards for LIS education, or in

2003, when the 21st Century Librarian Program was created. We do not yet know enough about long-term outcomes of the program—including important questions on graduate placement and retention—but IMLS plans to award a contract in 2010, for an external evaluation of the program, which we expect will help to fill in some of the gaps. However, we do know that thousands of students have graduated with master's degrees in library and information science—many of whom would probably not otherwise have pursued this education—and we know that many of them have gone on to rewarding first professional jobs. At the time of this writing, we know this only anecdotally from the many new librarians who approach IMLS staff at conferences and say, "I was an IMLS scholarship student—thank you!" We hope to document many of these success stories and put them in statistical context as part of the program evaluation during the next year.

Disclaimer

This article reflects the views of the authors and does not necessarily reflect the views of the Institute of Museum and Library Services (IMLS) and the United States government.

Notes

1. Professional, clerical, and other administrative staff not typically associated with library education and training were not included in this analysis.
2. The libraries and archives grouping is the broadest among the top three NAICS industries for librarians and is defined as follows: establishments primarily engaged in providing library or archive services. These establishments are engaged in maintaining collections of documents (e.g., books, journals, newspapers, and music) and facilitating the use of such documents (recorded information regardless of its physical form and characteristics) as are required to meet the informational, research, educational, or recreational needs of their users. These establishments may also acquire research, store, preserve, and generally make accessible to the public historical documents, photographs, maps, audio material, audiovisual material, and other archival material of historical interest. All or portions of these collections may be accessible electronically.
3. Authors' calculations using 2006–8 ACS sample and NAICSP industry variable.
4. The Academic Library Survey defines librarians as: staff whose duties require professional education (the master's degree or its equivalent) in the theoretical and scientific aspects of librarianship.
5. The definition used for the Common Core of Data is: A professional staff member or supervisor assigned specific duties and school time for professional library services activities. These include selecting, acquiring, preparing, cataloging, and circulating books and other printed materials; planning the use of the library by students, teachers, and instructional staff; and guiding individuals in the use of library books and material maintained separately or as a part of an instructional materials center.
6. Statistics are reported only for projects for which final reports had been received at the time of analysis, and includes all projects funded in 2003, and all except two of six PhD projects for 2004. For the year 2005, analysis is based on thirteen of eighteen master's-level projects, two of three PhD projects, and one of two projects in the Building Institutional Capacity category.
7. This figure includes students recruited under the categories for "Master's Level Programs" and a new category established in 2004 for "Building Institutional Capacity," which permit-

ted LIS schools to develop new curricula with or without recruiting new students, in addition to 319 students reported by Syracuse University as completing online classes through the WISE program; the number of IMLS fellowship students who were also reported by their home institutions is not known.

8. The master's statistics includes a large award to the Spectrum Initiative of the American Library Association, which anticipated serving 210 minority students and reported a total of 471.

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Appendix A: Description of Data Sources Used in the Paper

Academic Library Survey

The National Center for Education Statistics (NCES) collects data biennially from about 3,700 degree-granting postsecondary institutions in order to provide an overview of academic libraries nationwide and by state. An academic library is the library associated with a degree-granting institution of higher education. Academic libraries are identified by the postsecondary institution of which they are a part and provide the following pieces of information: (a) an organized collection of printed or other materials or a combination thereof; (b) a staff trained to provide and interpret such materials as required to meet the informational, cultural, recreational, or educational needs of clientele; (c) an established schedule in which services of the staff are available to clientele; and (d) the physical facilities necessary to support such a collection, staff, and schedule. For information on the PLSS sample design and other topics, visit: http://nces.ed.gov/surveys/libraries/academic.asp.

American Community Survey

The American Community Survey (ACS) is a new data resource that has replaced the decennial census long form. Like the long form, the ACS

collects detailed demographic, socioeconomic, and housing information. The ACS is the largest household survey in the United States, with a sample size of about three million housing unit addresses throughout the country. Release of annual estimates from the ACS began in 2006 for all geographic areas with a population of 65,000 or more; three-year average estimates will began in 2008 for areas and subpopulations as small as 20,000; and five-year average estimates will start in 2010 for census tracts, block groups, and small subpopulations. All estimates, including the three-year and five-year average estimates, will be updated every year. The data for this paper are based on the three-year ACS sample of respondents interviewed in 2006, 2007, and 2008. The population represented (the population universe) is limited to the household population and excludes the population living in institutions, college dormitories, and other group quarters. For information on the ACS sample design and other ACS topics, visit: http://www.census.gov/acs/www/index.html.

Public Libraries in the United States

The Public Libraries Survey (PLS) is a national census of public library systems. It is conducted annually by IMLS in partnership with the U.S. Census Bureau, State Library Agencies, and the Library Statistics Working Group. Its data elements cover library service measures such as the number of uses of electronic resources, the number of Internet terminals available to the general public, reference transactions, interlibrary loans, circulation, library visits, children's program attendance, and circulation of children's materials. It also includes information on collection sizes, staffing, operating revenue, and expenditures. Selected data elements are aggregated and summarized at the state level. The PLS is designed as a universe survey; its survey frame consists of 9,217 public libraries in the 50 states, the District of Columbia, and selected U.S. territories. It is administered via a web-based survey tool. For information on the PLS visit: http://harvester.census.gov/imls/publib.asp.

Occupational Employment Statistics

The Occupational Employment Statistics program relies upon data collected through a federal-state cooperative program between the Bureau of Labor Statistics (BLS) and State Workforce Agencies (SWAs). These data are collected through semi-annual mail surveys and designed to produce estimates of employment and wages for specific populations. The OES program collects data on wage and salary workers in nonfarm establishments in order to produce employment and wage estimates for about 800 occupations. Data from self-employed persons are not collected and are not included in the estimates. The OES program produces these occupational estimates by geographic area and by industry. Estimates based on geographic areas are available at the National, State, Metropolitan, and Nonmetropolitan Area levels. The Bureau of Labor Statistics produces oc-

cupational employment and wage estimates for over 450 industry classifications at the national level. The industry classifications correspond to the sector, three, four, and five-digit North American Industry Classification System (NAICS) industrial groups.

The OES program surveys approximately 200,000 establishments per panel, every six months, and takes three years to fully collect the sample of 1.2 million establishments. To reduce respondent burden, the collection is on a three-year survey cycle that ensures that establishments are surveyed at most once every three years. The estimates for occupations in nonfarm establishments are based on OES data collected for the reference months of May and November. The OES survey covers all full-time and part-time wage and salary workers in nonfarm industries. Surveys collect data for the payroll period including the 12th day of May or November. The survey does not cover the self-employed, owners, and partners in unincorporated firms, household workers, or unpaid family workers. For information on the OES visit: http://www.bls.gov/oes/home.htm.

School Library Media Centers Survey

The School Library Media Centers Survey is part of the Schools and Staffing Survey (SASS) and is conducted by the NCES, with the assistance of the U.S. Census Bureau. The sample of school library media centers surveyed consists of 10,600 public school libraries and 300 public charter school libraries in the United States. This survey is used to assess the status of school library media centers, nationwide. For information on the survey design and other topics, visit: http://nces.ed.gov/surveys/libraries/school.asp.

Appendix B: List of Tables and Figures