ENVIRONMENTAL SCAN 2019

By the ACRL Research Planning and Review Committee March 2019

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The composition of students is expected to diversify, but again this change is uneven. There is a projected growth in Hispanic enrollment but a decline in Black enrollment. As a percent of students, White enrollments will decline but still remain four times the enrollment of Black students and three times the enrollment of Hispanic students. Compared with the demographics of the U.S. by 2027, White students will still be disproportionately represented on college campuses.[4]

Choice of Major

What students are studying is changing as well, with an increased emphasis on the health professions, biology, and engineering. For bachelor's degrees, there is a decline in the number of students graduating with degrees in humanities and social sciences while business degrees have remained flat from 2010-2016. Business remains the most popular major with 372,000 degrees conferred in 2015-16 compared to 229,000 in the health sciences and 161,000 in social sciences (other than psychology) and history.[5] At the 2-year college level, liberal arts is the most popular area of focus and has nearly doubled in the last fifteen years. The next most popular 2-year degrees are in health sciences and business.[6]

At highly-ranked schools, more students major in humanities and social sciences than their peers at less selective schools. However, those at highly ranked schools are also more likely to study hard sciences and engineering. While STEM jobs tend to provide higher salaries, they often require advanced degrees, which could be a barrier for lower-income students. Nearly 58% of biology and life science majors get graduate degrees.[7]

Generation Z

The generation cohort of in-coming students has shifted from the Millennial Generation to Generation Z, which is people born from the mid-1990s to 2010.[8] Among the characteristics of this group most relevant to higher education are: concern about college costs, viewing college as

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[4] The Condition of Education: Undergraduate Enrollment

[5] U.S. Institute of Education Sciences. National Center for Educational Statistics, The Condition of Education: Undergraduate Degree Fields (2018), https://nces.ed.gov/programs/coe/indicator_cta.asp

[6] The Condition of Education: Undergraduate Degree Fields

[7] Michelle Cheng, "Students at Most Colleges Don't Pick "Useless" Majors," FiveThirtyEight, 2017, https://fivethirtyeight.com/features/students-at-most-colleges-dont-pick-useless-majors/

[8] Michael Dimock, "Defining Generations: Where Millennials End and Generation Z Begins," Fact Tank, Pew Research Center, 2019, https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/

a gateway to a higher paying job, concern about global issues and societal problems, and intent to be an entrepreneur.[9]

Pragmatism about college is hypothesized to be a product of being of an early age during the recent recession. Students entering college now and for the next decade or so expect to learn practical skills for the workplace. Connected with this focus on practical skills is the desire to have an internship with an employer during their college years.[10] Anxiety about paying for college is a factor in pursuing majors that they believe will position them to get a post-college professional job and hopefully one that will pay off student loans. This doesn't mean that Generation Z is only motivated by money. This cohort is concerned about global and social issues such as climate change and racial equality, and these concerns may be reflected in their choice of studies, research projects, and their co-curricular activities.[11]

While the Millennials were "born digital," Generation Z has grown up with smart phones, streaming media, and online social networks.

x Declines and increases in student enrollment can have a fiscal impact on libraries through changes in FTE pricing and available funds from tuition and other enrollment-based sources.

x Technology-focused students could increase the remote use of library databases and services. Or it might make students less likely to contact librarians for assistance. There will surely be challenges for library awareness, marketing, and outreach.

x Cross-campus concerns about Generation Z isolation and technology dependence could create partnership opportunities for libraries that offer co-curricular programming.

Faculty Demographics

Previous ACRL Environmental Scans in 2015 and in 2017 focused on what faculty wanted from libraries, how they wanted that information delivered, and their point of view on open access and information literacy. As faculty demographics change over time, so might habits and preferences that relate to research, teaching, and use of library resources.

According to the National Center for Education Statistics (NCES) data from 2016, the composition of higher education faculty remains predominantly White and male. Of all full-time faculty in postsecondary education, 76% were White and 41% were White males.[14]

Most NCES statistics about faculty focus on full-time faculty and within this group diversity has increased slightly. Between 2011 and 2015 the percent of faculty who are Black, Hispanic, Asian, Pacific Islander, Native American, or two or more races has increased from 20.7% to 22.5%. The percentage of men versus women has evened out from 33.2% women in 1987 to

There were predictions of mass retirements as members of the baby boomer generation were eligible for retirement.[16] However, from 1987-2013 the percentage of full-time faculty over sixty-five doubled while the percentage of faculty under thirty decreased.[17]

In 1987, 11% of the faculty were under thirty-five with only 4% of faculty aged sixty-four or older. (TIAA). By 2017, a survey from the Higher Education Research Institute at UCLA found that 16% of faculty were over age sixty-four and only 5% were thirty-five years of age or younger. There are also fewer faculty in the 35-64 age group than in prior years.[18] Overall faculty are not retiring as early, rates of hiring new full-time faculty have slowed, and there is more reliance on part-time faculty (who are not included in this dataset). Librarians who were

Implications

x Academic libraries have the opportunity to lead the way in increasing faculty and staff diversity through hiring and retaining diverse populations.

x Campus initiatives for faculty and staff diversity can provide resources and frameworks for library hiring.

x Even though faculty retirements have not happened on the schedule predicted ten years ago, these retirements are still on the viewable horizon. Libraries should plan outreach and initiatives with both an eye to current faculty and prepare for the eventuality of many upcoming retirements in their faculty and staff.

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differentiated methods of book deselection in monograph-intensive areas. These methods can assist librarians in offering high-quality collections for students and faculty in the humanities.[23]

In addition to staying abreast of technological advancements, libraries must also consider recent studies showing that students favor print sources for certain types of research. Baron, et. al conducted an international study that found that four out of five students prefer print over digital reading.[24] Another study that considered the various demographics of readers (i.e. socioeconomic, school system, culture, etc.) found that out of more than 10,000 tertiary students surveyed worldwide, print was the material of preference based on ability to retain information and focus as well as other reasons.[25] Maintaining a variety of formats to meet student and faculty

interpretations for music[32] and nursing disciplines,[33] promoting curiosity in science,[34] the use of metaphor as a tool to reflect on teaching and learning,[35] utilizing reference sources,[36] and incorporating social justice values into information literacy.[37] Articles also investigate potential limitations of the Framework, such as lack of language related to metacognition[38] and the acceptance of traditional notions of truth and authority in the Framework.[39] Additionally, librarians continue to consider how best to deliver and assess one-shot instruction session methodologies.[40] sus3315(sq.6d76wf5ii 39(4c 13)6d77.1a59.-d)66.97.216476 4

Time to Degree and College Affordability

Universities are finding new ways to address the cost of higher education. Among these are accelerated programs such as five-year master's programs (also called 5-year master's programs, dual degree programs, and accelerated masters programs). These accelerated programs generally serve several purposes: to reduce time-to-degree for students seeking a master's degree, to keep master's students at the same institution where they complete their bachelor's degree, and to provide research opportunities to students earlier in their college career. By taking selected graduate coursework during the last two years of undergraduate work, students have a quicker path to receiving the graduate degree. While a web search reveals many such 5-year master's degree programs, including from Vanderbilt University and the University of Georgia, there is a lack of scholarly research on the impact on student learning outcomes. The degree programs are offered in a variety of disciplines from the arts and English, to business and education.[43] These programs can impact the way that librarians approach teaching and learning by creating a need to address more advanced research skills at an earlier point in the undergraduate career and in classrooms that may contain a mix of graduate and undergraduate students. The accelerated programs also offer an area of potential research for educators and librarians.

Industrious students have been able to complete a college degree in less than four years, but some colleges and universities are now formally designing three-year bachelor's degree options. According to the Progressive Policy Institute, there are 32 schools that offer a three-year degree option.[44] This is a small number compared to the nearly 2000 colleges and universities that offer Bachelor's degrees. Generally these programs are offered in selected majors and not across all of the university's offerings.

While the efficacy of open educational resources has been firmly established,[45] the libraries' role in their adoption and creation continues to evolve. OER: A Field Guide for Academic Librarians explores these evolving roles through a series of case studies on librarian support for adoption of OER in a variety of institutional contexts.[46] Common themes include strategies for local advocacy work, small grant-supported adoption initiatives, and strategies for finding and evaluating quality OERs. This topic was covered more extensively in the 2018 ACRL Top Trends including example OER programs.[47] The Community College Consortium for Open Educational Resources (CCCOER) maintains a robust community of practice online that includes webinars, news, and case studies that will be of interest to academic librarians within and outside of community colleges.[48] The CCCOER is part of the Open Education Consortium which maintains a globally focused gateway of resources.[49] OERs and other affordable learning initiatives remain a focus for campuses as a way to reduce textbook costs and lower the overall cost of the college degree. Locally this is an area for librarians to engage with their faculty to provide support for OER development and use of reserve articles and book chapters in lieu of textbooks that students must each purchase.

The potential of OERs expands beyond replacing traditional textbooks with free equivalents and toward open pedagogical practices.[50] Connecting students and researchers with existing resources, whether openly available or otherwise, is within the tradition of librarians. As teaching faculty begin to adopt open pedagogy, defined broadly as student-centered practices that rely on the open availability of educational resources, the role of the librarian may expand beyond locating and evaluating resources. Indeed, the open pedagogy space is rife with teaching opportunities focused on copyright and communication of student-produced works, description

[45] John Hilton, "Open Educational Resources and College Textbook Choices: A Review of Research on Efficacy and Perceptions," Educational Technology Research Development 64, no. 4 (2016), https://doi.org/10.1007/s11423-016-9434-9.

[46] Andrew Wesolek, Jonathan Lashley, and Anne Langley, OER: A Field Guide for Academic Libra

programs, and OERs and other alternatives to textbooks. These changes can create both challenges and points of connection between librarians and faculty

" Increasing attention to student data and retention from campus administration requires that libraries foster connections with all academic support services to remain positioned to support student success.

Equity, Diversity, and Inclusion

For several decades, institutions of higher learning and professional organizations, including the American Library Association and the Association of College and Research Libraries,[55] have recognized and launched initiatives in the areas of equity, diversity, and inclusion (EDI). As concepts, equity ensures equitable opportunities for historically underrepresented populations in accessing educational and employment opportunities; diversity embraces the distinctiveness of each individual and recognizes and values differences in external and internal attributes; and inclusion seeks to foster an inclusive work or education environment where all individuals are valued for their unique skills, experiences, and perspectives.[56] Events at recent ALA meetings confirm that statements and codes of conduct are a beginning rather than an end point and that across librarianship – in our professional organizations and our workplaces – there is still much

comments, respondents cited the importance of protecting free speech on campuses, as well as the educational and social costs of suppressing dialogue and diversity of opinion on controversial issues".[58] Campuses are trying different approaches to providing a safe and respectful environment that supports the open exchange of ideas and a more diverse community for students. Racial tension on campuses can lead to a recommitment by college administrators to make diversity hiring, cultural competency trainings, and curricular changes a priority in order to address racial issues.[59] University policies may also be informed by social network analysis of the interactions of a diverse student body.[60] Administrators may be susceptible to "diversity fatigue" and minority faculty members may feel burdened by the expectation of participating in campus EDI and cultural competency efforts, while simultaneously forced to navigate resistance to such work when they do engage.[61] Looking forward, the Association of American Colleges & Universities conference in 2019 will concentrate on "engaged inclusivity" which aims to "examine what it means to work toward a campus environment where inclusivity thrives through constant reflection, analysis, and accountability."[62] A lack of diversity in certain academic disciplines has led to some inquiries into the effects of building diversity and inclusion into the curriculum for specific programs.[63]

institutional support of student success for all students.[64] Several campuses nationwide are undertaking a variety of approaches at the macro, meso, and micro-levels, in order to advance diversity and inclusion at their institutions.[65]

The ACRL President's Program discussion series for 2018-19 will focus on EDI issues and there is general recognition that far more progress must be made.[66] Academic and research librarians are increasing efforts to raise awareness of EDI by incorporating it into their outreach programs, professional development, and graduate programs, including internationally.[67] Libraries are reviewing displays to ensure a more inclusive visual representation of science[68] as well as using the Race Card Project to engage usersue-2 (nc)-1 ((hh Tw 7 e16 (e v)r/C 0)9ne.)(ace C)3.1 (a)5 (r)-1 (

communication initiatives seek out social justice and the "missing voices" in order to pursue a truly equitable, global exchange of ideas.[72]

Implications

" Create and foster academic library workplaces in which staff with diverse backgrounds and perspectives can succeed, without expecting all EDI work to be done by employees from under-represented groups.

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that one can "choose" when every decision is political in some way, were considered at the 2018 ALA Midwinter President's Program.[74]

In June 2018 at the ALA annual conference, the ALA Council voted to approve an update to the guidelines "Meeting Rooms: An Interpretation of the Library Bill of Rights" with provisional language. After this initial approval but seemingly without the full knowledge of councilors, the draft guidelines were edited to name "hate groups" as an example of people who could not be excluded from library meeting rooms. News of the updated language later reached members of the profession, many of whom expressed outrage at the decision on social media. A petition created by We Here, a community of people of color in the libraries and archives fields, was signed by hundreds in a matter of days.[75]

speech in higher education are often reduced to a false dichotomy, where diversity and inclusion are believed to be at odds with free expression.

Academic libraries have found themselves involved in controversial campus issues, as with the

the Wikimedia Foundation, which released a draft white paper for public comment in fall 2018.[86] Notable recommendations include using Wikidata as a repository for open linked data, encouraging staff to edit and contribute to Wikidata, and expand the capacity of Wikipedians-Residence.

Implications

x Libraries should have a good understanding of Plan S and its implementation details, determine if there will be potential implication to researchers within the institution, and provide feedback to COAlition S if necessary.
x Plan S provides libraries with an opportunity to lead discussions on what this means for the

year Big Deal contract between Elsevier and the University of California system, the latter has terminated its subscriptions with the former.[89] At the time of this writing, UC's actions represent a substantial acceleration of Big Deal cancellation trends. The UC system is responsible for 10% of the research output of the United States and Elsevier is the world's largest publisher of scholarly journals.[90] As such the cancelled contract is sure to have profound, if yet unknown, implications for the scholarly communications ecosystem. Without paid access to Elsevier content, the UC system is encouraging its community to find alternative and increasingly open access to Elsevier articles.[91]

Implications

x   It is unclear what impact Big Deal cancellations such as the UC System and Florida State will have on publishers and how this might affect future business models and pricing. Libraries will need to remain alert to changes in the marketplace.

x   The experiences of UC, Florida State, and others can inform libraries that are considering cancelling a Big Deal package in terms of impact on campus, communications with researchers, library workloads and ILL costs.

Community-Owned Infrastructure and Institutional Repositories

needs. It was hoped that others can learn from their successes and failures and might be inspired

objective rankings has led to reliance on quantitative metrics to evaluate institutions and their researchers.[103]

Metrics aim to show the value of a researcher's output and the impact of their work. Some factors are direct measures (e.g. citation count) and others are indirect measures where the researcher inherits some prestige from the journals that they have published in (e.g. impact factors). Impact factors and acceptance rates of journals, h-indices of authors, and citation counts and altmetric scores of articles are just some of the many different metrics that have been created to quantify this value. However, these metrics all have their limitations.[104] New metrics have been developed to try and work around flaws in previous systems. Most of these new metrics remain solely in the realm of academic discussion, however, with the entrenched measures (e.g., Journal Impact Factor, h-index) remaining the most popular due to a variety of factors.[105]

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responsible use of metrics for research evaluation such as the San Francisco Declar

universities.[115]

predicted wave of faculty retirements has not yet occurred. Changes in the student learning environment generate from many parts of the Academy. Information literacy and Open Pedagogy seek to improve student learning outcomes. Campuses and libraries use student data to track metrics such as retention and grades to assess impact and improve student academic success, and must consider the ethical use of available data. Affordability of higher education spurs campuses and libraries to consider, and partner on, affordable alternatives to textbooks including Open Educational Resources. Libraries continue to work to balance the spaces, services and collections that students and faculty need in light of changes in preferences, vendor landscapes, and budgets. Long standing social issues have taken on new urgency in a polarized political climate and as awareness of inequality and privilege increase. In turn campuses and libraries grapple with upholding and protecting free speech while providing environments that are safe and welcoming to diverse communities. Open Access reaches the twenty year mark as a movement, but continues to gain momentum and attempt to counterbalance publisher expansions into IR infrastructure and price increases. Faculty and institutional research metrics proliferate and grow in importance, but are not well understood by faculty and administrators which provides an area of service for librarians to increase and use their expertise. Scan provides a short analysis with implications to draw attention to key areas of attention and action for libraries. The footnotes provide a starting point for deeper understanding for those librarians wishing to delve more deeply into any of the many external factors that shape the Higher Education environment in which academic librarians work.

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