Books, Bytes, and Buildings: The Academic Library's Unique Role in Improving Student Success

Abstract: Student persistence and completion are paramount in higher education, and institutions are employing targeted programs and initiatives to address these concerns. The academic library can play an especially important role in these efforts, given its unique interdisciplinary mission and its integrated instructional programs. With a foundation in both higher education and library and information science literatures, this article describes how one academic library engaged in cross-campus programs, partnerships, and initiatives to contribute to student success efforts. Other libraries may find these examples useful as they consider how to frame their work in the context of their institutions' student persistence efforts.

Keywords: student success, persistence, retention, academic libraries

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Public, access-driven colleges and universities across the United States are working proactively to address student success through targeted programs and initiatives, at least partially In response to a growing focus on retention and completion rates as performance measures in higher education. Some of these efforts to increase student success may include first-year experience centers, expanded advising services, and undergraduate research and interest-group programs. This article presents a case study of one academic library's strategies to strengthen its role in these campus-wide, student-success efforts, through innovative programs, partnerships, and initiatives that leverage the strengths and centralized platform that most academic libraries offer.

Student Retention and the Role of the Academic Library

The literature focused on retention in higher education exhorts colleges and universities to develop coordinated, integrated efforts across all units to have the greatest impact on student-success rates (Tinto & Pusser, 2006). Because the academic library exists at the crossroads of the oft-parallel worlds of academic affairs and student services, it offers unique integration opportunities into student completion programs. Independent of these initiatives, though, the 21st academic library's teaching, resources, and services are increasingly integrated into institution-wide programs and culture. While the academic library has always been charged with providing research and teaching support, this work may now be offered in more seamless, digital, and/or personalized forms. In the specific context of persistence, the literature on the academic library's role illustrates two dimensions in which the library can play a part. First, it can influence traditional considerations of student success, including academic

attainment, grade point average, and graduation rates. Also, the academic library can impact more affective considerations, such as feelings of self-efficacy and connectedness.

Traditional Dimensions of Student Success

Information literacy instruction*.* Librarians frequently aim to enhance student success through information literacy instruction. Broadly defined, information literacy is the ability to find, evaluate and ethically use information (Association of College and Research Libraries, 2000). In *Information Literacy Competency Standards for Higher Education* (2000), the Association of College and Research Libraries' (ACRL) current guiding document for information literacy instruction at colleges and universities, the skills, behaviors, and competencies that college and university students should attain throughout their educational experience are enumerated. These standards state that, by graduation, an information-literate student should be able to determine the extent of an information need, access necessary information effectively, evaluate this information, and use it effectively for specific goals, all while understanding the ethical issues surrounding information access and use (ACRL, 2000).

More broadly, the ability to navigate through exponentially increasing amounts of information and non-information to meet both professional and personal information needs is a critical skill for an educated workforce and an educated populace. As such, the American Association of Colleges and Universities (AAC&U), in its Liberal Education and America's Promise (LEAP) initiative (2008), includes information literacy as an essential learning outcome of a liberal education. Many disciplines also include information literacy concepts in their core competencies and outcomes. For instance, the American Psychological Association's (APA) (2013) learning outcomes for undergraduate psychology majors address students' ability to

develop strategies for locating relevant scholarship by way of queries in databases and journals, differentiate between peer-reviewed and non-peer-reviewed work, and evaluate the quality of information retrieved -- whether scholarly or popular in nature.

For library use to be positively associated with student persistence and success, students need to gain an understanding of the library, the research process, and the resources and services available to them. Building this knowledge can be accomplished by librarians through a variety of formal and informal library-related instructional initiatives, which may include one-to-one research consultations, point-of-need assistance at research help or reference desks, online tutorials, ad hoc workshops, and formal instruction sessions integrated in single courses or throughout an academic program. As cross-unit collaboration increases, embedding library programs and instructional offerings into academic departments, schools, or colleges has become more popular and is seen as an effective way to make students aware of what the academic library can offer them (Shumaker & Talley, 2009).

Research into the relationship between student success and information literacy instruction in its many forms has addressed several instructional techniques. For instance, Soria, Fransen, and Nackerud's (2013) study of library use among first-year students at the University of Minnesota tracked students' engagement in library-focused instruction in a number of ways. They measured first-year students' participation in library workshops; exposure to course-integrated library instruction in at least one of their classes; enrollment in the libraries' "Introduction to Library Research" online workshops; and use of the libraries' research help services through chat and peer consultations. From an assessment of these diverse instructional methods, the researchers found specifically that those first-year students

who enrolled in more than one of the "Introduction to Library Research" workshops were seven

times more likely to return in the following semester.

At the other end of students' educational experience, Bowles-Terry (2012) explored the

impact of direct library instruction on student achievement at the University of Wyoming

through a series of focus groups with graduating seniors who had received library instruction at

least once at the university. In these discussions, she found that students pointed not only to

the value of library instruction for first-year students but also to follow-up, discipline-specific

instruction in higher-level courses in their majors; this is a concept known as scaffolded

instruction. In addition, all of the transfer students included in the interviews expressed the

need for some form of library orientation, as many transfer students take their first-year writing

courses at a prior institution. Finally, an analysis of more than 4,400 transcripts of University of

Wyoming graduating seniors found a statistically significant difference in GPA for students who

were provided library instruction in an upper-division course, compared to those who had not

(Bowles-Terry, 2012).

At a higher level, it is also important to consider new ways information literacy

instruction can be mapped to high-impact practices in higher education. Riehle and Weiner

(2013) examined the literature in this area and considered research conducted outside of

library science to identify how information literacy is embedded in capstone courses, service

learning, undergraduate research, writing-intensive courses, and learning communities. For

example, while the connection between the library and undergraduate research- and writing-

intensive courses may be obvious, the authors point to the need to find, evaluate, and use

information in order to solve real-world problems that they face in service-learning experiences

and capstone courses. These researchers conclude that more conversation is needed among

librarians, faculty, student affairs staff, and other constituents to strengthen institution

initiatives. Information literacy instruction, then has a place beyond a first-year writing course

or a research methods course.

Collections and resources. Another traditional marker of the academic library's impact

on student success is related to the kinds of materials and resources available for scholarship

and research. There is a long history of studies that attempts to measure the relationship

between library collections and student achievement. While this research may have originally

examined print collections by exploring book-checkout frequencies, in light of the digital

transformation of collections it now focuses on students' use of online journals and research

databases, eBooks, and general Internet resources. Mezick (2007) looked at data from the

Association of Research Libraries (ARL), ACRL, and the Integrated Postsecondary Education Data

System (IPEDS) to explore the relationship of collection expenditures to student persistence.

Her analysis revealed positive correlations between retention and library-materials

expenditures for every Carnegie classification, and most strongly for institutions in the

baccalaureate college category. It is important to note, though, that other factors contribute to

student persistence: It may be that institutions that fund their libraries well also focus on other

retention initiatives, or perhaps that good students select universities with strong libraries.

Beyond collection expenditures, other researchers have focused on the actual use of

library collections and its impact on student success. In a survey of more than 400

undergraduate students, the Primary Research Group (2009) found that students who use

library databases and other resources to write research papers, as opposed to general search

engines like Google, tend to have higher GPAs than students that rely on the free Internet.

More recently, this correlation between the use of library resources and grades has been

reinforced, both within the United States and abroad (Haddow & Joseph, 2010; Jantti & Cox,

2013; Wong & Webb, 2011). Soria, Fransen, and Nackerud (2013) focused specifically on the

library-use patterns of first-year students at the University of Minnesota by tracking database,

eBook, and e-journal logins; website logins; checkouts of library materials; interlibrary loan

transactions; and library workstation logins. The researchers found that these students used

library databases almost twice as often as other library information sources, and that students

who used library resources at least once during the fall term had a higher GPA and were 1.54

times more likely to return the following semester than non-library users. Moreover, students'

use of library space (as measured by library workstation logins) correlated with a higher GPA.

Affective Dimensions of Student Success

While access to resources and interactions with academic librarians may influence

students' persistence and academic achievement, the academic library may also affect

retention in other ways. For instance, the library may serve as a requisite stop for prospective

students on campus tours. In a passive way, the library building can serve as part of the

recruitment package, but the experience students have once they enter its doors may

contribute to their sense of engagement and academic satisfaction (Elteto, Jackson & Lim,

2008). This environmental component helps the academic library to serve as the welcoming

communal place that serves all students, faculty, and the general public as a space for

collaboration and knowledge-building. At one university in the United Kingdom, Goodall and

Pattern (2011) found that the highest-achieving students made the most use of the academic

library's spaces and resources. In this way, the academic library can serve as both the physical and emotional center of a college or university.

The library also acts as a safe place for students, especially in their first days at an institution, to ask questions beyond what is thought of as the library's traditional realm, questions such as where the ID card office is located or what is the deadline for registration (Grallo, Chalmers & Baker, 2012). Furthermore, evidence has shown that student engagement with full-time, tenure-track faculty aids retention (Kuh, Kinzie, Schuh & Whitt, 2005; Kuh, Laird & Umbach, 2004), so direct engagement with full-time faculty librarians through research consultations, guidance, and instruction may also impact students' self-efficacy. Improved self-efficacy is one factor that helps students, especially commuter students, succeed in the oft-confusing world of higher education (Braxton, Hirschy & McClendon, 2004).

While some affective dimensions of student support are difficult to measure, academic libraries can reach students and impact their success via other, more quantifiable avenues. For instance, an academic library may develop relationships across institutional units *outside* traditional partnerships, such as with advisors from across the divisions of Academic Affairs and Student Affairs (Forrest, 2005; Hagel, Horn, Owen & Currie, 2012; Love & Edwards, 2009; Pan, Valliant & Reed, 2009). These kinds of relationships can be fostered to reach target student populations (i.e., transfer students) or to share information about library-based resources that might be relevant to their work, such as test-preparation resources. Building such partnerships may help to further cement the academic library as a center of discovery and access to scholarship and research.

Library Student Workers: A Special Case (Study)

Because the academic library can serve both academic and administrative roles in student life, an interesting dimension to consider in terms of student persistence is the retention of library student employees. This special population represents a small but relatively fruitful area of research that synthesizes the literature on the academic library's relationship to student success. Wilder (1990) posited that "jobs in the library may help increase retention to the extent that they socialize students to the university, and provide them with school-related support networks of fellow students and staff members" (p. 1037). Rushing and Poole's (2002) examination of Loyola University library's program to curb turnover in student workers revealed that their library student workers had higher graduation rates than their peers. This may be in part because library student employees are immersed in an environment strongly conducive to study and contemplation, and they may find mentors from librarians and library staff, further connecting them to the university. This limited examination in the literature suggests that library student workers are, in a sense, a shining example of how the library can contribute to the university's retention efforts.

Institutional Case Study: Oakland University Libraries and Student Success

With this research in mind, it is useful to consider how one academic library has synthesized the scholarship into practical programs. Oakland University (OU) is a Carnegie-class doctoral research university in Rochester, Michigan, of over 20,000 students and over 260 degree and certification programs at undergraduate, graduate, and continuing education levels (Oakland University Office of Institutional Research and Assessment, 2014). As the student population of OU has grown, administration and faculty have increasingly focused on increasing student persistence and completion rates. While these figures are improving (Oakland

University Office of Institutional Research and Assessment, 2013), room for continued growth

remains. As a vital and integrated unit in the institutional community, OU Libraries have

increased their focus on how to best address students' academic attainment through student

learning, acquisition of general education, preparation for adulthood and citizenship, and

personal development. Specifically, OU Libraries work to have an impact on student success

and to ensure attainment of these standards at the individual student, course, department, and

program levels. Examining these roles more closely can help other academic libraries to re-

conceptualize and re-frame their work in terms of retention and persistence.

Individual-Level Practices

At the individual student level, OU's librarians take two tactics to reach students and

impact their success: research consultations, and the creation and implementation of online

learning objects.

Research consultations. At OU Libraries, research consultations, or one-on-one

meetings between a librarian and a student, staff, or faculty member, appointments are

scheduled in 30-minute increments. This duration allows for focused conversation on an

individual's research question or need. Such 1-to-1 meetings differ from the conversations that

occur at academic libraries' reference or research help desks, where anyone -- regardless of

affiliation to the university -- can visit with a question. Interruptions are limited, conversation is

more focused, and research needs or topics can be delved into more deeply.

At OU Libraries, students are encouraged to schedule research consultations at any

point during the research process and can address any or all of the ACRL information literacy

standards. For instance, a librarian may meet with a student to help develop a topic and

identify information needed, or to develop keywords or phrases for finding information, or to

help find and evaluate scholarly resources that can then be put to use. Generally, though,

research consultations are scheduled for one of three reasons: first, from a student's

independently-motivated desire to seek help at a convenient time; second, from an instructor's

recommendation or specific direction for students to speak a specific librarian as part of a

liaison librarian structure (see the section on Department-Level Practices); and third, in relation

to, or as a follow-up to, in-course information literacy instruction.

While OU Libraries are certainly not unique in offering 1:1 research consultations, the

university's librarians strive to offer one-on-one research assistance in a variety of ways to meet

students' needs. This is particularly important because OU's students are largely commuters

and many work part- or full-time while enrolled. Consultations are available in face-to-face

meetings, over the phone, or remotely via Skype or web conferencing software (i.e., WebEx). In

the 2013-2014 academic year, OU Libraries provided 459 individual consultations to students,

faculty, and staff through these different media (see Figure 1).

[INSERT FIGURE 1 HERE]

OU librarians strive to provide these appointments through seamless and streamlined

systems integrated into the student learning experiences, regardless of student reasons for

seeking one-on-one research help. This is primarily done through a free, online scheduling tool,

YouCanBook.Me, which integrates with OU librarians' existing calendars (provided through

Google Apps suite). YouCanBook.Me allows librarians to reach each of the three categories of

consultations mentioned above. For self-directed students seeking research help, OU Libraries

offer an online research consultation calendar integrated into the library website, which is

powered by YouCanBook.Me; this pulls data from each individual librarian's web-based

calendar and combines any open appointments into a single, one-stop-shop calendar for

students. This format is highly student-centered because research consultations can be

scheduled with any available librarian at any convenient time. For those students looking to

schedule a one-on-one meeting with a specific librarian because of an instructor's direction or

because the librarian is a subject specialist, YouCanBook.Me also allows each individual

librarian to set up a separate, private calendar for research consultations. This option is

convenient for students who have greater schedule flexibility or a desire to meet with a

particular individual, and these separate calendars are linked to librarians' personal web pages

on the library website. And finally, for those students who need to meet with a librarian in

relation to a specific class assignment (e.g. a capstone or thesis project), librarians have set up

specific calendars of appointments in collaboration with instructors or faculty members; in

particular, such a joint endeavor is meant as a resource for students to identify their

information needs, access information, and critically consider various sources of information

through the context of their academic assignment(s) (see Figure 2).

<div align="center">[INSERT FIGURE 2 HERE]</div>

Online learning objects. Another way OU Libraries work to reach individual students is

through the development and deployment of online learning objects, or web tutorials. Through

the libraries' websites, students have access to a wide variety of online learning objects, both in

terms of the content these objects convey and the types of tools instructors have used to

design and deliver said content. For instance, there are web pages with images and step-by-

step directions to show processes, brief videos to illustrate skills, and more interactive tutorials

that aim to build conceptual understanding.

During the 2012-2013 school year, OU Libraries underwent a systematic redesign process of how it designed, delivered, and offered our online learning objects to students. Based on the literature in the area, best practices were established to guide librarians' work. Instructional content and its delivery system needed to be maintainable for librarians, available to students at points of need, geared at intended users (students, faculty, and staff), informative for learners, and customizable based on students' needs (Nichols Hess, 2013). As part of this process, OU Libraries worked hard to reach out to students rather than making students come to the libraries on its terms. This meant that librarian-centric categories gave way to simplified collections of collated resources, clickable keywords in a dynamic word cloud, the inclusion of a search bar, and highlighting the most-frequently accessed resources in an attempt to make the online learning objects more user-centered. Moreover, content creation and evaluation guides, such as decision trees and rubrics, were generated to help provide a learner-centered structure for librarians' content-creation efforts.

Initial analysis suggests these changes have increased online learning object use. For example, the new tutorials landing page was visited by more than 5,500 unique users in the 2013-2014 academic year. Web analytics have also highlighted which resources are most frequently used, and this provides guidance for librarians in future instructional efforts and resource development. Moreover, various features on the page -- such as the search bar -- provide data on the kinds of information students need to succeed. Search terms are tracked and, as with this information, OU Libraries can continue to develop resources to influence student learning and achievement.

Course-Level Practices

As aforementioned, librarians can impact student success, particularly in information and critical literacy, through instruction at the course level. How this instruction takes shape, though, is becoming more flexible with the increasing diversity of, and access to, technology tools. In response to this, and to the needs of its student population, OU Libraries parlay their online learning objects into course-integrated online learning modules to impact student success.

Online learning modules. While OU librarians primarily create online learning objects to deliver information literacy instruction at individual students' time and point of need, these resources can also be integrated into students' learning experience in face-to-face, online, or blended course environments. Such integration can take the form of an individual tutorial required by an instructor or as a component of a course-specific module designed in an instructor-librarian collaboration.

For example, consider an in-course module for a face-to-face course that meets off-site, and its students cannot come to the library. In collaboration with an instructor or faculty member, an online learning module can be developed that covers content similar to face-to-face instruction, and provides students opportunities to engage in active learning. The traditional "instruction" or instructional content (i.e., the supplantive information provided) can be delivered through videos, screencasts, or images and text. OU's course-management system, Moodle, facilitates the embedding of this module into students' existing online learning experience in the course, thus making the information literacy instructional content more connected to course content. Although this module represents a resource for a face-to-face

course, this is one way OU's librarians can reach both distance and online students with

information literacy education while encouraging the use of library resources and putting a face

with the library (see Figure 3).

[INSERT FIGURE 3 HERE]

The effectiveness of such resources at OU Libraries have been considered through a

quantitative comparison of instructional methods and student learning outcomes. In a study of

students in upper-level sociology courses (i.e., 300/400 level courses) and their performance on

assessments following either an online or face-to-face learning workshop, it was determined

that the format did not have a significant difference on performance and attainment of learning

outcomes (Nichols Hess, 2014). This reinforces the idea that the library can affect individual

students' success by being embedded into a course, even if that course is online. In particular,

this kind of structured learning can address students' desires for convenience and customizable

learning experiences. Also, those students who elected to participate in the online learning

workshop saw a significant shift in their perception of the library and its place in their research,

including their likeliness to use library resources in the future. This, in turn, may lead to greater

academic achievement. Considering the effectiveness of online learning as it relates to student

success is important to libraries and librarians, because it can give us insight into how we can

impact student success at both the individual and course levels, especially as more instruction

moves online.

Departmental and Large-Scale Outreach

Library integration into the curriculum need not be limited to the individual course level;

rather, information literacy instruction and guidance may benefit the student even more when

carefully scaffolded throughout the curriculum within a department. At OU, each librarian

works with one or two liaison areas to develop deeper relationships with the departmental

faculty and students through high levels of integration into the curriculum.

Department-embedded librarianship. One department which has particularly embraced

the embedded librarianship model is OU's Art and Art History (AAH) faculty. As with all

departments, the liaison librarian began by working to get to know the faculty there and the

unique needs of their students. This was particularly important because it is often assumed that

artists do not need to do research; however, artists are continually seeking out and using

information to shape their formal processes. In this particular department, capstone-level

students are required to produce a thesis paper that not only discusses their personal artistic

goals but places those goals within a larger societal and art historical context. Students, then,

need to understand how their work draws upon or has been influenced by other artists, as well

as communicate what purpose their work serves, or what theoretical framework they may have

had in mind when creating.

OU's students are primarily commuters and many work full-time or several part-time

jobs while squeezing in every credit they can within the time they have. In addition, many

students have transferred to OU from another institution, so they end up not enrolling in many

writing-intensive courses where they may encounter library and research instruction. The AAH

faculty members were growing concerned that at the thesis level the students were completely

unprepared for the caliber of research and writing they needed to complete. In 2012, the

library and the department began structuring an information literacy curriculum for the studio

art students that slowly builds those skills while they are taking their art classes, so that when

they reach their senior thesis class, they are ready.

By working closely with the faculty, the liaison librarian has developed targeted activities and lessons for the courses, with the photography class being the pilot/test group. The classes not only bring students to visit the physical space of the library – something they may not do otherwise – but gets them practicing the skills of research. There is general agreement among librarians that information literacy instruction is best served at point of need, so as much as possible the content relates to current projects or otherwise ties in to the major. Additionally, many of the assignments are sent to the librarian for grading, which further allows her to establish a relationship with the students, so that if they do need assistance, they feel comfortable later on knowing who to go to. To further embed, the librarian will also attend some of the class sessions and critiques to understand what is going on with the students and their work.

The faculty initiated information literacy instruction in the winter of 2012; the programmatic instruction began that following fall. Initial assessment indicates that the efforts have had a positive effect, with both faculty and students commenting that student research has been getting better/easier to do. Research consultations for this group of students have increased dramatically. Additionally, an analysis of the cited references in thesis papers over the past few years shows that students are increasing both the number of sources they use and the quality.

Broader embedding of library services. On a larger scale, OU Libraries have also experienced perhaps its most successful partnership with OU's writing department. Here, the library has had embedded instruction in the required first-year writing course (WRT 160) for

decades. Each student who takes the WRT 160 course attends an instruction session within the library or online. The librarians teach about 100 sessions per semester. The hour-long content covers basic skills needed to construct and execute a research query. Librarians explain the tips and tricks for effective searching, and students are given further content online that reinforces what they learned in the course and gives them additional information on source types, evaluating information, and accessing information. These skills set students up for success within their entire college careers and beyond. The library faculty are constantly assessing the quality of instruction and its effectiveness, and adjusting as needed on a year-by-year basis (see Figure 4).

[INSERT FIGURE 4 HERE]

Additionally, library faculty members have also established partnerships with groups across the institution in order to strategically promote services and resources. Partnerships with advising and the Center for Multicultural Initiatives, for example, have enabled the library to reach many students at point-of-need. From workshops in residence halls upon students' requests to referrals for research consultations that were initiated during a conversation between an advisor and a student, the more the entire college or university knows about the library and its services and the more the library is able to help students be successful.

Future Areas for Inquiry and Research

While OU Libraries have integrated its services and resources into its university community and supported student success and persistence at the individual, course, program, and department levels, there are several areas in which future inquiry may continue to serve students. First, OU Libraries continue to explore partnerships with academic advising units so as

to develop more targeted strategies and programs for reaching marginalized and invisible

student groups. This includes transfer students, who often feel disconnected at a commuter-

dominated institution and student groups with traditionally low retention rates, such as African

American students. Also, the libraries continue to assess its instructional modules and content

at the department level; as such, a close examination and comparison of online and face-to-

face instruction is underway to determine whether web-based instruction may reach students

as effectively as its face-to-face counterpart. Finally, the Libraries continue to consider new

models of engaging with students. Most recently, this has included the concept of the personal

librarian (Spak & Glover, 2007). In such a model, first-year and incoming students are assigned a

librarian upon matriculating at the university. Also, OU Libraries have considered assigning

liaison librarians to administrative units so librarians could provide just-in-time services and

resources as they do with academic departments. These new and developing concepts may

offer OU Libraries increased opportunities to reach students and boost persistence and

completion.

Conclusions and Recommendations

As institutions address their students' persistence and completion, academic libraries

should consider the roles they can and already *do* play in these efforts. Measuring these roles is

not without its challenges, though: determining the specific influences of library services,

spaces, and resources have on student persistence and completion is difficult to do. However,

the work of Oakleaf and others as part of ACRL's Value of Academic Libraries initiative may aid

future attempts to delineate the connections between student success and academic libraries

(ACRL, 2010). Library administrators and librarians can work together to identify these relevant

contributions at their own institutions, for no two campuses are the same. It may be useful to

begin by delineating the library services, resources, and assets already offered and how these

components can correspond to students' most frequently asked questions or most frequently

expressed needs. Each institution's questions and needs are unique. For this reason, a needs

assessment at the library level can help identify opportunities for collaborations or partnerships

and can enable institutions to leverage more of the existing strengths of the academic library to

positively affect student success in innovative and creative ways.

Figure 1. The OU Libraries' research consultations calendar, where students can arrange for a

1:1 research-help appointment at a convenient time.

Figure 2. Library faculty members can set their own research consultations calendars, which

students can use if they wish to meet with a specific individual.

Figure 3. This sample online learning module was designed specifically for an undergraduate

sociology course.

Figure 4. The libraries have significant department-level integration in the university's writing and rhetoric department.

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