

Igniting the Information Literacy Flame

Current Campus Environment and Fit to Place

Northern Kentucky University prides itself on delivering student-centered education that will make a lasting impact on students as they pursue careers, further education, and engage with their communities. Last year, the university conferred more than 2,000 bachelor degrees from nearly 80 different majors. One common variable underlying the education and future experiences our NKU students will face is information. More than ever, graduates will have access to overwhelming amounts of information, from their workplace to their social media feeds. Our students need skills to navigate, evaluate, and use a staggering flux of information. Our students also need a conceptual foundation regarding the authority, context, creation, and dissemination of information in the 21st century so that they can draw their own conclusions and add their own voices to ongoing conversations. Technological advances make it easier than ever to create and share ideas - both fact and fiction. Our graduates, no matter their field of study, need to be critical consumers and responsible creators of information. **A quality enhancement plan that emphasizes the development of information literacy, across the curriculum, will better prepare our students to engage with information in academic, professional, and personal contexts.**

Information literacy is recognized as a vital component of education in the digital and information age. The Association of American Colleges and Universities lists information literacy as an essential learning outcome that should be “practiced extensively, across the curriculum” (AACU, 2007). Several accrediting agencies, most notably the Middle States Commission on Higher Education, explicitly requires information literacy be integrated in university curriculum (MSCHE, 2015). Since 2013, seven SACS-accredited institutions have implemented quality enhancement plans with a direct focus on information literacy (SACS, 2017), and it’s likely several others integrated related concepts within a broader focus. Harris (2013) conducted an in-depth analysis of QEPs submitted to the SACS accrediting body between 2007 and 2011 and found 18 focused on information literacy as the main QEP topic and 58 integrated information literacy within a broader topic, such as critical thinking, inquiry development, or delivery of high-impact practices. An additional 30 plans incorporated an optional IL component.

The Association of College and Research Libraries (ACRL) has long advocated for the development of information literacy in higher education. Recognizing the rapidly changing and always evolving information environment, the ACRL recently redefined information literacy for the 21st century with the publication of the *Framework for Information Literacy for Higher Education*. According to the *Framework* authors, information literacy is “the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of

information in creating new knowledge and participating ethically in communities of learning” (ACRL, 2016). The definition emphasizes a metacognitive approach to research, integrates critical consideration about how information is created and valued, and recognizes the responsibilities associated with creating information. In addition to articulating a new IL definition, the *Framework* emphasizes the co-curricular nature of information literacy and positions IL as “extending the arc of learning throughout students’ academic careers” (ACRL, 2016, p. 3). Multiple academic libraries, including NKU’s Steely Library, have embraced the *Framework’s* approach to information literacy education.

Steely librarians have used the *Framework* as a guide to develop information literacy learning outcomes for NKU students at three levels: foundational, advanced, and graduate. These outcomes emphasize the need for students to develop skills and conceptual understandings to effectively engage with information in a variety of contexts (see Appendix A for outcomes). Ideally, librarians teach foundational outcomes when working with students in traditional first-year courses, such as University 101 and/or English 101. Those foundational outcomes are built upon when working with students in their 291 writing courses, and the advanced outcomes are adapted for discipline-specific courses. In recent years, librarians have identified and targeted specific courses for information literacy instruction. The goal is for students to attend multiple information literacy sessions, across their NKU career, which build upon prior sessions. However, the reality of information literacy instruction is much less consistent, with some students attending multiple sessions, some students attending one, and other students never attending any instruction sessions.

Information literacy education at NKU is primarily delivered as a one-shot session. A one-shot session means instruction is provided during one class period and is usually tailored to a specific research assignment. The focus on a particular research assignment, while beneficial for success in that class, hinders efforts to integrate more conceptual understandings of information that encourage students to make connections with information beyond an academic setting. Beyond the one-shot instruction sessions, Steely librarians teach a three-credit information literacy course (LIN 175). The information literacy course is required for Library Informatics majors, and is one of several courses within the *Individual & Society* category of the Foundation of Knowledge program. As a 100-level course, librarians focus on introductory concepts, encouraging students to compare and contrast web and database searches, considering the authority and perspective of popular and scholarly sources, and formulating research questions. After completing the course, students have commented on the value of a three-credit information literacy course (see Table 1). While LIN 175 course is part of the general education offerings, it reaches only a small percentage of NKU students.

Table 1: Comments from students who completed LIN 175

I used everything I learned in this course to aid in all my other course work. I used the things I learned here and it improved the way I completed assignments for other classes and jobs I might have in the future.
This course was so helpful and I learned so much that will help me in my college career and on!
It should be a mandatory class in my opinion.
I will remember forever the skills on researching that I learned these past 8 weeks.
This class was so enlightening.
Just knowing how to evaluate a website will help to make me very successful in the future. I know what would be good for a college level paper and what would not be. I know that I still have several papers to write in my future and this course will be something that I can refer back to during these times.
Honestly this class should be a requirement at NKU. Considering how aggressive social media and information is being thrown to everyone and the radical things people do. Everyone should have to take this class.

At NKU, information literacy is not formally recognized as an outcome of any program on campus, with the exception of Library Informatics. Without formal recognition of information literacy, and despite targeted efforts, it is difficult to ensure all students receive consistent IL education, even for students studying the same major. For the purpose of this QEP proposal, NKU’s Office of Institutional Research and Analysis collaborated with Stealy librarians to find out how many students have experienced some form of information literacy instruction during their academic career and how many of those students have experienced multiple instruction sessions. Beginning in Fall 2015, a little more than 10% of NKU students had taken LIN 175 or attended an information literacy session in person or online. The instruction could have occurred as early as fall 2006 for some of these students. Once they were flagged as having the information literacy instruction, as long as they continued to matriculate, they were flagged in successive terms as having had that experience. By spring 2017, around 24% (almost 1 in 4 undergraduates) had experienced information literacy instruction in some form. This means that 75% of NKU students have experienced no formal information literacy instruction (see Table 2).

Table 2: Percent of undergraduates who have experienced information literacy instruction

Semester	Experienced LIN 175 or Instructional Module		Total Undergrad Enrollment	% Yes
	No	Yes		
Fall 2015	11,453	1,353	12,806	10.57%
Spring 2016	10,398	1,252	11,650	10.75%
Summer 2016	2,651	217	2,868	7.57%
Fall 2016	10,186	2,457	12,643	19.43%
Spring 2017	8,656	2,703	11,359	23.80%

Additionally, institutional researchers used data to determine how many undergraduate students had experienced information literacy instruction more than once. Table 3 illustrates the number of times undergraduates received information literacy instruction over the course of their academic careers. The majority of students only attend one form of instruction, and less than five percent of the student population has attended three or more sessions.

Table 3: Undergraduates who received information literacy instruction multiple times

Semester	Once		Twice		Three or more Times		Total
	Count	Percentage	Count	Percentage	Count	Percentage	
Fall 2015	1,150	85.00%	180	13.30%	23	1.70%	1,353
Spring 2016	1,063	84.90%	166	13.26%	23	1.84%	1,252
Summer 2016	195	89.86%	19	8.76%	3	1.38%	217

Fall 2016	1,869	76.07%	478	19.45%	110	4.48%	2,457
Spring 2017	2,058	76.14%	530	19.61%	115	4.25%	2,703

Despite challenges to the structure and delivery of information literacy instruction at NKU, there is evidence that supports the inclusion of information literacy in education, especially when integrated across the curriculum and within the context of students’ majors. Project Information Literacy (PIL) has published multiple reports on student behaviors and attitudes toward research. One report analyzed interviews with top employers across the country, and while employers were impressed with recent graduates’ technological abilities, they were less enthused with information-seeking skills and reported “most college hires were prone to deliver the quickest answer they could find using a search engine...” (Head, 2012, p. 3). Another PIL report summarized survey and interview data from recent college graduates and found that not only did graduates report it was difficult to “stay informed in the rapidly changing digital age,” (Head, 2016, p. 5) but half of the sample also felt frustrated not having access to former instructors, lectures, or campus library databases.

At NKU, Steely librarians have conducted some internal assessments to gauge the effectiveness of one-shot information literacy instruction and document evidence of student learning. Assessments during the 2016/2017 academic year do indicate the benefits of information literacy instruction for students in their major, but also illuminate the challenges students continue to face when interacting with information. For example, information literacy instruction does improve awareness and use of subject-specific databases. A pre- and post-test administered to students in a public relations research course found an increased awareness of databases and an inclination to use one. Similarly, nursing students in a research course increased their reported use of CINAHL, a nursing database, from 47% on a pre-test to 90% on a post-test, after attending information literacy instruction. Further, 33% of psychology students in a research methods course were able to name one psychology database on a pre-test, but after instruction, 75% of students were able to name two recommended databases for research in their field.

Assessments also provide some indication that instruction improves knowledge about scholarship and research in one’s field. For example, as part of the pre- and post-test, the public relations students read and evaluated an academic article. Students showed improvement in being able to identify the major findings of the article and identifying areas for further research. In an engineering writing class, all students were able to identify the level of authority necessary for an academic need after viewing a video on source evaluation, and in a history research course, students demonstrated improvement in

their understanding of the concept of “scholarship as conversation” (30% on the pre-test versus 69% on the post-test).

Finally, the psychology students demonstrated an improved understanding of the purpose of a literature review. On the pre-test, more than 40% indicated one of the purposes of a literature review was locate novels and nearly 20% indicated they did not know at all. On the post-test, 73% demonstrated an understanding of the literature review.

Assessment has also shown areas that students continue to struggle. Whereas the psychology students demonstrated increased awareness of the purpose of a literature review, the history students continued to exhibit confusion about the literature review and the appropriate types of sources to include in their research, even after the instruction session. Public relations students, while they improved their awareness of research databases, still exhibited confusion about when it is most appropriate to use a research database, and while students could identify some key aspect of scholarly articles, they struggled to understand the purpose of the article and the gaps guiding the research. Additionally, after instruction, nursing students continued to struggle to use advanced searching techniques in the databases and engineering students struggled with the concept of authority when considering personal needs.

A QEP focused on information literacy would formalize past instruction efforts so that information literacy is better integrated in a purposeful manner. In doing so, more students would be exposed to information concepts that will help them succeed academically, but also help them better prepare for careers in a chosen field. This QEP proposal also inherently addresses many of the topics identified as priorities by the NKU campus community, including improved communication skills, critical thinking, student success skills, and the need to prepare our students for the workplace. Additionally, the university’s strategic plan emphasizes student success and calls for establishing and maintaining rigorous academic standards and expectations, while also strengthening critical thinking across the disciplines and increasing opportunities for student research (NKU, 2013). The strategic plan also envisions more professional development opportunities for faculty and staff.

The long-term goal of this QEP proposal is to formally integrate an information literacy component into every discipline on campus. Integration will be unique to each program and may even vary within departments, but all NKU students will be expected to critically engage with ideas related to information creation, dissemination, access, and use. Not only will this plan better prepare students to succeed academically, but by placing IL in the context of student’s majors, it will also help them navigate and manage information in the workplace. In order to achieve this goal, at least one faculty member from each department would attend a series of information literacy workshops that would

culminate in a plan to integrate IL within their department's majors. It is expected faculty members will also benefit from the IL focus through workshop participation and professional development in the area.

Literature Review

Information Literacy: History and Definition

Although the phrase "information literacy" has been in use for more than 40 years, many people, especially those outside of the library world, remain uncertain as to its meaning. Information literacy has often been, inaccurately, conflated with literacy, computer literacy, or technology literacy.

The first use of the term information literacy is attributed to Paul Zurkowsky in 1974, who defined it as "learned techniques and skills for utilizing the wide range of information tools as well as primary sources in molding information solutions to [one's] problems" (Witek, 2016). In the years since, librarians have been primarily responsible for defining exactly what it means to be information literate. A 1989 report from the American Library Association (ALA) stated that, in order to be information literate, "a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information." Then, in 2000, the Association of College and Research Libraries published the *Information Literacy Competency Standards for Higher Education*, which described standards, performance indicators, and outcomes related to information literacy, which were used by many librarians to guide the development of their information literacy instruction programs. However, at a significant number of universities (including NKU), information literacy instruction continued to be primarily confined to one-shots.

In recent years, there has been a growing consensus among librarians that this decontextualized, primarily skill-based method of providing information literacy instruction is inadequate. The changing view of information literacy was reflected in the publication of the *Framework for Information Literacy in Higher Education* (2016). As stated above, this document describes information literacy as "the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning." The *Framework* describes a set of "interconnected core concepts" that are central to information literacy.

- Authority is Constructed and Contextual: Information literate individuals recognize the importance of context for determining whether or not a source is "authoritative."

- Information Creation as Process: Information literate individuals recognize that information products are created for a number of different purposes and by different processes.
- Information Has Value: Information literate individuals realize there are a number of factors that influence one's ability to create, distribute, and access information.
- Research as Inquiry: Information literate individuals understand research is an iterative, open-ended process focused on answering questions or solving problems.
- Scholarship as Conversation: Information literate individuals understand that scholars are engaged in ongoing "discussions" in which ideas are continually being developed, debated, and, in some cases, rejected.
- Searching as Strategic Exploration: The information literate individual makes informed choices when determining search system, search strategy, and search language.

Our QEP proposes using the expanded definition provided in the *Framework* to guide the integration of information literacy across the NKU curriculum.

The Need for Information Literacy

Although misunderstandings related to the concept of information literacy have continued to exist, the need for increased information literacy in college students is supported by numerous studies. A recent study by the Stanford History Education Group (SHEG) assessed the ability of students from middle school to college and found that "young people's ability to reason about the information on the Internet can be summed up in one word: *bleak*." Students at all levels displayed a "stunning and dismaying consistency" in their inability to evaluate information found online.

Numerous previous studies have had similar findings concerning students' abilities to find, evaluate, and use information effectively. In "Lessons Learned: How College Students Seek Information in the Digital Age," a Project Information Literacy report, researchers found that students used a limited number of information sources and that they "exhibited little inclination to vary the frequency or order of their use, regardless of their information goals and despite the plethora of other online and in person information resources" they had at their disposal. (Head & Eisenberg, 2009).

The ERIAL Project found that "when it comes to finding and evaluating sources in the Internet age, students are downright lousy" (Kolowich, 2011). Researchers found that college students relied heavily on Google for any information need, but were "basically clueless about the logic underlying how the search engine organizes and displays its results" (Kolowich, 2011) And, when students did attempt to use library databases, most did not know how to construct an effective search and tended to use databases that were inappropriate.

There is also evidence that students struggle to effectively engage with sources with any depth. The Citation Project developed a study that examined sophomores' source-based writing at 16 different colleges and universities. They found that students, "rarely analyze or engage with the sources they cite and tend to simplify the arguments within them, perhaps because only 30.5% of their citations are to material beyond the second page of the source and only 23.6% of the sources are cited more than twice" (Jamieson, 2013).

The lack of information literacy does not just impact students' ability to succeed while in college. As previously mentioned, a Project Information Literacy Report found that employers considered the search skills of newly hired college graduates to be "dismayingly limited." In complex or ambiguous situations in which they were required to identify their own direction, decide which information was relevant, and combine information from several sources, recent graduates struggled (Head, 2012).

Information Literacy QEP Examples

Our proposal is based on the recognition that information literacy instruction, as currently provided at NKU, does not adequately prepare students to effectively engage with information in the digital age. This recognition is not unique to NKU, as demonstrated by the number of other schools where Quality Enhancement Plans (QEP) related to information literacy have been adopted.

In 2008, Trinity University adopted a QEP focused on information literacy. Faculty workshops were established, where librarians and discipline-faculty worked together to redesign courses. Faculty were also able to apply for QEP-funded grants to redesign or develop courses integrating information literacy (Oakleaf, 2011). A survey conducted after the QEP concluded found that 90% of the faculty continued to integrate information literacy in the course for which they received the grant, while 71% had made changes to integrate information literacy other courses (Jumonville, 2014).

At Lincoln Memorial University, a QEP focused on information literacy was adopted in 2009. As part of this plan, information literacy was integrated across the curriculum, first by focusing specifically on two general education composition courses, then in upper-level discipline courses. According to Smith (2016), all assessment measures "indicated higher levels of student IL proficiency by the end of the curriculum integration" (p. 230).

A QEP on information literacy was adopted at North Carolina Wesleyan College in 2009. Entitled GIST (Getting Information Skills Today), the plan focused on ensuring that all majors would have at least one "GIST" course that emphasized advanced information literacy. Faculty teaching these courses attended

workshops to assist in course redesign. Assessment found that 79% of students in GIST courses met or exceeded the identified minimum standards for performance (Brake, 2016).

More recently, QEPs focused on information literacy have been adopted at the University of Tennessee at Martin (2013), Howard Payne University (2014), and Greensboro College (2016).

While it is not possible to provide information on all QEPs related to information literacy, this brief review should demonstrate that it is possible to institute an information literacy focused QEP that has a significant impact on student learning and success.

Integrating Information Literacy Via Academic Disciplines

Our proposed QEP is focused on integrating information literacy into multiple disciplines across campus. While information literacy (IL) instruction has most frequently been provided in general education courses, especially English composition courses, the idea of integrating IL across the academic disciplines is not a new one. This issue has been discussed for decades and has been subsequently implemented in a variety of formats at college and university campuses across the country. The rationale for a more widespread IL integration stems from a variety of factors. Perhaps the most prolific idea addressed is that students could better grasp IL if it were woven into their coursework, therefore providing a more holistic, relevant and authentic experience for their learning (Grafstein, 2002; Middendorf & Pace, 2004; Winterman, Donovan & Slough, 2011; Weiner, 2013; Farrell & Badke, 2015; Kuglitsch, 2015; Johnson-Grau, Archambault, Acosta & McLean, 2016; Cowan & Eva, 2016).

Advocates for discipline integrated IL recognize that faculty members in a specialized academic discipline are better positioned to incorporate the skills, language and scenarios that are associated with that field of study as they teach the IL concepts. Proponents of this viewpoint assert that this customized, contextualized approach can then facilitate a more seamless understanding for students in the discipline as they model and apply the concepts within the classes from their major of study (Grafstein, 2002; Middendorf & Pace, 2004; Winterman, Donovan & Slough, 2011; Farrell & Badke, 2015). Kuglitsch's (2015) example of construction students learning IL through the disciplinary lens of building a bridge supports this idea of tailoring the IL teaching to the specific disciplines (p. 462). Farrell and Badke's (2015) observation that "Students who have been enculturated or socialized, even partially so, into the embodied information processes of a discipline have the advantage of having learned to become a part of a community of practice" (p. 334) encapsulates well the motivations of those who advocate for discipline-integrated IL. Leckie and Fullerton (1999) conclude that while librarians should consult and collaborate with teaching faculty, it is ultimately the faculty member's responsibility to deliver IL through their course content. In addition to these pedagogical motivations for students learning IL in the context of their discipline, other influences include the need to align IL

outcomes with those of the discipline's accrediting bodies (Kuglitsch, 2015) and the impracticality/limited work force associated with the idea of librarians teaching students across all disciplines (Johnson-Grau et al, 2016). While less integrated methods such as library one shot sessions and embedded librarians CAN successfully teach students the critical information literacy concepts, this idea of discipline faculty teaching students on their own playing field, seems to have the potential for a deeper, more relevant experience.

There is mounting evidence that such a discipline-integrated approach to IL can be successful, however a number of barriers can impede such a collaboration. As indicated above, one obstacle stems from the fact that not all faculty are clear on the concept of information literacy and may think it simply involves basic library skills, or concerns itself with computer knowledge (Saunders, 2010; Weiner, 2012). This misunderstanding can negate the faculty member's desire for IL in their classes, since they believe that their students already possess adequate technology skills. Other barriers are associated with the sometimes ambiguous nature of information literacy because it crosses boundaries and is not tied to any one academic discipline (Weiner, 2012). Information literacy can be perceived by faculty as more of an add-on (likened to service learning or online learning) rather than a part of the curriculum. Faculty are already overwhelmed with simply covering their course content, and may resent the idea of adding one more thing to an already content-laden course (Saunders, 2010; Weiner, 2012). Some question the validity of information literacy, citing a lack of empirical data (Weiner, 2012). Another barrier to successful IL integration across disciplines is territorial in nature, and comes from both sides of the fence. Some course faculty are hesitant to allow librarians to be present in their LMS, or to access any of their content for purposes of collaboration (Farrell & Badke, 2015; Johnson-Grau et al, 2016). Librarians on the other hand, may not want to share Information literacy with their faculty counterparts across campus, because they feel that it is explicitly their role to impart this knowledge (Saunders, 2010). This territory imposed information literacy tug of war can deter efforts to integrate IL across the academic landscape of a university or college.

Despite these territorial disputes, it is clear that librarians alone cannot produce information literate students, in a disciplinary context. The six "core concepts" described in the *Framework* cannot be taught in a single information literacy session. Only through repeated exposure and instruction will students be able to grasp such broad concepts and develop the range of information behaviors needed. And, due to their level of influence on student learning (not to mention, on students' grades), classroom faculty are ideally placed to have a major impact on students' information literacy (Cowan & Eva, 2016). Our proposal therefore calls for information literacy to be integrated into the disciplines by incorporating the "train the trainer" model with significant collaboration between librarians and subject faculty.

Desired Student Learning Outcomes

A quality enhancement plan focused on information literacy will formalize existing efforts to integrate concepts related to information, research, and scholarship that are relevant to 21st century learning. The desired learning outcomes address the knowledge, skills, and dispositions that would be expected of NKU students where information literacy is woven into the academic curriculum. Through the implementation of this QEP, NKU students will be able to:

- Explain how information is created, accessed, disseminated, valued, and used in a variety of contexts
- Critically evaluate the authority, format, process, purpose, and perspective behind information
- Utilize information effectively and ethically in their scholarly and creative endeavors
- Reflect on personal characteristics and habits necessary to effectively engage with information, including curiosity, open-mindedness, persistence, and adaptability

The student learning outcomes broadly address conceptual knowledge about information, practical skills necessary to navigate and use an array of information types and formats, and dispositional qualities that enhance one's development as an information literate individual. The outcomes align with NKU's Fuel the Flame strategic plan. According to the strategic plan, NKU will communicate and assess learning outcomes "that promote academic and career success." Learning outcomes should set rigorous academic standards and strengthen critical thinking across the disciplines. Teaching information literacy concepts within the curriculum is a step forward in ensuring rigor and a practical way to develop critical thinking as students learn to discern between different types of information, research strategies, and select appropriate resources. The strategic plan also emphasizes the development of skilled graduates who are prepared for education and experiences beyond the undergraduate years. As noted elsewhere in this proposal developing information behaviors and habits is a common variable across disciplines. No matter a student's major, information will play a role in their future lives. Finally, the strategic plan also highlights institutional excellence and the need for expanded professional development opportunities for the faculty and staff. Providing in-depth training and education about information literacy will not only help students gain information literacy, but will also help faculty and staff to develop new ideas, assignments, and classroom approaches that might not have been previously considered.

Action Plan

This campus-wide information literacy initiative will extend the reach of IL and critical thinking across the disciplines at NKU and provide a holistic approach to disseminating IL concepts and strategies to NKU's undergraduate students. To ensure that IL is integrated across all academic disciplines, an IL

ambassador program will be developed, with the ultimate goal of training a minimum of one ambassador for each of NKU's 24 academic departments by the conclusion of the QEP. Ambassadors will be responsible for leading the charge in their individual areas to deploy IL into their discipline's curriculum. As a result of this integrated approach across academic programs, students will be more deeply immersed in IL concepts and ultimately more prepared for life after graduation.

To develop information literacy ambassadors a Summer Institute will be established. The institute will be limited to 10-12 faculty members per summer and those selected will receive a stipend or release time. Participants in the Summer Institutes will obtain training and consultations from information literacy specialists from Steely Library and will have the opportunity to work closely with faculty cohorts.

The Institute will take place over 2 weeks, comprising of in person workshops and online modules. By the end of the institute, participants will have a plan for how they will implement IL in their classes and how they will present IL concepts to their colleagues. Plans will be reviewed by fellow participants and institute coordinators. Coordinators will also check in with participants to offer advice and guidance on implementing their plans.

Faculty members will be required to complete an application to be accepted. Applications will be sent to department chairs for recommendations of potential IL ambassadors. In order to reach as many departments as possible, only one person per department will be selected to participate. However, in the first pilot year, two people from the same department will be selected, representing a total of 5 disciplines. This will help create strong advocates for the QEP as well as allowing for adjustments to the timeline and action plan as needed.

Those selected as IL ambassadors will be required to:

- Attend all Summer Institute sessions (complete all online modules and participate in on-campus workshops)
- Write a proposal detailing plans for integrating IL components into their discipline/department
- Agree to serve as Mentors for the next cohort of IL ambassadors
- Provide assessment of IL implementation plans annually
- Present on the progress of IL implementation to department and campus audiences

Plans developed by participating faculty will meet at minimum one of the following criteria:

- Incorporate a series of one shot sessions (in specific classes)
- Include a one or three credit information literacy class
- Create a tailored IL program that is approved by IL experts

Flexibility is intentional - Junisbai, Lowe, & Tagge (2016) found that when they used an approach that was faculty-driven, flexible, and pragmatic, there was a significant impact on students' IL skills (p. 608). Four levels of collaboration were noted: no collaboration, minimal collaboration, intermediate collaboration, and substantial collaboration. While outcomes were greatest at the intermediate and substantial collaboration levels, there were no significant differences between the two levels, showing that "it may not be necessary for faculty to make library instruction the centerpiece of their courses in order to have a positive impact on the quality of student research and output" (Junisbai et al, 2016, p. 608). However, integration and collaboration should strive to be seamless. Sullivan and Porter (2016) found that if IL is fully integrated into a course, students see it as a part of the whole course - not extra work that may not require their full attention (p. 37).

It will also be recommended that participants advocate that IL is included as a learning outcome for their programs. However, IL skills are context-dependent, and "there should be discussions within departments regarding the standardization of information literacy practices for each discipline" (Cowan & Eva, 2016). Project coordinators will work with each participant to develop an IL plan that reflects their discipline. IL Ambassadors will be responsible for working to integrate IL into their discipline.

While faculty members may be hesitant to take time to embed IL into the courses, research has shown that it need not be burdensome on the faculty members. In fact, in the experience of Junisbai et al (2016) at Claremont College, they found that when faculty and librarians partnered to teach IL, it decreased the faculty member's workload, and student research was shown to improve (p. 609). Additionally, IL can be embedded into existing assignments through the help of librarians (Najmabadi, 2017).

There are a number of examples of successful IL integrations across the academic disciplines. For this particular report, only **four** have been highlighted.

Purdue University in Indiana has had marked success in their IMPACT program, which involves their library faculty consulting and collaborating with course faculty to create and improve information literacy assignments for students. They provide resources and in-depth consultation with faculty as they redesign their courses to include information literacy. Librarians helped professors "define outcomes, consider pedagogic approaches, and develop assessment techniques" (Maybee, 2013, p. 33) The IMPACT Program has now been in existence for 5 years and 225 courses have been redesigned (Maybee, 2013).

At Indiana University Bloomington, the library partnered with two disciplines (Gender Studies and Molecular Biology) to integrate information literacy into their courses. They were awarded a small grant from IU's Scholarship of Teaching and Learning group for implementation. The funds were mostly used as incentive for faculty participation. The librarians specifically wanted to work with instructors who desired FULL integration of IL rather than just a few library components as add-ons to their course. The study involved working with faculty to identify student needs, helping with syllabi

revisions, creating/revising assignments, co-teaching and helping with assessment efforts. “The intention of the researchers was to demonstrate that, while research competencies vary among disciplines, the librarian’s contribution to facilitating and guiding the implementation of information literacy education into various courses can follow a similar model” (Winterman, Donovan & Slough, 2011, p. 42).

In an upper level Biology class, the librarian and course faculty member examined course goals, and assignments, a research proposal assignment was designed, the librarian co-taught the course, and students were assessed (quantitative & qualitative) through pre and post testing. Students showed a “marked improvement in their abilities to develop a search string”, as well as demonstrating more of a grasp on concepts like Boolean operators, truncation, use of keywords, and demonstrated knowledge of sources beyond just Google (scholarly databases, and other types of documents) (Winterman, Donovan & Slough, 2011, p. 46).

In the Gender studies class, (a 300 level class, the gateway class for the major) the librarian was embedded in the LMS, and attended a few class meetings and provided instruction about primary sources, but mostly served in the role of consultant in creating a research assignment. The professor indicated that the collaboration had “definitely improved the course all around and the particular assignments and most of the readings” (Winterman, Donovan & Slough, 2011, p. 49). Students indicated knowledge of key databases within their field and “lot better strategies to find the right information” and newfound appreciation for the database subscriptions held by the library (Winterman, Donovan & Slough, 2011, p. 49).

After their successful integration of IL into two academic disciplines, Indiana University Bloomington concluded, “the evidence suggests that the most effective approach is a tiered model to information literacy education, whereby students meet specific information-related learning goals in unison with the learning goals of the discipline” (Winterman, Donovan & Slough, 2011, p. 52).

At Loyola Marymount University, their plan involved integrating Information literacy into course level learning outcomes for “3 required courses in a core curriculum” (Johnson-Grau et al, 2016, p. 750). The library faculty collaborated and consulted on a committee to refine the IL outcomes of these courses. For this integration, they were striving for a “scalable, sustainable IL program” (Johnson-Grau et al, 2016, p. 750). The librarians designed a three-tiered Information literacy program that aligned with the IL goals for the University Core Curriculum. This sequential program to integrate information literacy consisted of 3 parts: first year-online tutorials from the library, second year in-person library instruction, and third year-flagged courses from disciplines (identified through course mapping). The online tutorials focused on evaluation, using the library catalog, and databases, while the in-person instruction involved effective research strategies and collecting, evaluating, interpreting, and citing sources in papers, and knowing the difference between information sources and how they differ among disciplines. IL for the flagged courses focused on selecting evidence for a topic, using discipline-specific resources, and knowing the difference between information sources and how they differ among disciplines. Note: Their flagged courses are designated by Loyola as “required to assign 10% or

more of the course grade based on assessed information literacy” (Johnson-Grau et al, 2016, p. 753). As of writing of their article, 81 courses were flagged as IL courses.

LMU's information literacy program has received multiple awards and commendations. Perhaps most notably, It has been recognized as an Exemplary Program by the Association for College & Research Libraries “the combination of University-level adoption of information literacy into the core curriculum and the librarian-created scaffolded approach of introducing, reinforcing, and enhancing information literacy outcomes makes [LMU] a model program” (Johnson-Grau et al, 2016, p. 755).

At the **City University of New York (CUNY)**, the librarians piloted a new model of information literacy integration with three Sociology instructors. At CUNY, they took a very different approach to for placing IL in the disciplines--an indirect model, an “inside out model” that had course faculty (rather than librarians) driving the content. Librarians conducted focus groups with the faculty members, and had librarians serving as peer educators for this experience. They did not use the typical IL frameworks or standards that are utilized by many libraries as their foundation for the integration but instead used the course faculty as their experts.

Through the focus groups, they developed specific matrices based on what faculty said about “how they hope their graduates will behave when coping with or working within complex information landscapes” in order to “fill in the matrices with the kinds of skills, fluencies and habits of mind that paint a picture of the information literate student within the discipline” (Farrell & Badke, 2015, p. 327).

The librarians asserted that “The shift toward co-designing modular assignments scaffolded across courses is a promising departure” (Farrell & Badke, 2015, p. 333) from past modes of instruction and they shared that they had created “over 150 discipline-specific learning outcomes that have now been defined and are, in an important sense, “owned” by our college’s Sociology department” as a result of this integration pilot (Farrell & Badke, 2015, p. 332).

The four highlighted institutions learned from research of the field, which lauded the benefits of an integrated model of information literacy across the academic disciplines, and therefore employed some unique strategies that were tailored to their institutions. All four programs noted considerable benefits to the academic disciplines, who were able to have subject specialists teaching IL concepts woven into their curriculums that provided authentic, relevant experiences for their students at their time of need. The librarians were able to forge deeper collaborations with course faculty and greatly extend the reach of information literacy education across their campus because of the course integrated IL programs. In addition to the student successes identified at the highlighted institutions, there was also evidence of other secondary success, which was perhaps unexpected. Course instructors were given new teaching ideas (Winterman, Donovan & Slough, 2011), course instructors learned more about information literacy (Gilman, Sagàs, Camper & Norton, 2017), teaching assistants facilitating the classes showed marked improvement in their own research skills (Gilman et al, 2017), and librarians learned from the course instructors about pedagogy and curriculum in their disciplines which in turn helped the librarians to improve their library assignments and tutorials.

Outline for Implementation

Upon the adoption of the QEP by the university in Fall 2017, the proposers will serve as or will choose two coordinators to implement the plan. These coordinators meet with QEP chair to learn more about the QEP process and its relationship to SACS accreditation.

The coordinators will thoroughly research their topic, identifying key texts and concepts as well as best practices for teaching. They will use this knowledge to develop curriculum and pedagogy related to their topic, to organize and lead professional development opportunities for participating faculty and staff, and to locate a consultant or speaker to visit campus.

The professional development (PD) for faculty and staff will include an intensive summer institute on content, a series of regular meetings or mini-workshops, webinars, online classes, or a combination of these strategies. In addition, PD could include syllabus building, assignment scaffolding, and assessment strategies.

Participating faculty and staff will then implement new curriculum and pedagogy into one (or more) courses during the Fall 2018 pilot semester. In addition, each will perform an assessment of their individual classes according to the established assessment plan. Participants will agree to serve as QEP liaisons, sharing their knowledge with their departments and programs and supporting future participants in the program.

Assessment & Evaluation

In order to assess the overall effectiveness of the QEP, the project coordinator(s) will be responsible for developing an assessment plan including both quantitative and qualitative measures, which could include:

1. Pre-Test/Post-Test for faculty ambassadors, to be completed before and after the Summer Institute
2. Collection and analysis of all assessment data gathered by IL ambassadors at the discipline level

At the discipline level, information literacy ambassadors will be responsible for working with information literacy specialists from Steely and the faculty in their departments to develop a plan to assess information literacy within the discipline. Ambassadors will receive training on methods for assessing information literacy as part of the Summer Institute. At this level, assessment could include both quantitative and qualitative measure, such as:

1. Information Literacy Pre-Test/Post-Test, administered to all students within the major at predetermined points in the curriculum
2. Artifact Collection and Review, in which student research papers are collected and assessed based on a set IL rubric in order to determine whether the work is meeting the IL outcomes
3. Surveys, Focus Groups, or Interviews with students and faculty members in the discipline

4. Collection of performance assessments such as research logs, reflective writing, self or peer evaluations, research drafts or papers, open-ended question responses, bibliographies, presentations, posters, performances, portfolios, worksheets and concept maps, analyzed formatively or summatively (Oakleaf, 2014)
5. IL ambassadors develop discipline specific IL assessments with approval from IL experts (if a department already has pre-/post-test, they can add IL to it) (we will provide a template)
6. Compare capstone projects of students who get IL with those from previous years with no IL instruction

Conclusion

Throughout the *Igniting the Information Literacy Flame* QEP proposal, the vital importance of a campus-wide information literacy program for Northern Kentucky University is well articulated through empirical data from national reports, scholarly literature, and qualitative and quantitative data from NKU. Information literacy is a crucial component in today's digital age that will have a lasting impact on NKU students as they complete their undergraduate education and pursue advanced degrees and careers. Stealy Library's efforts over the years to collaborate with academic disciplines and teach students information literacy concepts have been fruitful. However, these efforts have had limited reach since so few Stealy faculty members are dedicated to this instruction. Preliminary internal assessments from Stealy Library indicate that students who were taught information literacy concepts have shown marked improvement in several areas related to research in their disciplines. Students demonstrated increased awareness of scholarly databases in their field of study, how to determine major findings within a scholarly journal, and the importance of a literature interview, among other skills. However, some deficiencies remain, due to the limitations imposed by learning these concepts solely from one-shot library sessions. Additionally, students who have taken the 3-credit course, LIN 175: Information Literacy have demonstrated a number of increased information literacy competencies at the conclusion of the course. Unfortunately, the students who have been exposed to these vital information literacy concepts (through the 3-credit course or library instruction) are actually in the minority. Regrettably, the data from NKU Institutional Research documents that 75% of current NKU students have experienced *no* formal information literacy instruction. Additionally, with the exception of Library Informatics, no academic discipline at NKU currently has a programmatic information literacy outcome. These indicators illuminate that a great number of NKU's students could be graduating with notable deficiencies.

An information literacy focused QEP involving multiple academic disciplines can certainly remedy many of these issues at NKU, providing a more consistent framework of information literacy education for a greater number of the student population. The Summer Institute for faculty ambassadors will allow Stealy Library to utilize a "train the trainer" model to incorporate information literacy across NKU's curriculum. This intentional integrated approach of professional development and training will greatly extend the reach of information literacy across NKU's campus. By empowering departments to construct customized information literacy components into their curriculums (in either large or small ways), students will be better equipped to confront discipline-specific research. This deeper, holistic

integration will dramatically increase the depth and breadth of information literacy education at NKU and can significantly impact student success and retention of NKU's students, thus fueling their fire for informed, educated lifelong learning.

Resources

- **Personnel**

This project will require 2 faculty members to coordinate the project and to develop the curriculum for the Summer Institute. Dividing the work among two faculty members ensure that no one person must bear the weight of the QEP and that knowledge is not lost if one person moves into a different role on campus. These positions could be new hires or could be filled through release time or reassignment of existing faculty members. In addition, an administrative assistant will likely be needed to provide support to the project leader(s). This position could be a new hire or reassignment of an existing staff member.

The coordinators will choose 10-12 members of faculty and staff each year to participate in professional development and education related to IL and implementing IL in their discipline. Each participant would receive a single course release during the year they participate to develop and/or revise their own curriculum and pedagogy in keeping with the goals of the QEP. They will also serve as ambassadors to their department, leading the development of IL within their discipline.

There is a possibility of bringing a speaker to campus to discuss the importance of IL to the university community.

- **Physical Resources**

For the summer institute, coordinators would require use of a classroom, likely room 300 in Steely Library. A Canvas course shell would also be necessary in order to deploy online materials. Space for a repository of IL materials may be required.

- **Financial Resources**

The project will require funding to provide stipends/course release to faculty members who are selected to participate in the ambassador program, as well as funding for an administrative assistant. Additional funding will be needed to develop or purchase resources for the Summer Institute, which could include software, books, and printing. Coordinators may wish to bring a speaker to campus, which would also require funding.

Timeline

Fall 2017

- Selection of a final project by the QEP committee
- Announcement and "marketing" of QEP across campus
- Proposers and the QEP chair select project coordinators/co-directors
- Create an assessment plan, including baselines measures

- Coordinators work with QEP chair to further develop an implementation plan
- Research and review relevant literature related to the topic
- Plan PD for participants

Spring 2018

- Draft a project literature review
- Develop project curriculum
- Create a call for and select faculty and staff participants
- Introduce participants to project
- Review and refine assessment plan

Summer 2018

- Finalize literature review
- Complete initial project curriculum
- Hold summer workshop for participants to develop curriculum

Fall 2018

- Pilot projects in courses
- Check in with participants

Spring 2019

- Review participant projects
- Collect and analyze data
- Review and refine assessment plan
- Project sharing and travel
- Create a call for and select faculty and staff participants for the following year
- Event for new, current, and past participants
- Introduce new participants to project

Summer 2019

- Hold summer workshop for participants to develop curriculum
- Past participants serve as mentors to new participants

Fall 2019

- Participants integrate IL into courses
- Check in with participants

Spring 2020

- Review participant projects
- Collect and analyze data
- Project sharing and travel
- Create a call for and select faculty and staff participants for the following year
- Event for new, current, and past participants
- Introduce new participants to project

Summer 2020

- Hold summer workshop for participants to develop curriculum
- Past participants serve as mentors to new participants

Fall 2020

- Review participant projects
- Collect and analyze data
- Event for all participants

Spring 2021 - Spring 2023

- Continue to work with participants
- Assessment

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Appendix A: Steely Library Information Literacy Outcomes

Foundational Outcomes

I understand...

- Information systems are organized
- All information sources display a particular perspective or point of view
- The purpose of academic research is to not only learn new information, but to solve problems, answer questions, and/or potentially generate new ideas
- What a scholar is and how scholars act as information creators
- The differences between searching a database and searching the internet
- The importance of citing sources in my work and what constitutes plagiarism (as it is defined by NKU's student code of conduct)

I can...

- Define different types of authority, such as professional status, subject expertise, social position, or special experience
- Recognize various types of sources based on distinguishing characteristics
- Match my information need to the appropriate level of authority, source type, and research tool in different contexts
- Conduct background research and brainstorming to focus a topic, develop keywords, and generate an appropriate research question
- Define terms connected to the scholarly research and communication process, such as “peer-review” and “scholarly journal”
- Evaluate sources by considering authority, type of publication, creation process, purpose, and point of view
- Use advanced search techniques to make Internet searching more efficient
- Conduct a search in a general library database using multiple search boxes and available limiters to locate relevant information sources
- Identify reasons why an initial search may not be successful and revise appropriately

I value...

- The contributions that multiple perspectives provide to my research
- The assistance that others can provide as part of my research process
- The role of the library as a contributor to my academic success

Advanced (Discipline-Specific) Outcomes

I understand...

- Information may be free or proprietary and not all individuals/groups have the same level of access
- The ethical responsibilities within my field to seek out authoritative information and the possible professional consequences of relying on non-authoritative information
- The need for attribution to lend credibility to my work, facilitate the scholarly conversation, and extend knowledge in the field
- How the act of searching, including mistakes or serendipity, can influence and potentially change the direction of research
- The necessity of using of multiple resources and search systems when conducting research
- The purpose of a literature review is to not only expand my knowledge, but also to build on previous knowledge in my discipline

I can...

- Determine what makes a source authoritative within a particular discipline
- Distinguish between different types of scholarly articles
- Critically evaluate sources to identify information gaps, contributions to the topic, and suggestions for future research
- Recognize situations in which non-academic sources or information posted in informal venues contribute to the scholarly conversation in my discipline
- Identify and use general and discipline-specific search systems based on information need
- Use database thesauri and controlled vocabulary to refine and focus searches
- Develop a system for organizing and managing citations and other resources related to research interests
- Trace citations in order to follow the conversation, identify additional sources, and reveal changes in perspective over time
- Summarize major conclusions or findings in scholarly sources

I value...

- The contribution that works outside of my discipline may make to my research
- Persistence and flexibility as attributes of experienced researchers
- The importance of using information to guide conclusions
- My ability to contribute to the academic conversation at an appropriate level

