First Year Seminar Information Literacy Program
Final Report
Fall 2015

Submitted by Christine Bombaro, Associate Director, Waidner-Spahr Library

Introduction

Each year, the library participates in the First-Year Seminar (FYS) experience by assisting faculty members with integrating the college's information literacy (IL) goals into their courses. At the beginning of fall 2015 semester, the FYS program was operating under the 2007 mandate for information literacy, which stated that students should "critically analyze information and ideas" and "develop discernment, facility, and ethical responsibility in using information." However, at the September 2015 faculty meeting, a new FYS resolution was passed which updated and clarified IL goals for first-year students (see Appendix A – FYS Resolution 2015). Librarians encouraged faculty to plan IL activity with the new resolution in mind.

First-year IL goals are addressed in different ways in different courses, depending upon what exercises and assignments each instructor chooses to assign. However, based on the results of last year's assessment, this year the librarians made a concerted effort to emphasize higher-order research skills including source selection, discernment, and evaluation, rather than search mechanics and citation. Skills addressed this year typically included how to identify and obtain books and articles, how to distinguish among source types, and how evaluate sources for appropriateness to the need.

Various elements of the information literacy component are examined each year. This report focuses on teaching inputs and perceptions of students and faculty members. This report does not include an assessment of student work. In spring 2016, the library staff and the staff of the Writing Center will conduct a combined assessment covering writing and research skills in the FYS. For the purposes of this report, a five-point evaluation was completed:

- Inputs – Includes instruction statistics and the type of IL work conducted with each FYS.
- Student comments – These representative comments from students help librarians determine whether classroom instruction was useful and effective.
- Course evaluations – With the approval of the Provost's Office, a new survey regarding the IL component of the course was added to the course evaluation packet.
- Faculty survey – This annual survey asks faculty about their impressions of the IL program and their students' performance on research projects.
- Academic Integrity Tutorial assessment – This annual examination of the academic integrity tutorial is designed to determine whether the content is new and useful to students.

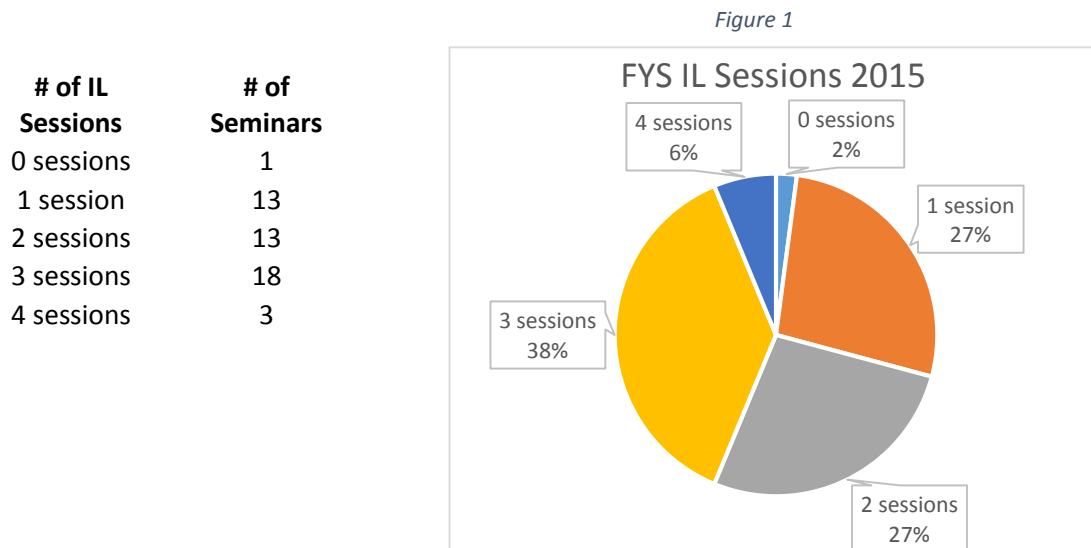Key points in this year's report include:

- Inputs - Librarians worked in some way with all but one of the classes.
- Student Feedback - Students expressed overall satisfaction with their information literacy sessions and reported having successfully learned information literacy skills.
- Course Evaluation – This part of the evaluation demonstrates the strength of the First Year FYS IL program and indicates that students are learning to engage in higher-order information literacy skills beyond rote mechanics.

- Faculty Feedback – Faculty observed that active learning combined with recursive lesson planning results in better quality student research.
- Academic Integrity – After several years of major overhaul to the online tutorial, no significant changes are necessary for 2016.

Inputs

Sessions

This year, 48 first-year seminars were offered and eight librarians were assigned as liaisons to the classes. For comparison, in fall 2014, 42 seminars were assigned to eight librarians. Librarians taught 104 FYS sessions due to the large first-year enrollment, compared to 88 in the fall of 2014. Librarians visited all but 1 of the seminars at least once, and 20 met with a librarian 3 or more times, as illustrated in Figure 1.

Figure 1

# of IL Sessions	# of Seminars
0 sessions	1
1 session	13
2 sessions	13
3 sessions	18
4 sessions	3

FYS IL Sessions 2015

- 4 sessions 6%
- 0 sessions 2%
- 1 session 27%
- 3 sessions 38%
- 2 sessions 27%

In place of additional class sessions, 10 seminar professors who scheduled only one in-class library session suggested or required that their students attend personal or small-group consultations with a librarian outside class time. This approach was suggested by the librarians, due to their experience and the extensive corpus of published research and asserting that "one-shot" library sessions are insufficient in training students to be effective researchers. The consultations yielded only about 70% participation of the students who were asked to attend, and we experienced problems with many of them arriving late and without having done the required preliminary work.

Librarians participated in evaluating the research work of students in 29 of the sections, for which librarians suggested improvements and graded homework exercises. For more detail about library class visits and assignments, see Appendix B – Class Visits and Activity by Instructor.

Final Projects

All but the FYS class that did not include IL instruction required students to complete a mid-semester or final project that included the application of information literacy skills. The most frequently assigned project was a short research paper, required in 33 seminars. Eight required only an annotated

bibliography. About one-third of the classes combined a preliminary research-related homework assignment, with a research paper. At least 7 assigned exploratory essays, and at least 3 required debate/position papers.

Tutorials
In previous years, librarians have struggled with how to best manage our limited contact with FYS classes, while at the same time being asked to address higher-order information literacy skills such as effective search strategies and source evaluation instead of search "mechanics." Search mechanics cannot be ignored, and they take valuable time to teach. Therefore, we decided to try addressing the problem by developing a "flipped" approach. During the summer of 2015, we created four new tutorials in addition to the previously developed "Finding Books in the Waidner-Spahr Library." Although these tutorials can be useful in any class, we decided that they would be particularly useful in conjunction with FYS instruction.

The first four in our new series of tutorials were completed just prior to the start of fall classes. They were entitled "Finding a Journal Article from a Citation," "Choosing a Database," "Distinguishing among Source Types," and "Choosing Search Terms." The tutorials can be found at: http://libguides.dickinson.edu/tutorials.

Of the 48 seminars, 34 professors suggested or required that students complete one or more of the tutorials. Because of compatibility issues arising from the instructional software, we were unable to collect usage data specific to each tutorial; therefore we cannot tell how many times the tutorials were accessed. Next year we hope to be able to collect better data and to assess the effectiveness of some of the modules.

Although we did not specifically ask for feedback, some students and faculty commented on the tutorials. One student said: "The tutorials for accessing sources via the databases and library catalog were also very helpful." A faculty member commented, "The online mini-lessons are appropriately targeted to their intended audience and provide flexibility for instruction." Another said that the tutorials worked well and supported the development of more.

Student Comments

Librarians often ask for feedback from students about IL instruction at the end of class or as part of homework assignments. This year's requests for feedback resulted in more than 30 pages of comments.

When asked what they had learned during the instruction, many students mentioned how to structure searches, how to access resources, and how to cite properly. They also expressed confidence in doing research and navigating the library's website. They mentioned having learned to consult a variety of resources, rather than relying exclusively on one, and recognized the limitations of relying solely on Google. Many acknowledged that information literacy skills would be useful later in the semester, some going so far as to mention specific courses in which they found the skills to be helpful already. In general, students expressed awareness and appreciation for the variety of sources available to them.

Representative and enlightening comments from students include:
- In high school, I never really had a "research paper" to do…I really appreciated the emphasis on using academic works…and how to find out if a source is credible or not.

- Before our meeting, I would not have understood the difference between proper scholarly research, and the research I had done in the past.
- I have learned that you cannot simply enter any keyword and be rewarded with credible, valuable sources. You must refine and reword your search multiple times before getting a satisfactory source.
- The most useful thing I've learned about research so far is how much information can be available on any given subject, and that therefore I should not focus all of my attention on finding the one perfect source I need because there will be many related to my topic.
- I think I am very prepared for doing academic research and using what I have learned to dig deeper into what I am studying, and enforce my thesis and argument.
- Just trying to maneuver the Dickinson Library page online was probably the most helpful thing we covered in our meeting.
- I was recently given an assignment in my chemistry class to write an introduction for the research we are doing. This requires us to do further research and find articles that will give us, and our audience, a better understanding of the processes we are using and the reason for the research. What we have learned in the sessions will aid me in this.
- I learned to consult with a librarian when I hit a dead end.
- I learned to apply info lit to the real world.
- I learned to consider all sides of a conversation.

Mild complaints about the nature of the research process were not unusual. Many students thought that they needed more time to complete the work, and expressed surprise that it was more time-consuming and rigorous than expected. One student also had the following to say about being required to submit only an annotated bibliography:

I [felt] a lack of commitment to the projects probably because I am not going to do an actual research paper with the resources that I used. A lot of the work felt tedious and time consuming, but it was still a good introduction to the library.

Students also expressed interest in learning about other library services, which would be impossible to cover in our currently limited time frame. Areas in which students asked for additional help include:
- Using interlibrary loan services.
- Specific search techniques such as how to exclude unwanted results.
- Additional help determining source reliability.
- More time using the physical space.
- More on library policies and procedures (study rooms, loan periods, etc.).
- More citing/plagiarism help.

A tutorial for using interlibrary loan services is slated for development. For 2016, librarians will work on additional techniques for teaching source evaluation and citation, and discuss ways to incorporate navigation of the library's physical space. Library policies and procedures are available online and do not necessarily warrant classroom time, but we can likely make our "FAQ" pages more prominent and accessible from more points.

Course Evaluation

This semester, a questionnaire on information literacy was added to traditional FYS course evaluations. The intent was for students to report on the extent of their IL experiences within the course, and the form was modeled after the Writing Center evaluation. We received results from 666 students. The evaluation overwhelmingly demonstrates the strength of the FYS IL program and indicates that students are learning information literacy skills beyond the rote mechanics of typing words into a database. It also shows that not only are most FYS students learning a variety of critical information literacy skills, but that the majority engaged in revision of their initial research strategies, which is one of the key aspects of the newly adopted FYS resolution.

Results

The form's first question asked students to recall if they had the opportunity to practice library research skills during the course. In agreement with our other data, students in all but one of the FYS sections answered affirmatively. Students were then asked to select the types of IL skills that were required as they completed course assignments. As shown in Figure 2, basic library skills were incorporated across most seminars. The options most frequently required were "Use library databases to find research materials…" and "Cite your sources…" at 97% each. The option "Analyze sources…" was least frequently reported as required, at 86%.

Figure 2

During this course, did you complete an assignment that required you to do any of the following:
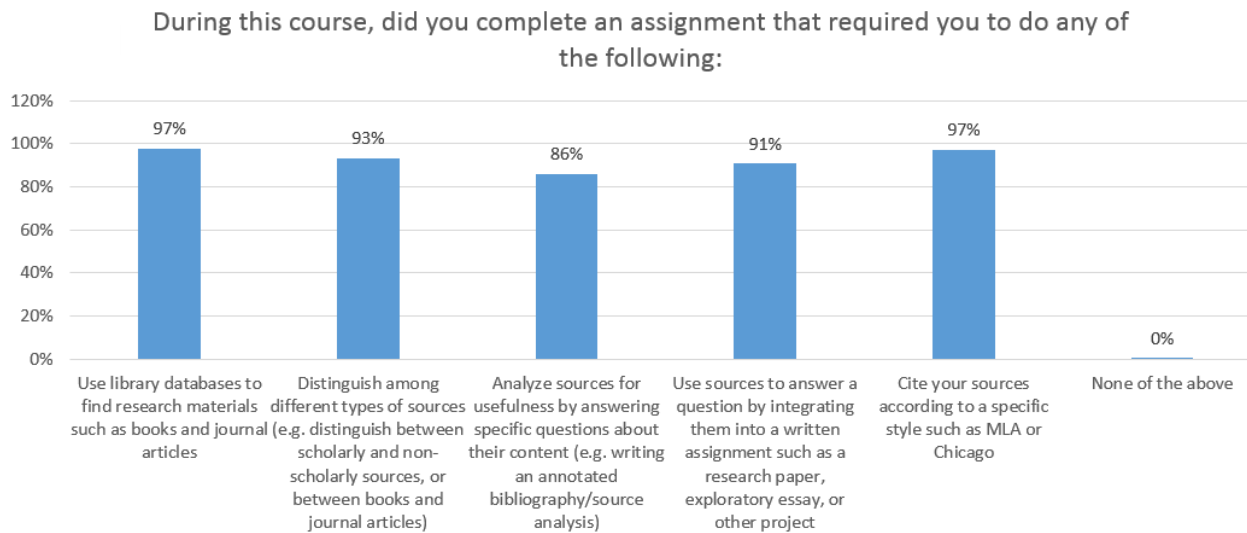
The new FYS resolution states that students should be given "the opportunity to revise their work in a way that allows them to recognize the iterative nature of research." Although this resolution took effect after the start of fall 2015, 83% of the FY students reported that they engaged in revision of their initial search strategy, as shown in Figure 3. In addition, 85% of FYS students reported that information literacy skills helped them with more than one assignment during the course.

Figure 3

Did you revise your original research strategy after completing a first draft of a research assignment?
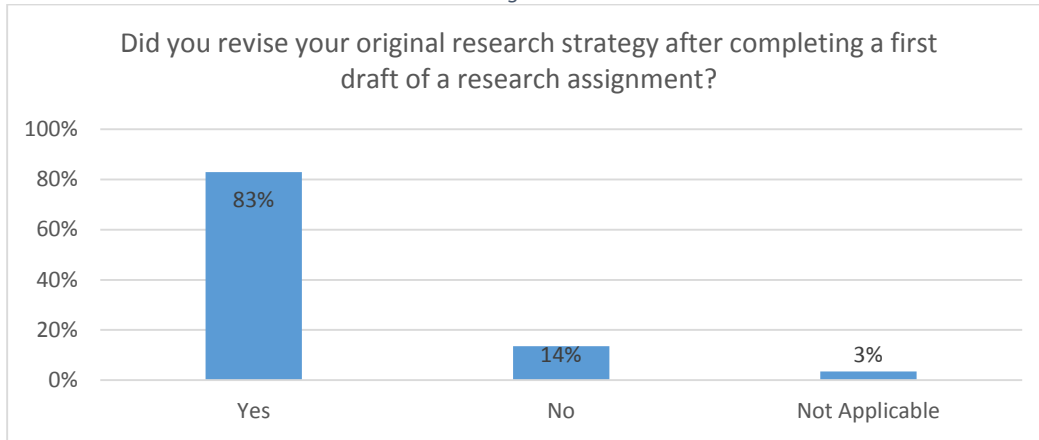
Comments
Students were also asked two questions regarding the usefulness of the IL component of their seminars and the challenges they faced while engaging in research.

The first question was: "What library research skills that you learned in your First Year Seminar have been useful to you in other classes?" Themes that emerged in their answers included accessing and navigating library databases, selecting keywords, citing, distinguishing among source types, and analyzing sources for usefulness. Some also mentioned that they now know they can consult a librarian for help. Representative comments include:

- Clear and thoughtful analysis of data, as well as analyzing a source beyond just its initial content.
- Citations and making a bibliography/Discovering reliable databases to go to.
- I had a research assignment for another class and already knowing how to navigate the library databases helped.
- I have learned to better distinguish between scholarly and non-scholarly sources.
- I have learned to narrow down source information and decide what is best for my assignment.
- Analyzing data, organizing logically, and creating a hypothesis.
- Before this course I had no knowledge of the resources found in the library. Now I can utilize all materials.
- Navigation of library databases/Librarians as resources.

Some students mentioned that IL instruction helped them to complete assignments in other courses such as biology, French, INBM, chemistry, history, film studies, environmental science, and gender studies.

Two or three students from each class responded to the effect of "not applicable," because, they said, they had no research requirements in any other classes. A few said that they had learned nothing new because this was all covered in middle or high school and they already knew how to do it.

The second question was: "What challenges did you face while engaging in research for your First Year Seminar?" Themes that emerged include finding appropriate sources applicable to their selected topic, integrating sources, difficulty navigating the wealth of sources available or trying to revise the search when the initial strategy produced too few sources. All of these challenges are perfectly normal

experiences for both new and experienced researchers. Representative comments from the students include:

- I often found that I wasn't choosing the right words - too specific or broad - so I would end up with thousands of articles or none at all. It was all about learning to choose the right wording.
- Elaborating on the content of research...deciding how applicable it was to my research question.
- Finding sources that relate to my specific topic/narrowing down sources.
- I had to overcome feeling overwhelmed by the amount of evidence out there, and i had to think objectively about evidence.
- Finding sources that were specific, yet understandable for my level of knowledge.
- Research, when done correctly, can be a VERY LONG PROCESS.
- Figuring out how to navigate the databases and journal search.
- Making sure the sources being used are beneficial to the argument.
- Using a variety of search paths. One worked well and the others were frustrating.
- It was tough sometimes to choose between sources.
- I did not know whether a source was good or bad so that was tricky.
- Not knowing where to start a large paper or knowing what was good enough.

Students voiced a common misperception about the research process, that research material must be found in order to "fit" a preconceived research question. Representative comments include:

- Having to pick which article would fit my research paper and make it stronger.
- Finding sources that perfectly proved my thesis. Sometimes, I had to reword my thesis.
- Trying to find the right scholarly article that would fit my paper the best.
- Knowing what topic to choose then finding the right sources that supported my thesis

This is an area in which the librarians can make efforts to direct conversations toward the understanding that research is an iterative process and that students should be using research to inform the development of a topic or thesis, rather than the other way around.

Faculty Survey

Each year, faculty members who teach first-year seminars are asked to complete a short survey about the effectiveness of library instruction in their classes. This year, 29 of the 48 (60%) FYS faculty responded. The survey asked faculty to report on specific IL activities in their individual seminars (the results of which are noted in previous sections of this report) and asked for their perceptions of the FYS IL program.

One question asked: "How well did your students' performance on research-based assignments demonstrate their application of information literacy skills?" This selection of representative responses suggest generally positive results:

- The students who were engaged in the sessions with the library liaison did a good job of applying the information literacy skills they had learned.
- Most of the students were able to locate articles and books and to create citations in correct format. The few who fell short did not put much effort into their work.
- The majority of my students did a good job including scholarly sources in their research papers. In doing so, they demonstrated knowledge of what a scholarly source was as well as how to use keywords to find appropriate sources relevant to their work.

Some faculty also noted that some students were demonstrating the ability to evaluate sources appropriately:

- I was pleased with the students' ability to find sources and to determine if they were appropriate for the assignment.
- Most of the students, twelve of fourteen, located three books and nine articles from scholarly journals relevant to their topics and demonstrated, to greater and lesser degrees, analytical ability in discussing and comparing them.
- Students were able to zoom in on reliable sources in a complementary fashion as a result of exploration and instruction, and they got familiar with the MLA citation style.

In addition, those students who had multiple opportunities to meet with a librarian and revise their work seemed to have more success completing research-based project:

- After several resubmissions, with guidance, all students were able to identify appropriate sources for their projects and cite them correctly.
- Their performance improved considerably as they continued to gain experience with information literacy skills throughout the semester.
- The way we embedded the exercises in a project that required a lot of autonomy and freedom helped them see the importance of being able to do these skills themselves in the future.

Some comments revealed areas that may require additional attention. Despite the progress we made this year with our focus on source evaluation, some students still struggled with it:

- There were some students who had a pretty narrow idea of "good" sources.
- Some students (9 out of 15) clearly used the library's Jumpstart for at least some of their research. But a quick scan of final papers indicates that others relied on Web searches.
- Students' willingness to accept web-based sources as authoritative without considering the source remains a problem.

The nature of some comments suggests that additional exposure to IL skills may help mitigate some students' challenges:

- I think I front-loaded the assignments too early in that many of the students forgot (or simply failed to apply) what they had learned so well in the library sessions. I need to think about the timing and reinforcing of the skills prior to the final research paper.
- The students hit a wall and then failed to seek help from me and/or a librarian.
- They were able to conduct research and find sources, although I had to continuously remind them of the library website.
- My impression for the students in my FYS was that they couldn't understand the relevance of the issues involved. They don't understand that some sources of information are objectively of higher quality than others. I think we all - library staff and faculty - have our work cut out for us in shining some light on these issues.

Faculty members were also asked: "What is working well about the library's information literacy program for first-year students, and what could be improved?" Some responded generally about the program's goals and the effectiveness of instruction. One said that the "program establishes clear goals and provides instruction for how to achieve them." Another commented that the FYS IL program works very well as an introduction to the resources of the library and to the process of locating and using scholarship. Several had words of praise for their seminar's liaison, with one noting, "I think the biggest strength of the program is the staff."

Others commented more specifically about what is working well with the program, with representative comments including the following:

- The hands-on presentation geared to my research paper assignment was spot on.
- The information literacy training as part of the FYS training workshop, the library liaison sessions with my FYS, online tutorials.
- The most useful thing is simply the introduction to databases. Most of the students say they have used databases in high school, by which they mean one or two. Understanding the quantity and variety that we have available is important.

Some faculty members noted the need for more specific types of classroom work:

- I think the more interactive the sessions are, the better students learn from them.
- The sessions that work best, I think, are the ones where students get an opportunity to apply the skills they are learning in real time.
- Modeling these exercises requires a good relationship between librarian, professor, and students.
- Perhaps a little more on specifics (tied to the research paper) would be good.

This feedback will form a basis for discussion at the first-year seminar faculty training in May 2015.

Academic Integrity

Fall 2015 was the tenth year in which all new students – first-years, transfers, and internationals - were required to complete Academic Integrity (AI) instruction. The tutorial consists of an interactive online presentation with a short survey and quiz. It takes most students between 10 and 20 minutes to complete the tutorial. Non-compliance results in a hold being placed on the student's account, thus preventing registration for spring classes during the early November course registration period. Although 100% of all new students eventually completed the tutorial, this year there were 28 who had not completed it by the deadline, and 3 who still had not completed it in January 2016 (these students were not able to pre-register for classes).

Timing
Getting all students to complete the tutorial on time has been somewhat of a problem since its inception. With the cooperation of Admissions and the campus' orientation committee, this year we will now include notice of the AI requirement with incoming students' orientation materials. We hope that this will reduce the number of students who do not complete it by the deadline. In addition, the deadline will be moved to the end of the second full week of classes rather than the third.

Effectiveness
Assessment results suggest that the tutorial continues to be informative and effective. When asked near the beginning of the tutorial, "Have you ever committed an act of plagiarism?" 73% responded that they had not. Near the end of the tutorial, when asked the same question a second time, only 50% responded the same way.

As part of the built-in assessment component, students are asked to indicate how much of the material is new to them. Their responses are noted in Table 1.

Table 1- How Much of the Information Provided in this Tutorial Was New to You?

All of the information was new to me	11	1.5%
Most of the information was new to me	31	4%
Some of the information was new to me	336	45%
Very Little of the information was new to me	264	36%
None of the information was new to me	92	12.5%

Additionally, students are asked if they found the tutorial to be effective. Those responses are noted in Table 2.

Table 2- Did You Find This Tutorial to Be Effective?

Extremely	56	8%
Very	335	46%
Somewhat	244	33%
Only a Little	83	11%
Not at All	16	2%

Comments

Comments from students were overwhelmingly positive, with many saying that they enjoyed it and that they found the examples to be relevant and enlightening, even though they may have been familiar with some of the content.

One of our new features this year was the addition of audio files on each slide for students with learning differences. One student commented: "I love how the voices read out the questions for you! That was fantastic!!" Other comments remarked upon the tutorial's content and presentation, for example:

- I thought this tutorial cleared up many "gray areas" associated with plagiarism and what constitutes it.
- At first I thought the tutorial was going to be a bit childish, judging by the comic like pictures. However, as the tutorial went on I quickly changed my mind. I liked that I was given situations and had to determine whether or not plagiarism was present. It really allowed me to look at the different examples of what plagiarism really looks like in its numerous forms. Prior to now, I did not know that there were so many provisions and types of plagiarism.
- Good use of pictures! It wasn't boring!
- I am glad to know that I cannot use a paper for two classes without both teachers' consent.

Complaints about the tutorial were rare this year, though representative comments include:

- I was already taught all this is high school and was slightly annoyed at having to take time out of my day to do it.
- I learned most of this in high school. It was time consuming and took time and effort away from my actual school work. We should not be punished for not getting this in on time, especially during our first semester.

Students often supply helpful suggestions for improvements to the academic integrity tutorial, but this year, nothing specific was offered. There were mixed opinions about the length of the tutorial, and one thought we should allow students to take the quiz first in order to allow those who know the material to

"opt out." Since we recently put the tutorial through several major overhauls, including a new storyboard and the addition of audio, we will not be making major changes for fall 2016.

Conclusion

Due to the revised FYS resolution, it is obviously necessary for librarians to continue the renewed focus on source selection, analysis, and revision during the research process. As we assess the effectiveness of our new online tutorials and develop new ones, we will be better able to address some of the challenges that students faced as they approached their research. Goals for next year include:

- Emphasize the recursive nature of research; teach students about using research to inform the development of a topic or thesis.
- Assess the online tutorials and create new ones based on frequently asked questions about library services.
- Continue to encourage faculty to integrate instruction at various points throughout semester, intersecting with work that requires research.
- Make our "FAQ" pages and help resources more prominent and accessible from more points of likely need.

Appendix A – FYS Resolution 2015

Resolved, that the faculty requires the following of all seminars:

- First-year seminars will emphasize skill development in the areas of critical analysis, writing, and information literacy. The First-Year Seminar is the initial tier of the college's writing program. Students are expected to learn to (a) create a thesis statement, (b) organize a logical argument; (c) use clear and concise language; and (d) understand audience. All seminars will include multiple writing assignments, at least one opportunity for revision, and an essay assigned near the end of term demonstrating (a) - (d) above. (An extended research paper for the seminar is not recommended. The skills involved in an in-depth research paper are best addressed elsewhere in the curriculum, particularly in fields of concentration.)

- *First-year seminars will include at least one assignment that requires students to:*
    o *seek and evaluate information on a topic relevant to the seminar*
    o *integrate that new knowledge into a project that allows students the opportunity to engage in scholarly conversation appropriate to the first-year level*
    o *revise their work in a way that allows them to recognize the iterative nature of research*

- *First year seminar projects emphasize the college's expectations in regard to academic honesty and citation, instruction that is begun when students take the college's required Academic Integrity Tutorial early in the fall semester.*

    Research instruction can be easily integrated with many projects already planned for each First Year Seminar.

Appendix B – Class Visits and Activity by Instructor

Faculty	Librarian	Title	In-Class Sessions	Addl required consults?	Addl optional consults?	Tutorials Required?	Type of research assignment
Ambwani	Lonergan	Are You Really What You Eat?	3	N	N	Y	Research Paper
Bale	Smith	Images & Culture	3	N	N	Y	Research Paper
Ball	Smith	Graphic Narratives in Global Frame	1	N	N	Y	Research Paper
Bartosik-Velez	Kozlowska	New World Encounters	3	N	N	Y	Research Paper
Beck	Arndt	Where is the Next Silicon Valley?	4	N	Y	Y	Research Paper
Bender	Bombaro	Terminator vs. Astro Boy	3	N	N	Y	Position Paper/Debate
Blyth	Doran	When the Bravest Thing …	2	N	N	N	Research Paper
Boyle	Lonergan	Galileo's Commandment	1	N	N	N	Research Paper
Bretz	Triller	Class in the Classroom	3	N	N	Y	Research Paper
Castellanos	Kozlowska	Politics of Race in Brazil	3	N	N	Y	Research Paper
Chilson	Smith	Drama and the American Dream	3	N	N	Y	Research Paper
Commins	Bombaro	Muslim Lives in the First Person	3	N	N	Y	Annotated Bibliography
Cozort	Smith	Buddhist Lives	1	Y	N	Y	Research Paper
Crouch	Arndt	Public Health, Private Lives	2	N	N	Y	Research Paper
Duperron	Smith	Ideas that Have Shaped the World	1	N	Y	Y	Annotated Bibliography
Earenfight	Smith	Genesis to Metropolis	0	N	N	N	N/A
Edlin	Smith	Ideas that Have Shaped the World	1	N	Y	N	Annotated Bibliography
Engelhardt	Howard	Sex	2	N	N	Y	Research Paper
Francese	Smith	Ideas that Have Shaped the World	1	N	Y	Y	Annotated Bibliography
Frey	Lonergan	In Search of the Sports Gene	2	N	N	Y	Research Paper
Gavenonis	Lonergan	It's Just a Theory	1	N	N	N	Research Paper
Henson	Lonergan	Sickness, Science, and Society	1	N	N	Y	Research Paper
Jin	Kozlowska	Promise & Pitfall of New Economy	3	N	N	Y	Research Paper
Kersh	Triller	Art of the Detective in Fiction & Film	3	N	N	Y	Research Paper
Kongar	Arndt	Political Economy of Gender…	3	N	N	Y	Research Paper
Lape	Bombaro	Understanding Research Community	3	N	N	Y	Exploratory Essay/Research Paper
Lieber	Smith	Ideas that Have Shaped the World	1	N	Y	N	Annotated Bibliography
MacCormick	Smith	Ideas that Have Shaped the World	1	N	Y	Y	Annotated Bibliography

Faculty	Librarian	Title	In-Class Sessions	Addl required consults?	Addl optional consults?	Tutorials Required?	Type of research assignment
Mitchell	Kozlowska	London: World City	3	N	Y	Y	Research Paper
Morgan	Lonergan	Time and the Past, Present, Future	2	N	N	Y	Annotated Bib/Research Paper
Niebler	Kozlowska	Ouija Boards to Big Data	4	N	N	Y	Research Paper
Niemitz	Howard	Science, Culture, and Civilization	1	N	N	N	Research Paper
Pagano	Doran	Founders of Modern Discourse	2	N	N	N	Research Paper
Pfannkuchen	Doran	The Image of Objectivity	2	N	N	N	Research Paper
Qualls	Bombaro	Modernity and Its Critics	2	N	N	Y	Research Paper
Rivas	Kozlowska	More Than a Laughing Matter	3	N	Y	Y	Research Paper
Rodriguez	Kozlowska	Between Two Cultures	3	N	N	Y	Research Paper
Sak	Lonergan	Politicization of Science	3	N	N	Y	Research Paper
Schaefer	Howard	Mathematical Identities	3	N	N	Y	Exploratory Essay/Research Paper
Schubert	Kozlowska	Modernity and Its Critics	4	N	N	Y	Research Paper
Seiler	Smith	Ideas that Have Shaped the World	1	N	Y	N	Annotated Bibliography
Sider Jost	Smith	Ideas that Have Shaped the World	1	N	Y	N	Annotated Bibliography
Staub	Triller	Community Service …	2	N	N	Y	Research Paper
Strock	Howard	Where Have All The Wild Things…	2	N	N	N	Research Paper
Sweeney	Bombaro	Why They Fought	2	N	N	Y	Research Paper
Underwood	Arndt	Longer Lives, Fewer Babies	2	N	N	Y	Annotated Bib/Research Paper
Weinstein	Lonergan	You Are What You Eat	2	N	N	N	Research Paper
Wlodarski	Doran	Singing Amidst Social Unrest	3	N	Y	N	Video