Flipped Learning for Scalable InfoLit Instruction in FYC

David Beach
West Virginia University
CONSIDERING FLIPPED LEARNING FOR SCALED INFO-LIT INSTRUCTION IN FYC: HOW TO USE RESOURCES WISELY

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DAVID BEACH
ASSOC. UNDERGRADUATE WRITING COORDINATOR – WEST VIRGINIA UNIVERSITY
WITH CONTRIBUTIONS FROM KELLY DIAMOND & ALYSSA WRIGHT
RESEARCH LIBRARIANS – WEST VIRGINIA UNIVERSITY LIBRARIES
FYC: Composition and Rhetoric

- ENGL101: A course introducing students to college-level expository writing. Its purpose is to develop a student’s abilities to tell stories, explore rhetorical perspectives and discover others’ views.

- ENGL102: A course in writing college-level research papers based on argumentative models. Its purpose is to develop a student’s abilities as a researcher and writer of persuasive texts in academic and civic contexts.
FYC: Composition and Rhetoric

- General Education requirement
- Portfolio-based
- Had been genre-based
- GOAL: Create a two-course sequence which scaffolds rhetorical aims to ensure students complete courses with requisite skills to be effective communicators
- QUESTION: What to do about information literacy instruction?
ILCEP Grants

- Information Literacy Course Enhancement Grants

“Our program addresses two vital needs:
1) new options for effective use of faculty/librarian time in teaching; and
2) the development of student sophistication in the use of information.

Through the strategies reported here, faculty and librarians partner to reduce information anxieties and pressures among undergraduate and graduate students and help them grapple effectively with all aspects information literacy.”
ACRL Information Literacy Competency Standards for Higher Education

- **Standard 1:** The information literate student determines the nature and extent of the information needed.

- **Standard 2:** The information literate student accesses needed information effectively and efficiently.

- **Standard 3:** The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
ACRL Information Literacy Competency Standards for Higher Education

- **Standard 4:** The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

- **Standard 5:** The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.
A fully-integrated, student-centered learning environment, imbedding information literacy into the curriculum of a required English composition course, is accomplished by a high degree of collaboration among teaching librarians, teaching assistants, and faculty coordinators (Samson & Millet, 2003).
Five-year longitudinal study conducted at Utah State focusing on three interactive IL sessions. “Exploration of both pedagogical approaches and instructional tools expose limitations in practice which enable creative alternatives to traditional methods” (O’Connor, Bowles-Terry, Davis & Holliday, 2010).
Problem-based learning facilitates teaching information and communication technology (ICT). ICT most useful when students define/interpret information needs by recalling prior knowledge and experience, those interpretations are tested, refined, rejected or revised for specific purposes, access to resources and tools are readily available, and formative feedback supports critical thinking about the information retrieval process (Macklin, 2008).
Practice of “one-shot” library instruction session reinforces the perception that the research process is separate from (and simpler than) the writing process. Writing and information literacy are complementary processes that need to be integrated into multiple, contextual classroom sessions (Artman, Frisicaro-Pawlowski & Monge, 2010).
Attention needs to be paid to students’ critical digital literacies (Vie, 2008), and orienting instructors to the interactive nature of technoliteracy pedagogies in contemporary writing classrooms challenges traditional notions that information and communication are the central tenets of technology use (Edwards-Groves, 2012).
“A librarian’s in-class presentation [can be] included in the course outline. Along with that, explanation and links to a small cluster of videos created by the library that outline some of the key concepts and tools students need for their research. Embed assessment questions and hands-on components that require the student to do some work with the databases. Either design is so that they bring a deliverable to class, or require the delivery of that information via the assessment questions within the videos” (Ecclestone, 2013).
Research Study

- Experimental and control groups of ENGL102 sections
- Control groups had single visits to the library to cover
  - Finding and narrowing a topic using background sources
  - Types of sources (popular, scholarly, & trade)
  - Search strategies
  - Using databases
  - Finding books
ILCEP ENGL102 Sections

**Goals:**
- To enhance the information literacy components of course activities and assignments
- Increase the amount class time devoted to teaching information literacy concepts and skills
- Increase student contact with research librarians and encourage students to see librarians as educational resources

- 4 sections across 2 semesters
- ~22 students per section
ILCEP Section: Overview

☐ Three information literacy sessions taught by librarian:

☐ Each session embedded with assignment
  - Defining a Term
  - Working with Data
  - Researching an Argument

☐ Special Research Guide for the class

☐ Quizzes on information literacy concepts
ACRL Standard Four

- The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.
  - Sessions embedded within assignments specifically tailored to assignments
  - Research demonstrates that students perform better if library sessions are linked to assignments.
Data-Driven Analysis: Session II

Sources for Data

- **American Factfinder**
  Index of data provided by the US Census Bureau, including population, ethnic, divorce, economic, poverty, and migration statistics.

- **Statistical Abstract of the United States**
  The Statistical Abstract of the United States, published since 1878, is the authoritative and comprehensive summary of statistics on the social, political, and economic organization of the United States. Sources of data include the Census Bureau, Bureau of Labor Statistics, Bureau of Economic Analysis, and many other Federal agencies and private organizations.

- **Facts on File**
  The Facts on File: Almanac is useful for finding data and data sets. It provides in-depth articles, plus links to newspaper and magazine articles, editorials, and primary documents.

Global Issues in Context

Perspectives on issues, including **global news, primary sources and media**

Browse issues and topics: provides overview articles, **links to newspaper, magazine, and journal articles, books, multimedia, and other reference sources**.

- **Global Issues in Context**
  Perspectives on issues, including global news, primary sources and media.

Visiting from off campus?

From off-campus locations, you will be prompted to enter a username and password when you select a resource.

- **Username** = MyID username (usually the same as the MIX username). Check for MyID username [here](#).

- **Password** = MyID password

Check [here](#) for help with MyID.
Session I: Defining Terms

- **Goal:** This library instruction session is designed to teach students how to generate a focused research question and search terms and how to effectively search the WVU Library reference sources to help narrow their research question based on background research.

- **Objectives:** Upon completion of this lesson students will learn how to use WVU Libraries’ electronic encyclopedias effectively:
  - to help narrow concepts
  - to define concepts
  - to find background information.
Session II: Working with Data

- **Goal:** This library instruction session is designed to teach students how to find data in almanacs and place data within context.

- **Objectives:** Upon completion of this lesson students will learn how to:
  - Use American FactFinder, Proquest Statistical Abstracts, or Facts on File Almanac to find data
  - Create a research question and search terms from data
  - Use USA.GOV and Global Issues in Context to place data within a context
Session III: Researching an Argument

**Goal:** This session is designed to teach students how to narrow their topic; refine their search terms and learn how to find academic journal articles and books.

- Use *CQ Researcher* for topic focus and background information; worksheet in class
- Use *Summon* (discovery tool) to review sources
- Use *EbscoHost: Academic Search Complete* to find journal articles
ACRL Standard Five

□ The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally

□ Supported with embedded videos regarding research, plagiarism, and academic dishonesty
Advanced Research Tools: Boolean Operators

If you're off-campus, access the video through this link:

Advanced Research Tools: Boolean Operators

Advanced Research Tools: Symbols

If you're off-campus, access the video through this link:

Advanced Research Tools: Symbols
ACRL Standard Five: Supporting Materials

- Embedded videos from Cambridge Educational: *Effective Internet Search: Basic Tools and Advanced Strategies*
  - Getting Started: Steps to Research
  - Types of Sources
  - Basic Research Resources
  - Advanced Research Tools: Boolean Operators
  - Advanced Research Tools: Symbols
  - Advanced Research Tools: Evaluation
  - Avoiding Plagiarism
## Pre and Post Test Results

<table>
<thead>
<tr>
<th>Skill</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formulating questions based on information needs</td>
<td>67%</td>
<td>91%</td>
</tr>
<tr>
<td>Identifying potential sources of information</td>
<td>61%</td>
<td>100%</td>
</tr>
<tr>
<td>Developing successful search strategies</td>
<td>33%</td>
<td>100%</td>
</tr>
<tr>
<td>Accessing sources of information, including computer-based technologies</td>
<td>72%</td>
<td>91%</td>
</tr>
<tr>
<td>Evaluating information</td>
<td>61%</td>
<td>100%</td>
</tr>
<tr>
<td>Organizing information for practical application</td>
<td>61%</td>
<td>100%</td>
</tr>
<tr>
<td>Integrating new information into an existing body of knowledge</td>
<td>33%</td>
<td>81%</td>
</tr>
</tbody>
</table>
## Pre and Post Test Results

<table>
<thead>
<tr>
<th>When conducting research in electronic databases, how often do you use the following searching techniques?</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truncation</td>
<td>18%</td>
<td>45%</td>
</tr>
<tr>
<td>Boolean operator “AND”</td>
<td>52%</td>
<td>91%</td>
</tr>
<tr>
<td>Boolean operator “OR”</td>
<td>47%</td>
<td>80%</td>
</tr>
<tr>
<td>Boolean operator “NOT”</td>
<td>35%</td>
<td>72%</td>
</tr>
<tr>
<td>Limiters</td>
<td>61%</td>
<td>55%</td>
</tr>
<tr>
<td>Proximity operators</td>
<td>39%</td>
<td>54%</td>
</tr>
<tr>
<td>Cross and multiple field searching</td>
<td>72%</td>
<td>72%</td>
</tr>
</tbody>
</table>
Pre and Post Test Results

<table>
<thead>
<tr>
<th>Where do you go to find information? Please select all that apply.</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet search engine</td>
<td>94%</td>
<td>100%</td>
</tr>
<tr>
<td>Library Web page</td>
<td>56%</td>
<td>91%</td>
</tr>
<tr>
<td>Friend</td>
<td>17%</td>
<td>9%</td>
</tr>
<tr>
<td>Professor or GTA</td>
<td>56%</td>
<td>36%</td>
</tr>
<tr>
<td>Faculty course Web site</td>
<td>39%</td>
<td>27%</td>
</tr>
<tr>
<td>Library</td>
<td>56%</td>
<td>55%</td>
</tr>
</tbody>
</table>
Selected Responses to Post-Library Session Surveys

“This library session was actually really helpful and beneficial. Being able to use these databases is really going to help me construct very good research papers.”
Selected Responses to Post-Library Session Surveys

“I'm really glad you have this. I was pretty clueless before I came in here and I'm glad I now know where to find these databases.”
Selected Responses to Post-Library Session Surveys

“The librarians are a more useful resource than I have perceived in the past. Research guides are an effective way to find valuable information for a paper.”
# Pre and Post Test Results: 2nd study

<table>
<thead>
<tr>
<th>COMFORT LEVEL WITH SKILLS (COMF + VERY COMF)</th>
<th>PRE</th>
<th>POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formulating questions based on information needs</td>
<td>68.6%</td>
<td>91.8%</td>
</tr>
<tr>
<td>Identifying potential sources of information</td>
<td>66.7%</td>
<td>87.8%</td>
</tr>
<tr>
<td>Developing successful search strategies</td>
<td>52.9%</td>
<td>89.3%</td>
</tr>
<tr>
<td>Accessing sources of information, including computer-based technologies</td>
<td>72.6%</td>
<td>91.6%</td>
</tr>
<tr>
<td>Evaluating information</td>
<td>76.5%</td>
<td>93.8%</td>
</tr>
<tr>
<td>Organizing information for practical application</td>
<td>70.6%</td>
<td>88.8%</td>
</tr>
<tr>
<td>Integrating new information into an existing body of knowledge</td>
<td>67.6%</td>
<td>96.0%</td>
</tr>
<tr>
<td>Using information in critical thinking and problem solving</td>
<td>76.0%</td>
<td>93.8%</td>
</tr>
</tbody>
</table>
## Pre and Post Test Results: 2\textsuperscript{nd} study

<table>
<thead>
<tr>
<th>EXPERIENCE W/INSTRUCTORS IN COMPLETING REQUIRED ASSIGNMENTS</th>
<th>PRE</th>
<th>POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers and instructors require no use of outside materials for completing course assignments</td>
<td>28%</td>
<td>18%</td>
</tr>
<tr>
<td>Teachers and instructors require use of only lectures and assigned textbook(s) for completing course assignments</td>
<td>61%</td>
<td>27%</td>
</tr>
<tr>
<td>Teachers and instructors require use of library to retrieve reserve materials</td>
<td>56%</td>
<td>63%</td>
</tr>
<tr>
<td>Teachers and instructors make use of library materials (print and/or electronic) when presenting course material and lectures</td>
<td>78%</td>
<td>73%</td>
</tr>
<tr>
<td>Teachers and instructors require or suggest use of library materials (print and/or electronic) when assigning coursework</td>
<td>72%</td>
<td>82%</td>
</tr>
<tr>
<td>Teachers and instructors invite librarians to introduce course-related library materials (print and/or electronic)</td>
<td>28%</td>
<td>63%</td>
</tr>
</tbody>
</table>
Pre and Post Test Results: 2\textsuperscript{nd} study

<table>
<thead>
<tr>
<th>WHERE DO YOU GO FOR INFORMATION?</th>
<th>PRE</th>
<th>POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet search engine</td>
<td>94.1%</td>
<td>95.8%</td>
</tr>
<tr>
<td>Library Web page</td>
<td>64.7%</td>
<td>97.9%</td>
</tr>
<tr>
<td>Friend</td>
<td>27.5%</td>
<td>18.8%</td>
</tr>
<tr>
<td>Professor or GTA</td>
<td>37.3%</td>
<td>58.3%</td>
</tr>
<tr>
<td>Library</td>
<td>45.1%</td>
<td>47.9%</td>
</tr>
</tbody>
</table>
Pre and Post Test Results: 2\textsuperscript{nd} study

<table>
<thead>
<tr>
<th>USE OF LIBRARY</th>
<th>PRE</th>
<th>POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>I find what I want</td>
<td>8.0%</td>
<td>27.1%</td>
</tr>
<tr>
<td>I find what I want, but it’s frustrating</td>
<td>60.0%</td>
<td>62.5%</td>
</tr>
<tr>
<td>It’s a frustrating place</td>
<td>12.0%</td>
<td>8.3%</td>
</tr>
<tr>
<td>I avoid the library</td>
<td>20.0%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HOW OFTEN DO YOU USE THE LIBRARY WEB SITE TO COMPLETE ASSIGNMENTS</th>
<th>PRE</th>
<th>POST</th>
</tr>
</thead>
<tbody>
<tr>
<td>All the time</td>
<td>4.1%</td>
<td>14.6%</td>
</tr>
<tr>
<td>Most of the time</td>
<td>28.6%</td>
<td>37.5%</td>
</tr>
<tr>
<td>Some of the time</td>
<td>40.8%</td>
<td>45.8%</td>
</tr>
<tr>
<td>Don’t use library</td>
<td>26.5%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>
What’s Next?

- **Scalability:** How do we implement a multi-session, integrated IL component across 160+ sections of composition per semester?

- **Curricular Revision:** What do we need to rethink in our curriculum to integrate IL successfully?

- **Instructor Training:** How do we train instructors to integrate IL effectively in their courses?

- **Assessment:** How will we assess IL instruction in composition with an eye towards both curricular outcomes, institutional competencies and college accreditation?
Flipped Learning for Scaled Instruction?

- Flipped learning environment is the ability to reach several different learner types at varying cognitive levels.

- Lower-level dependent learners noted that having access to the instructor during class time helped them in understanding the material.

- The concept of informed learning includes using information, creatively and reflectively in order to learn (Bruce et al., 2012).
Inverting or flipping info lit instruction can support:

- **A) faculty issues such as:**
  - the burden of repetitive instruction.
  - the workload of planning instruction.
  - the lack of pedagogical training.

- **B) student issues such as:**
  - the desire to take responsibility for one’s learning.
  - the need for hands-on learning.
  - avoiding the “been there-done that” attitude.

- **C) departmental issues such as:**
  - uniformity of content across multiple course sections.
  - quality control across library faculty.
Flipped Learning for Scaled Instruction?

For inverted instruction to work it must...

- be applied appropriately and strategically.
- be both meaningful and interesting.
- include student accountability for interacting with the outside materials.
Flipped Learning for Scaled Instruction?

Things to consider:

- Recognize that not all instruction can be inverted.
- Assume you won’t find exactly the learning modules you need online.
- Be prepared to create your own learning modules.
- Keep it simple, keep it short.
- Be prepared to invest lots of time in creating modules (especially at the beginning).
Flipped Learning for Scaled Instruction?

Creating modules

- Choose technology according to pedagogical needs.
- Identify limited, specific pedagogical goals for each module.
- Address differing learner styles and needs.
Next Steps

- Define goals and objectives for each rhetorical aim in ENGL101 and ENGL102
- Identify information literacy concepts and practices that support the courses’ goals and objectives
- Develop team of instructors, information literacy specialists and instructional designers
- Design modules
- Beta-test in Fall 2016 and assess
- Modify as needed
- Aim for Fall 2017 program implementation
References


