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BEYOND THE LIBRARY ONE-SHOT: SCAFFOLDING A RELEVANT AND AUTHENTIC FOUNDATION FOR FIRST-YEAR STUDENT RESEARCHERS

DONNA HARP ZIEGENFUSS

INTRODUCTION

Often students, especially first-year students, do not see the relevance of library instruction. Therefore, they do not want to invest in learning new library research tools or strategies because they think all they need is Google. As librarians, we know that what we do helps students become better researchers, but if we do not explicitly verbalize our value and organize our instruction to include student motivation and engagement strategies, students will not recognize what we are trying to do and they will tune us out. This paper will present a framework grounded in the backward design work of Fink (2013), called the Quality Course Framework or the QCF (Ziegenfuss, Thomas, Hjorten, Li & Sanders, 2010-2018). It was designed by a librarian and four instructional designers and is used at our campus-level for designing courses (Figure 1). Using this framework can help librarians articulate their approach to designing, building, teaching and evaluating library instruction, and provide a foundation for thinking differently about planning instruction. This paper presents a case study of how to use this model to redesign library instruction for first-year students by working through problems we often encounter as librarian-teachers. This holistic process requires that librarian-teachers draw on their roles as teachers, instructional designers, technologists, and researchers.

Figure 1. Quality Course Framework Model (University of Utah, 2011)

The [QCF framework](#) consists of four phases: (1) Design; (2) Build; (3) Teach; and (4) Revise. Depending on your instructional design needs, you can start in any phase of this model. This case study begins in the *Revise* phase of the model—the last phase—to identify the problem first before designing. This paper also demonstrates how additional tools, strategies, and resources can be integrated into the QCF to help supplement and enhance the design process. The ARCS motivation model (Keller, 2009), is one such tool that can be integrated into the QCF. The ARCS model contains four key learning process elements (Attention, Relevance, Confidence, and Satisfaction). It is used to encourage student motivation in a variety of teaching contexts, and one I have found especially helpful as a librarian-teacher (Cheng and Yeh, 2009; Li and Keller, 2018; Weiler, 2005).

STARTING WITH THE REVISE STAGE: LIBRARIAN AS RESEARCHER

To begin this project, I began at the end of the process, in the *Revise* phase to identify my problem before jumping into the redesign process. Why are students unengaged in learning about the library and the support we provide to help them with research projects? Why don't students see value in developing research skills? Head (2013) contends that students have trouble finding and using library resources and often fall back on their most comfortable tool, Google, to do research. Dr. Head, who is the director of Project Information Literacy (PIL), also reports that 80% of college students don't ask librarians for help (Head, 2013, p. 475). This becomes a problem when teaching one-shot sessions because if students do not feel comfortable following up, they will get stuck later in the research process and get frustrated. The more I read the research and talk to students, the more I realized that students can harbor anxieties about doing library research (Bostick, 1992; Onwuegbuzie, Jiao, & Bostick, 2004). I became convinced we needed to organize library sessions that piqued their interest first, before they felt comfortable developing research skills and therefore stay engaged enough to follow-up or ask questions

Starting in the QCF *Revise* phase uses Fink's backward design process, and begins instructional planning at the end of the process. Rather than assume I knew what the problem really was, I asked students about their comfort level doing library research and the challenges they face doing research. After conducting a small survey pilot in three sections of one course, 834 surveys were

collected from a variety of different types of library classes across two academic years (one-shots for writing classes, one-shots for honors classes, and three-session embedded developmental writing courses). The survey contained eight quantitative questions as well as open-ended questions. I administered the survey before the one-shot session and then again during the last week of the semester to see if comfort levels had changed across the semester even though I only saw students once during the semester. Survey pre-and post-Likert question mean scores are shown in Table 1. The two lowest means—using the library catalog and finding books in the stacks—were important in focusing my revisions. Three open-ended responses were coded, categorized and analyzed using qualitative methods (Strauss & Corbin, 1990). The two questions in the pre-survey were: What do you want to learn, or hope to learn in this library session? and What questions do you have about doing research? In the post-survey there was only one question: What was the most valuable thing you learned about doing research? Four themes were uncovered from the comments and percentages are shown in Table 2. Although I thought I would uncover a lot of codes about library anxiety, the two largest categories were about learning how to use the library resources and about valuing library resources. I didn't think students 'valued' the library session content; my assumption was mistaken. The third category about becoming a more efficient and effective researcher was a surprise. I thought this might be a good 'hook' to focus my efforts for teaching improvement. Looking at the findings I envisioned ways I could scaffold across one-shots and consultations, and even incorporate them into graduate classes I was teaching.

Table 1. Quantitative Likert-scale questions and mean scores (n= 834; on a scale of 1, not comfortable to 5, very comfortable)

Table 2. Total coding frequency numbers (and %) of comments across the three open-ended questions for the four qualitative themes.

THE DESIGN PHASE: LIBRARIAN AS INSTRUCTIONAL DESIGNER

Once the appropriate approach was identified from the survey data, I began re-thinking my instructional strategy. I used the qualitative finding about becoming a more efficient researcher to provide the foundation for how the library sessions would be organized. Instead of providing a lot of information and databases, I offloaded information into an online resource they could use after the one-shot session and instead organized my sessions by talking explicitly about strategies for becoming an efficient researcher tied to research tools. I created a cross-walk of library outcomes, ACRL frames, the AACU LEAP information literacy rubric and the five strategies to create a visual discussion tool for working with faculty partners. Plans for one-shot sessions, as well as the survey findings, were shared with faculty partners to discuss their priorities for the library research sessions. With the outcomes identified, an alignment grid (example in Appendix A) that visually aligns the outcomes to teaching activities and possible assessments was also shared with faculty partners. This same process could be scaffolded to design online library modules and embedded librarian project-based sessions. Faculty collaboration was easier with data in hand and a visual idea matrix. Although I was prepping to teach one-shots, I was also thinking beyond the one-shot. I also created a flipped one-shot where students would search the catalog looking for books before coming to class; and then spent class time out in the stacks looking for books. This addressed the low comfort scores for using the library catalog and finding books in the stacks. Some faculty saw this as a priority and requested an extra library session to do this.

The data collected in the *Revise* Phase was used to reframe my instructional plan in the *Design* phase to focus more on students expressed needs and fears and less on what I thought I should be teaching. In the survey, students stated, "I don't know where to begin" and "I want to learn how to be more effective and efficient when doing research". Because of the prevalence of these types of comments, the one-shot session was redesigned around the '*Top Five Strategies of Effective and Efficient Researchers*' instead of just focusing on providing library information and resources. This 'five strategies' approach provided a variety of options for scaffolding:

- Sessions could be based on audience level, discipline, and purpose
- Faculty partners could add sessions to go into more depth, or limit my session to those strategies they wanted to focus on.
- A brief overview of five strategies could be provided even in a one-shot
- In multiple library sessions, you can go into more depth on some strategies.
- Advanced tools and topics can be added depending on audience.
- Five Strategy handouts were presented in paper and electronically for follow-up needs.

The five top strategies are:

1. **Get Organized: Develop a Research Toolbox** – Set up tools for 'doing' research (library tools, but also the cloud storage solution, Box, for organizing resources found, citation management tools, GoogleCloud (GCloud) for shared writing and presentations, and connecting Google Scholar to the library catalog).

2. **Go Broad to Start** – To start with Google, Google Scholar, or library catalog to do a broad search – find keywords and subtopics to narrow searches, do concept maps to identify and link subtopics and keywords, identify different types of resources.
3. **Dig Deeper** – Delve in deeper into databases for more specific and scholarly resources, use identified keywords from the go broad strategy and follow frequently occurring authors, journals, etc.
4. **Mine What You Find** – Use reference list from good articles, search seminal authors, create lists of relevant journals, compare and contrast resources.
5. **Ask for Help** – I provide my contact info, liaison list, chat and email, writing center information, liaison information, etc.

THE BUILD PHASE: LIBRARIAN AS INSTRUCTIONAL TECHNOLOGIST

In the *Build* phase, everything comes together. What technology do I need to teach? What tools will I use? Will there be supplemental materials? How will I organize the lesson? Here is where teaching models or tools are considered and integrated to help implement the design. This is where the engagement piece is connected to the teaching plan. The ARCS model is a way to think of ‘how’ to organize the session teaching plan. By teaching the five strategies, I grab their *attention* by articulating how I will teach them strategies to become more efficient researchers. This gets their attention because they want to be become more efficient and not waste time floundering in the research process. I use stories, search and keyword examples from previous classes, and demonstrate some things they do not know like Google hacks and this helps build my credibility demonstrating things they did not know about Google. I also draw on their prior experience to engage them. Sometimes using a polling tool; sometimes just in conversation. I explicitly articulate how what they learn will be *relevant* to them in the real world, and how it can be used in other classes. I teach tools they can use for other projects like concept mapping and how to set up a GCloud space for collaborating. I explicitly explain the ‘why’ behind what they do. I plan time for them to work and apply what I demonstrate or discuss, and I walk around and help them to build *confidence* and talk to them to build rapport. Lastly, I try to use short formative assessments like CATs (Angelo and Cross, 1988) to find out what they learned and what was most valuable for them (*satisfaction*). I use the data I collect to refocus future sessions. Another model I have used is the Three Dimensions of Learning Engagement (Willms, Friesen & Milton, 2009) that delineates learning into social, intellectual, and academic engagement. I also think about the three different aspects of research, information literacy and writing and how that intersection might look in my classroom. In the *Build* Phase I use:

- [Supplementary online materials website](#) for faculty where they can pick materials in a variety of formats to complement the instructional plan in the learning management system (LMS).
- Brainstorm ideas for the intersection of research, information literacy and writing ([examples](#))
- Use an [Active Lesson template](#) (demonstration then practice) to work out the details of my lesson

THE TEACH PHASE: LIBRARIAN AS TEACHER AND CONTENT EXPERT

For librarians, this phase is the easy part, we are experts in doing research, using search strategies, and finding and evaluating resources. Having an explicit plan created in the *Design* and *Build* Phases, makes the teaching easier. This work can also be adapted to different formats such as online library sessions, flipped library sessions, embedded teaching, or even a credit information literacy without too much planning. Here are some tips:

- Think about the ARCS model as you teach; also grab their attention and allow time for practice of skills to build confidence while you are in the room for questions.
- Use active learning strategies to engage students in the ‘doing’ of research alone or in groups.
- Have students reflect on what they did and what they would do differently or what they learned.
- Demonstrate technology to build community by using the social aspects of learning and integrate technology tools to show how effective researchers do research and save time.
- Collect data by using informal assessment tools such as Classroom Assessment Techniques, or CATs (Angelo & Cross, 1988).
- Collaborate and coordinate with your faculty partner to design an authentic assessment such as an annotated bibliography, literature review, group presentation or research paper that will be due at a later date.
- Observe students in class and keep a teaching journal so you can analyze your thoughts and look for patterns of success and failure. Watch what they are doing as they work, you can identify bottle necks where they get stuck.
- Set up discussion forums in the LMS and answer student questions after one-shots.

CONCLUSIONS

Looking back on the QCF framework, the *Revise* phase required the most time and commitment before even starting to design instruction; however, it also set the stage for incorporating the student voices into my redesign. It helped to focus the redesign, be strategic when revising, and create a foundation for scaffolding future classes. Once you teach, you are ready to move back into

the *Revise* phase of the QCF model and you can evaluate how it went. Use informal student data questions to add to an online library FAQ resource. Post supplemental handouts, links, and resources on open LMS pages for students to use after the instruction.

This process of continual improvement and building on one-shot instructional materials has opened new doors for collaboration. In one class, I was asked to help students conduct social science research. I now teach students how to write survey questions, set up a survey, collect data and analyze data integrated with library research. In another class, where students research diversity topics and then teach that topic to their peers, I include instruction on writing learning outcomes and designing lessons integrated into my library instruction. Taking initiative and going beyond traditional library teaching can result in some challenging and exciting library instruction sessions. It can build partnerships and make deeper connections to the students. It can also help you find out what students really think, what they worry about and help you build more authentic relationships with them.

LOEX PRE-PRINT

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APPENDIX A: ALIGNMENT GRID EXAMPLE FOR AN EMBEDDED LIBRARIAN PROJECT

Example grid for one session of a 5-library session project

First Session: Exploring the Topic - Articulating keywords: Students will work together with their group to explore the general subtopics and problems they are interested in related to GMOs and develop keywords for searching. This session will introduce the library research process, demonstrate search strategies, explore the scholarly conversation across scholarly and popular sources, and find and cite sources with their group. Overall goal of the 5 library sessions: These library sessions build to a group assignment where the groups will select a subtopic of GMOs (Genetically Engineered Organisms), they will relate that subtopic to a particular population. They will design a survey and collect survey and interview data and then create an action plan to target an aspect of a problem that will be presented at the end of the semester.

Leap 1101 UG Learning Objectives:	Library Outcomes Students will be able to:	Assessments	Teaching Activities/Student Practice	Technology/Teaching Needs
<p>1. Critical Thinking</p> <ul style="list-style-type: none"> • reading for main ideas • assessing issues from different perspectives <p>2. Collaboration</p> <ul style="list-style-type: none"> • small group discussions • work in teams • negotiation and compromise <p>3. ACRL Frames for Library Learning</p> <ul style="list-style-type: none"> • Searching as Strategic Exploration • Scholarship as conversation 	<p>Engage in the research process and construct knowledge by:</p> <ul style="list-style-type: none"> • Defining a research topic/keywords • Articulating information needs and research purpose <p>Demonstrate effective information seeking skills for locating, selecting, retrieving and evaluating information by:</p> <ul style="list-style-type: none"> • Discerning between scholarly /popular sources • Using popular sources to explore topic • Locating books in Usearch and finding them in the stacks 	<p>Students will complete and submit a concept map by brainstorming ideas for research subtopics which will yield keywords for starting a preliminary searching</p> <p>Students will do a preliminary search on the subtopics - each member in a group finding different resources to help them narrow down their search -</p> <ul style="list-style-type: none"> • Look at current popular resources • Google hacks - Look at reputable govt and organizational websites • Look at online books in USearch • Assessment - They will submit a reflection about what they learned 	<p>Brief Introduction to the structure of information, how to use Google Hacks to use google better, strategies to explore reputable information sources, and Usearch</p> <p>Quick demo on accessing Google Drive and setting up a group work space</p> <p>Spend most of time working on narrowing down the research topic in their groups and do preliminary searching</p>	<ul style="list-style-type: none"> • Canvas Page - where all class materials will reside • Concept map sheet they will complete in class and submit after class • Popular Resources: for the selected topics will be collected for each topic <ul style="list-style-type: none"> ○ Reputable popular sources (New Republic, The Atlantic, The Economist, Pew Research Center, etc.) ○ Bring some books and periodicals to look at in class from the collection

Images for Tables and Figures (Editor will put in body of the text later)

Figure 1. Quality Course Framework Model

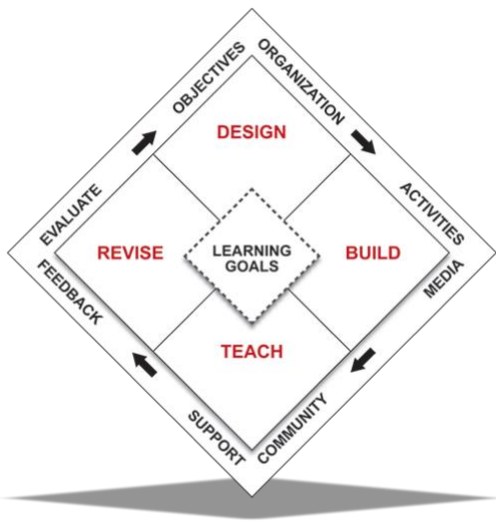


Table 1. Overall pre-and-post surveys means for all survey questions (n=834; on a scale of 1 being not comfortable to 5 being very comfortable)

	Mean Totals of Pre-Survey	Mean Totals of Post- Survey Each Question
1. General comfort level with research and using library resources	3.04	3.63
2. Understanding the information seeking and research process	3.25	3.85
3. Comfort level with web-based research (ex. Google & websites)	4.18	4.40
4. Using the Usearch library catalog	2.50	3.53
5. Comfort level using keywords	3.63	4.10
6. Knowing how to find a book in the library stacks	2.51	3.17
7. Knowing where to get help with research	2.97	3.89
8. Know what a citation is and using citations*	3.82	4.25
9. Overall survey pre/post means	3.04	3.64

Table 2. Total frequency numbers (and %) of comments across the three open-ended questions

Four Categories of Comments	Pre-survey Question	Post Survey Questions	Total # of Codes by Category
Learning about library research sources and services	128 (43.1%)	169 (56.9%)	297 (100%)
Valuing library resources	89 (50.9%)	86 (49.1%)	175 (100%)
Becoming a more efficient/effective researcher	104 (74.3%)	36 (25.7%)	140 (100%)
Other library resources, tools and support	38 (31.4%)	83 (68.6%)	121 (100%)
Expressing anxiety and needs	40 (62.5%)	24 (37.5%)	64 (100%)
Total # of Codes by Survey	399	221	797