

“It all looks the same...” Using the Jigsaw Technique to Solve the Research Puzzle

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As librarians, we know that students face many challenges when it comes to research, from selecting a topic to identifying appropriate source types, to name but a couple. Recently, my colleagues at SUNY Fredonia and I became aware of another challenge facing students: distinguishing between research tools, especially databases.

Early last semester, in one of my library instruction sessions, I overheard part of a conversation between students that led me to question my instruction method, both in the classroom as well as at the reference desk: “What’s the big deal? You just type what you want into EBSCO and it gives you what you want.” Were students under the impression that EBSCOhost was simply one database rather than an access point to multiple databases, which themselves contain multiple sources? Also, were students aware that other tools existed?

After the class, I approached two of my colleagues regarding the comment. Based on a discussion about our experiences, both in the classroom and at the reference desk, it was apparent that more and more students were under the impression that EBSCOhost was, in fact, a single database rather than an access point. Why is this a problem? It is a problem because if students are confused or misinformed about research tools, they are searching ineffectively, wasting time, and limiting the type of information available to them. EBSCO’s products are great, and our campus relies heavily upon them, but they are not always the right tool for the job.

Where was the disconnect? Were my teaching methods no longer effective? Had I relied on certain strategies too long? Was I not approaching classes from the right point of view? What was it about EBSCO, if anything, that was causing this? It was time to find out.

As I looked over my lesson plans, focusing on the different approaches to teaching different research tools, it appeared to me, ironically, that although EBSCO does a phenomenal job of providing an easily recognizable and accessible interface, it might be at least a part of the cause of this problem. Students recognize the familiar “blue and green” interface with the prominent circular logo, but do not even consider the unique content of the individual databases, as they are only readily accessible from a small “Choose Databases” link – one of many blue links on the search page and thus easily overlooked.

I cannot simply blame EBSCO. It is my duty as a librarian to ensure that students, as well as faculty, have a

firm understanding about the tools they are using for research. It was clear that I needed to evaluate my instruction methods in order to find the best approach to this problem.

Although I typically focus on at least two research tools, it was now apparent that the students need more time to explore the research tools: to learn, through a series of guiding questions and sample search strategies, about the similarities, differences, advantages and pitfalls of the research tool. But how could this be achieved?

As I was brainstorming different ways to address these needs, a colleague suggested the jigsaw technique, an approach that I was aware of but had never attempted. The jigsaw technique, according to the Greenwood Dictionary of Education, is defined as:

A specific procedure for cooperative learning...groups are made up of three to six members with a student responsible for becoming an expert on a subtopic or theme. Members of other teams in the same classroom who are investigating the same subtopic may meet in expert groups to discuss what they are learning. Upon completion of the research, each member returns to the jigsaw group to present information the subtopic to other group members (p. 193)

This approach appeared to be perfect for what I was trying to achieve. It allows for small group work, which is hands-on and learner-centered, focusing on a direct comparison between different research tools and fosters discussion. Most importantly, it places the learning responsibility directly in the hands of the student.

An upcoming instruction session for an upper level English course focusing on Renaissance literature, with a five-page research paper with a minimum of three peer-reviewed articles and one book chapter, seemed to be the perfect venue to pilot this approach. This class had twenty-five students, and since it attracted both English majors and those from the general education program, there were sure to be a wide variety of search skills (and perhaps some bad habits) present.

With a course and approach in place, I sat down to map out my learning objectives and outcomes, classroom setup, research tools, guided questions, sample search strategies and activities. This is how I approached the class:

First, I identified the research tools, both print and electronic, that would best meet the needs of the students based not only on the assignment but from various conversations

with the instructor. Next, I developed guided questions which would allow exploration of the research tools, focusing on the similarities, differences, advantages and pitfalls. Finally, I determined what sample search strategies would render the best examples of these four elements. Although guided questions and sample search strategies may appear as prescriptive, it is the only way I could ensure the students not only experience but understand the four elements in the allotted time.

I decided to break the class into four activities, involving five groups of five students to make the most efficient use of time. Every group would have one print reference source as well as computers to access their assigned electronic research tool. This configuration would ensure collaboration and discussion within the groups.

It should be noted that the technique that I employed and am about to describe may be considered a modified jigsaw technique because rather than assigning one individual in each group the responsibility of being an expert, I began with the expert groups (after a introductory activity to get them started and thinking about research) and broke the groups down from there. I did this simply in the interest of time.

The first activity, the “Bell Ringer”, took approximately ten minutes. Each group was asked to answer, to the best of their ability, four questions concerning their assigned print reference source, e.g., subject specific encyclopedias, dictionaries. The five print resources were *Women’s Roles in the Renaissance*, *Encyclopedia of the Renaissance*, *The Renaissance: An Illustrated Encyclopedia*, *A Biographical Dictionary of Renaissance Poets and Dramatists, 1520-1650* and *The Oxford Companion to English Literature*. The questions focused on four key elements: source type, purpose, navigation and location within the library. After each group had completed the activity, the class came together for a brief discussion about the benefits of using these types of resources in their research.

The second activity, the “Expert Groups”, took approximately thirty minutes. Each group was provided a handout with information regarding the group’s particular electronic research tool, sample search strategy and guided questions. Each group was asked to locate the assigned electronic research tool from the library homepage, conduct the sample search “women and renaissance” and answer, to the best of their abilities, the guided questions. The five electronic research tools were Summon, WorldCat, MLA International Bibliography, Humanities International Complete and Academic Search Complete (the last three provided by EBSCO). The guided questions focused on six key elements: results retrieved, type of results (e.g., Articles, Book Reviews, Newspaper Articles), relevance, improving the search strategy, narrowing results and obtaining the full text

of sources. After each group had completed the handout, it was time to move on to the third activity.

The third activity, “Peer Sharing”, took approximately thirty-five minutes. To begin with, each member of the “Expert Group” was assigned a number from one to five. The number represented the new group where the experts would share the information that they had just acquired. This activity, however, requires more than just reading the guided questions and answers. Each student was responsible for replicating the search for the tool about which they were an “expert”, step by step, and discussing how they had arrived at their previous group’s particular answers or conclusions.

The fourth activity, the “Wrap Up Discussion”, took approximately fifteen minutes. After each member was through presenting, we came back together as a class for a brief discussion. The discussion began with questions about the obvious similarities between the research tools, which eventually turned to the differences, advantages and pitfalls. This discussion was also a great venue to discuss other research services offered by the library.

It was clear, not only from the discussion during the instruction session but also from the quality of work that the students eventually produced, that this particular approach was a success. The faculty member, in a follow-up email, praised the lesson stating how she believed the “students benefited greatly from the coherent and inspiring lesson.”

After this initial pilot, I used this lesson plan in three other courses that semester. In addition, my colleague used the lesson plan in two courses that semester. All were very successful, which, in addition to the level of classroom discussion and quality of student work, was measured by the noticeable drop in the number of individual research appointment requests from the six classes.

Although the initial prep time for this lesson was a bit longer compared to other lesson plans, ten hours compared to eight, once the structure was in place, it was simply a matter of manipulating the sample search strategies and identifying the appropriate research tools. If I had less time than the ninety minutes that I had in the pilot, I simply reduce the number of tools which were discussed and/or slightly decrease the amount of time devoted to each activity.

Now that I have implemented this lesson plan several times in my own classroom, here are some tips for implementing this in your own classroom:

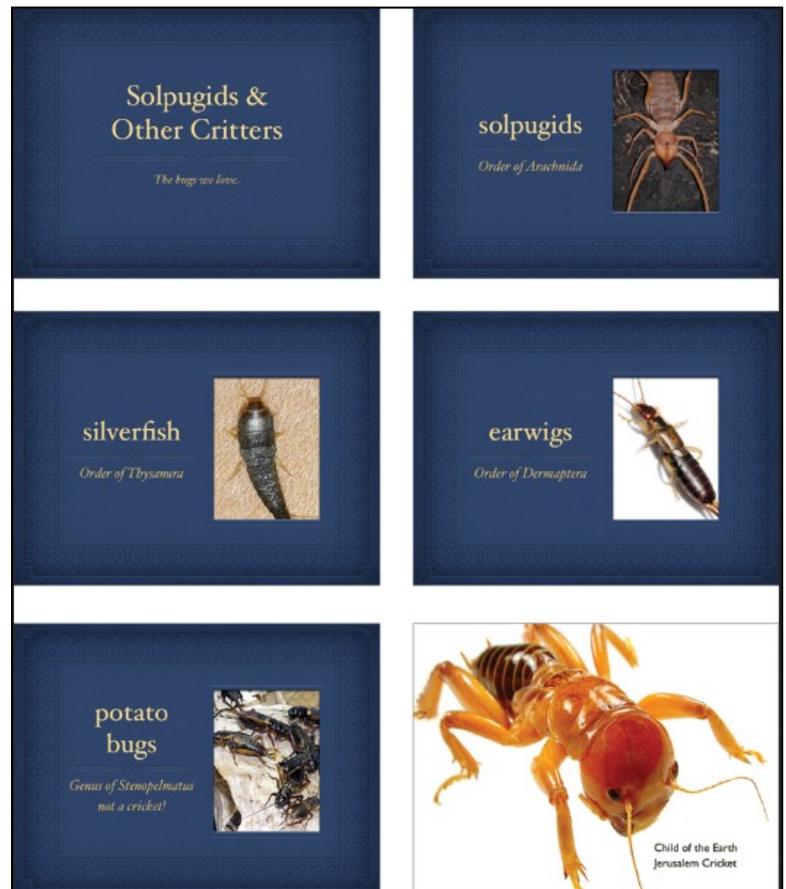
(Jigsaw...Continued on page 3)

The entirety of this book is strongly recommended reading for any librarian who uses presentation software, whether for one-shots or for-credit information literacy courses, or for presentations at a conference. Even educators with a surfeit of presentation experience are guaranteed to learn something new from this book.

References

Williams, R. (1994). *The Non-Designer's Design Book: Design and Typographic Principles for the Visual Novice*. Upper Saddle River, NJ: Pearson Education.

Figure 1: One of many visual examples from the book, along with the text about the picture



By its very nature, contrast calls attention to itself. You have surely been (or can imagine being) in a place where the way you look is very different from all those around you—even though you may be a very ordinary person amongst your own kind, you stand out in some places by contrast. It's pretty much the same in a slide-show, so take advantage of that. For instance, perhaps you are going along talking, talking, talking, showing your slides, and there's something coming up that is so stunning that you really want your audience to sit up and take notice—give it a remarkable contrast.

You can imagine sitting in a darkened room looking at small bugs and then—kapow—the most Magnificent Insect of All appears on the screen, hugely.

- Picture and text from [pg84](#)

(Jigsaw...Continued from page 9)

1. Keep it small. Jigsaw is intended for groups of three to six, and that is wise: a large group is not as effective, as it increase the chance of students not participating.
2. Prep is key. This lesson, as I mentioned before, requires a large amount of prep work. However, once you have successfully created one jigsaw, it is easy to create others.
3. Jump on in. In this lesson plan, a majority of the learning responsibility is placed on the students. Although you have identified the research tools and sample search strategies, it is up to the students to teach each other the

similarities and differences. You should be prepared to actively participate in order to correct misconceptions or mistakes. Also, students are often absent, leaving some groups without representatives for a particular research tool. As a result, you may need to step in as the “expert” for one or two.

4. Venture outside your comfort zone. This approach is a great way to try something new in your classroom. Embrace it. Remember, it is only a pilot.

References

Collins III, J.W., & O'Brien, N.P. (Eds.). (2003). *The greenwood dictionary of education*. Westport, CT: Greenwood Press.