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Practice

Recycling C.R.A.P.

Reframing a Popular Research Mnemonic for Library Instruction

Robert E. LeBlanc & Barbara Quintiliano

*Robert LeBlanc is First Year Experience & Humanities Librarian
at Falvey Memorial Library, Villanova University, robert.leblanc@villanova.edu*

*Barbara Quintiliano is Instructional Design Librarian/Nursing & Life Sciences Team Leader
at Falvey Memorial Library, Villanova University, barbara.quintiliano@villanova.edu*

In 2015, the American Association of College and Research Libraries jettisoned its long-standing set of Information Literacy Standards for Higher Education and adopted the richer, more flexible Framework for Information Literacy for Higher Education. Composed of core concepts rather than prescriptive objectives, the Framework more closely mirrors the complexity of the rapidly evolving academic environment and encourages engagement on the part of students. However, many instruction librarians find that the framework's flexibility also poses pedagogical challenges. The authors describe how instruction librarians at one university library have adapted and used a popular mnemonic device when presenting the frames, thus promoting greater student reflection and interaction.

The recent introduction of the Association of College and Research Libraries (ACRL) Framework for Information Literacy for Higher Education has redefined information literacy standards and shifted them from "a set of standards, learning outcomes, or any prescriptive enumeration of skills" to a broader "cluster of interconnected core concepts, with flexible options for implementation" (Association of College and Research Libraries, 2015). While much has already been written about how the framework has changed the way instructional librarians will deliver and assess information literacy outcomes, the current challenge is how to introduce these advanced concepts into research classes. Instructional librarians at Villanova University's Falvey Memorial Library have repurposed a popular mnemonic acronym, C.R.A.P., to introduce these new concepts to undergraduate students and elevate the instructor's pedagogical goals in information literacy instruction.

The C.R.A.P. acronym has been widely used by instructional librarians to introduce students to the ideal attributes of scholarly information and website reliability since it was first introduced in 2008 at the LOEX of the

West conference by Orenic and Beestrum (2008). The traditional acronym, based on the ACRL Information Literacy Competency Standards, stands for:

- **Currency**:
  How current is the information? What does "current" mean for the discipline in question?

- **Reliability**:
  How accurate is the information and what is its provenance? Are there references and are
  those references in the proper format?

- **Authority**:
  Who produced the information and are the authors considered experts and respected in their field?

- **Purpose/Point of View:**
  What is the purpose of the resource? Does it present facts or is it biased and/or primarily a collection of opinions?

An alternate version, C.R.A.A.P., is also used with the second "A" standing for accuracy of information, but Villanova University librarians invariably opted for the simplified version. We will use that for the purpose of this paper.

While undoubtedly scatological and silly, the C.R.A.P. acronym is memorable, especially for students in a secondary education or college environment. It is also simple, requiring students to memorize only four simple attributes applicable to the majority of acceptable scholarly resources. Attracted by this simplicity, instructors at Villanova University's Falvey Memorial Library have experimented with adapting the ACRL Framework using the same memorable acronym.

Since its introduction, the framework has inspired a host of criticism. As summarized by Beilin (2015), many librarians have expressed concerns with the framework ranging from its inscrutable "jargon," to its reliance on the theory of threshold concepts, to the difficulty in assessing results and outcomes due to its broad conceptual theory. However, these considerations are outside the scope of this article. As librarians who have embraced the new framework along with its imperfections, we have chosen to adapt its six inherently repetitive core concepts, or frames, shown below:

- Authority Is Constructed and Contextual

- Information Creation as a Process

- Information has Value

- Research as Inquiry

- Scholarship as Conversation

- Searching as Strategic Exploration

The use of overlapping language in these six frames is a glaring flaw. The Oxford Thesaurus lists the words inquiry, research, exploration, and search as synonyms (Inquiry, 1992, p. 238). While the Framework goes to great lengths to break out the nuances of these terms, we cannot expect students to do the same. We chose to collapse the six frames into four distinctive, easy-to-digest concepts.

The new C.R.A.P. acronym we developed stands for:

- Conversation

- Revision

- Authority

- Property

As with the original C.R.A.P. acronym, instructors still write the mnemonic on the white board at the front of the room and require students to shout it out in a clear voice, inspiring titters and quizzical smiles. However, the meaning behind each letter has changed dramatically. Whereas the ACRL Standards, and by extension, the old C.R.A.P. acronym, dealt with distinct, practical outcomes and could be plotted on the lower remember, understand, and apply levels of Bloom's taxonomy, the framework rises to the analyze, evaluate, and create levels of the taxonomy, encouraging students to think about concepts and their creative place in the academic realm. (Anderson & Krathwohl, 2001, pp. 30-31). The framework also touches on the affective objectives laid out in Blooms taxonomy, those outcomes that emphasize tone, emotion, and degrees of acceptance or rejection (Bloom, Krathwohl, & Masia, 1956) by prompting instructional discussion about the ethical use of intellectual property, the students' place in scholarly "conversation," and anxiety reduction through communication with their professors.

The use of the acronyms has a firm foundation in higher education. The history of the use of mnemonics harks back to Homer and the earliest days of textual language where the features of language itself such as alliteration, meter, and rhyme provided mnemonic triggers for memorization and comprehension (Danziger, 2008). In contrast to these gross structures, modern mnemonic techniques focus on the "chunking" of information into meaningful segments (McCabe, Osha, Roche, & Susser, 2013, p. 183). The effectiveness of this conceptual chunking in a college or university environment, especially with acronyms, is well established. While teaching college-level nursing students, Gibson (2009) found the use of classroom mnemonics to be a "viable option to infuse fun" into the curriculum (p. 56). She also found that "once students are proficient with the foundation of knowledge and comprehension, developing the higher order skills of application, analysis, synthesis, and evaluation will occur with practice" (Gibson, 2009, p. 62). McCabe, Osha, Roche, and Susser (2013) have explored how a variety of memory aids including acronyms, acrostics, storytelling, and keyword methods improved the classroom performance of college-level psychology students. Similarly, Mastropieri and Scruggs (1998) have written numerous papers on the effectiveness of mnemonics, including acronyms and other "letter strategies" in the training and instruction of students in a variety of educational environments (p. 206). Mnemonics for instruction are also used in a host of other disciplines including foreign languages, psychology, music, and mathematics (Gibson, 2009). It is this wide acceptance of acronyms and other mnemonic techniques as an effective tool in a university classroom environment that prompted our re-working of the original C.R.A.P. acronym.

Starting with *Conversation*, we introduce students to the framework's concept of research as a form of academic communication. For undergraduates, this is essentially a one-way communication as they learn to synthesize other scholars' research and use it to support their own ideas. They learn how to locate, evaluate, and cite information, in essence, practicing the skills necessary to find and use the academic resources encoded in the old C.R.A.P. acronym. As graduate students contribute to the research efforts of their research groups and assimilate the jargon of their field, the communication shifts toward a two-way interaction. The conversation becomes fully interactive for Ph.D. students and faculty who learn the facets of their field, explore varying scholarly perspectives, and integrate other scholarly research and ideas into their own original work. This, in turn, is cited by others in a creative cycle (Association of College and Research Libraries, 2015). The first word in our mnemonic, Conversation, collapses the frames of "information creation as a process" and "scholarship as conversation."

The second letter of the new C.R.A.P. acronym stands for *Revision*. We present the students with the framework's idea that research is an iterative process as we run through catalog and database searches, outline useful

limiters, and illustrate phrase searching, truncation symbols, Boolean operators, and so forth. In first and second year sessions, we also outline the best method of locating, vetting, and focusing resources to formulate a viable thesis. Finally, we discuss how a research project evolves and reveals gaps as new resources are located or rejected (Association of College and Research Libraries, 2015). Discussion of this process of revision helps undergraduates realize that research will be a process of trial and error rather than a straight line of inquiry and allays some fears as they start to develop their first college papers. This second word of our mnemonic incorporates the frames of "research as inquiry" and "searching as creative exploration."

As we transition into the third concept of *Authority*, we discuss the differences between popular, scholarly/peer reviewed, and trade publication resources. We also introduce students to the idea that the requisite level of authority varies depending on the requirements of the particular project or paper (Association of College and Research Libraries, 2015). If time allows, we also delineate the differences between primary, secondary, and tertiary resources and cover the basics of the information cycle. For advanced students, librarians focus on alternate information sources including blogs and other web resources, underrepresented groups (women, minorities, disenfranchised scholars, etc.), and newer academic social networks such as ResearchGate or preprint databases like ArXiv. This part of the mnemonic represents the frame "authority is constructed and contextual."

Finally, we wrap up with the framework's *Property* concept, in which we introduce students to proper citation practices to engender respect for the intellectual and financial value of scholarly property. Instructors outline our institution's academic integrity code and talk about the best way to avoid improperly using others' intellectual property. For third and fourth year students, librarians also expand these concepts to include fair use and copyright basics, publishing rights for authors, and digital privacy concerns (Association of College and Research Libraries, 2015). This final word of our mnemonic represents the frame "information has value."

Despite its memorable and humorous nature, we realized that the C.R.A.P. acronym might not sit well with all librarians. A revised acronym, such as C.R.A.V.E, can be used, which replaces Property with the word *Value* and introduces a fifth concept, *Exploration*, from the frame "searching as strategic exploration."

While the repurposing of a quirky acronym may seem unnecessary, silly, or just plain nostalgic to some instructors, Villanova University librarians who have started to transition to this model have noticed a change in their own pedagogy. During the spring and summer 2015 academic semesters, a longer version of the acronym (Creative Conversation, Research as Inquiry, Authority is Contextual, and Price of Information) was used in classes of varying length. These instruction sessions ranged from full-length 75-minute classes to much shorter 20- to 30-minute "quick-shot" introductory presentations. While comprehensive, we found this version of the acronym to be less memorable. As a result, instructors have adopted the newer iteration of the mnemonic in the fall 2015 semester (*Conversation*, *Revision*, *Authority*, and *Property*).

With the adoption of the new acronym, instructors noted that the ACRL's Framework is wider-reaching and more inclusive than the outcomes-based ACRL standards and, by its very nature, elevates the discourse of introductory instruction classes by drawing the students' attention to larger academic concepts. The *Conversation* concept grounds the students in the broad sweep of scholarly tradition and gives them a sense of place within the wider scheme of academic research. This provides the students with a better understanding of the research expectations placed on them by their institutions, which, in turn, allows them to better choose resources and develop realistic research goals. This applies especially to first-year students, who often have an unclear understanding and anxiety about what university research entails and often overestimate the level of research required for first-year papers. Acknowledging and addressing these apprehensions has been the goal of researchers like Mellon (1986) and Jiao and Onwuegbuzie (1999) since the early 1980's, and this conversation frame, in our opinion, directly addresses library anxiety for students at all levels. Mellon (1986) notes that simply incorporating the idea that the library can be a large, anxiety-provoking place puts students at ease and that interaction with a librarian in a 50-minute instruction

session can be very reassuring. Jiao and Onwuegbuzie (1999) also found that students who receive guidance from their faculty members, including clear instruction and assignment goals, respond with less initial library anxiety. In-class discussion of this concept prompted questions about both the creation and adaption of the research thesis and the level of support provided by the library as students begin their research process.

Discussion of the *Revision* concept is intended to alleviate stress for new students as they come to the realization that research will be a process of exploration, rather than the cut-and-dry assignments of high school. This prompts them to be more mindful of their research goals and timelines. Also, many students at Villanova University's Falvey Memorial Library—first and second year students especially—have said that they are hesitant to approach their professors when they find a dearth of resources on their chosen thesis. By inviting them to see research as a process of exploration and development, we hope to encourage students to enter into a dialogue with their professors regarding thesis evolution and availability of resources.

Discussions regarding *Authority* encourage students to discuss appropriate resources with their instructors before developing a fixed thesis. It also supports them in managing their expectations regarding acceptable resource types and levels of scholarly authority for each assignment. This concept also challenges students to explore underrepresented scholarly groups as viable sources of information and question traditional or exclusionary resources. We hope that this concept will prompt students to work with faculty to develop undergraduate research papers that incorporate a variety of non-traditional resources such as blogs, pre-print articles, and even multimedia appendices alongside traditional peer-reviewed sources.

Finally, the *Property* concept broadens students' understanding of the inherent value of scholarly research and gives them a deeper understanding of the impact of plagiarism on others. Whereas the old ACRL Standards (Association of College and Research Libraries, 2000) present the concrete idea that students should "follow laws, regulations, institutional policies, and etiquette related to the access and use of information resources," the framework (Association of College and Research Libraries, 2015) broadens this concept and asks students to "respect the original ideas of others" and "value the skills, time, and effort needed to produce knowledge." This reframe conjures a deeper measure of personal and ethical responsibility that has been shown to deter conscious or unconscious plagiarism (Weidler, Multhaup, & Faust, 2012).

While formal assessment of the impact of this new acronym and the concepts it encompasses still needs to be conducted, informal post-class polling and anecdotal reports show promise as students ask deeper questions both during and after classroom sessions. In the fall 2015 semester, 67 freshmen were polled following an introductory library research class, and four questions were presented:

- What did you think of the C.R.A.P. acronym in today's session?

- What does the acronym C.R.A.P. stand for?

- Did the C.R.A.P. acronym reveal any new or novel information about the research process?

- If so, what did you learn about the C.R.A.P. acronym that will help you in future assignments?

In answer to the first question, 42% of students polled described the acronym with some version of the word helpful, 19% with the words such as memorable or the phrase "easy to remember", and roughly 43% used language that described the acronym as entertaining, innovative, humorous or likeable. Only four respondents said that the acronym was either "too superficial" or "lacked depth." Ninety-four percent of all polled students remembered what the C.R.A.P. acronym stood for immediately following the class, but future researchers would need to collect longitudinal data to determine lasting memorability. Sixty-nine percent of students polled said that the acronym provided new or novel information regarding the research process. Of those, 18% mentioned aspects of *Conversation* as new information, with one student noting that she learned "that conversations will go from one-way to two-way as my years at Villanova go on." Forty-six percent said that "the varying levels of authority in different aspects of

research" was a new concept, and they learned that "levels of authority differ from class to class." Thirty percent cited *Revision* as a new idea, with one student saying she would "not be afraid to revise my thesis if I can't find anything—I just need to find out early if my thesis is feasible and not procrastinate." Fifty-two percent said that the concept of scholarship as *Property* was an important part of the classroom session, with many noting that they were not aware what level of citation was required for first-year papers and that "property includes an author's unique ideas" in addition to his or her written text.

Based on these initial assessments, the new C.R.A.P. acronym has broadened and enhanced our students' overall understanding of advanced research. During the class sessions, instructors have found that specific questions about nuts-and-bolts searching are now being augmented by weightier questions about intellectual property, the ongoing research process prior to and after forming a thesis, and the acceptability of blogs and online news resources in modern research. Most of all, the new C.R.A.P. acronym has challenged us as instructors to shift toward a broader conceptual pedagogy in our introductory information literacy class sessions; a welcome change from a traditionally skills-based classroom experience.

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