

Engaging the Skeptics: Threshold Concepts, Metadisciplinary Writing, and the Aspirations of General Education

CHRISTOPHER BASGIER

Scholars in writing across the curriculum (WAC) have long puzzled over the troublesome relationship between general education and disciplinary preparation. Summarizing the problem, Chris Thaiss (1992) writes, “The goals of general education courses tend to be idealistic—e.g. ‘cultural literacy,’ ‘the ability to write in college,’ ‘appreciation of scientific method’—whereas goals of major courses tend to be specific and preprofessional” (p. 63). As a result, he suggests, students tend to view general education courses “as so many unrelated fragments” (p. 72). According to David Russell and Arturo Yañez (2003), this fragmentation alienates students: “On one hand, students and teachers are pulled toward one disciplinary specialization; on the other hand, they are pulled toward ‘general’ or broad education for civic life or other professional specializations—with alienation often resulting” (p. 332). These feelings of alienation can also stem from students’ experiences writing in general education courses: often, students believe their instructors’ writing advice is nothing more than individual whim, rather than part and parcel of disciplinary or professional expectations, leading them to see such experiences as irrelevant to their educational goals and career aspirations.

Such tensions appear in many types of general education programs. A broad spectrum exists, of course: Lauren Fitzgerald (2013) explains that general education can range from “a traditional distributive model in which students take a set number of courses from specific disciplines or disciplinary clusters” to “a newer integrative model that makes explicit connections among the disciplines” through any number of curricular arrangements (p. 94). In the former case, programs organized around distribution areas (such as arts and humanities, social sciences, and math/science/technology) may lend themselves to perceptions of curricular fragmentation and a “checklist” mentality—with first-year composition at the top the list. In the latter case, integrative programs organized around liberal learning principles (such as critical thinking, information literacy, and civic engagement) are often difficult to define in a coherent way that is meaningful for faculty from diverse disciplinary backgrounds, which often leads to generic, catchall definitions, including supposedly universal expectations for “good writing.”¹

While scholars like Thaiss (1992) and Russell and Yañez (2003) locate these tensions squarely within institutional structures and the activities that constitute them, I argue that the tensions also exist because the kinds of transferrable knowledge and abilities that we hope students will gain in general education are often counterintuitive, alien, and troublesome, for instructors and students alike. In other words, they are *threshold concepts*.

Originally developed by educational researchers Jan H. F. Meyer and Ray Land (2006), the theory of threshold concepts holds that certain disciplinary concepts represent significant, challenging entry points into disciplinary ways of thinking. Generally speaking, threshold concepts are defined through four key features: according to Linda Adler-Kassner and Elizabeth Wardle (2015), they proffer an epistemological and ontological transformation for learners; they are not easily reversed once learned; they help learners perceive and create connections among seemingly disparate phenomena; and they are “troublesome,” overturning learners’ intuition (p. 2). In writing studies, for example, threshold concepts include the socio-rhetorical nature of writing (p. 17), its influence on identity and ideology (p. 48), and its cognitive dimensions (p. 71).

But not all threshold concepts need to be so strictly disciplinary. Indeed, I suggest in this article that the key features of threshold concepts described by Adler-Kassner and Wardle (2015) are at work in liberal learning principles such as critical thinking. Such principles should not be seen as unproblematic, catchall abilities, easily learned through simple exposure. Rather, in hallway conversations and faculty development workshops, we should encourage our colleagues across the curriculum to see these principles as grounded in often implicit, troublesome (but transformative), cross-curricular threshold concepts that can be taught and learned explicitly, especially through writing. In so doing, we may be in a good position to articulate shared, but often unspoken, ways of knowing, doing, and writing that cut across general education and the majors.

In fact, Linda Adler-Kassner, John Majewski, and Damian Koshnick (2012) claim that the theory of threshold concepts can be applied to general education reform efforts. To avoid curricular fragmentation, they argue, general education programs should take as their primary task the explication of common, cross-disciplinary threshold concepts:

Working from this perspective enables us to consider, as we have done here, whether there are concepts that exist within specific disciplines, like composition and history, that then can also span *across* disciplines. This perspective positions these concepts not as all-purpose habits that exist within liberal learning, as in the distribution model, but as discipline-specific concepts that operate within some number (two, in our case) of different contexts. When

these areas of shared concepts can be identified, it might then be possible for instructors to explicitly articulate the concepts for themselves [...] and work them explicitly into their teaching. (“Conclusion,” para. 10)

When put into practice in this way, Adler-Kassner, Majewski, and Koshnick (2012) suggest, the theory of threshold concepts capitalizes on faculty members’ investment in disciplinary ways of knowing and communicating² and offers potential shared language across disciplines. In a best-case scenario, they claim, this curricular model can facilitate “more effective transfer” across disciplinary contexts (“Conclusion,” para. 10).

However, in seeking this kind of curricular change, advocates of threshold concepts are likely to encounter several obstacles, not least of which are the difficulty of interdisciplinary teaching (see Nowacek, 2009), sub-disciplinary differences (see Schaefer 2015), and institutional inertia (see Dryer, 2008). Moreover, recent WAC research has shown that some general education instructors forgo strict disciplinary expectations for writing, instead assigning a range of academic and alternative genres to achieve personal enrichment, civic engagement, and other goals often associated with general education (Soliday, 2011; Thaiss & Zawacki, 2006). In this article, I focus specifically on engaging these skeptics: I demonstrate how WAC professionals can work with faculty members who, out of a commitment to liberal learning principles, may be reluctant to take on the disciplinary perspective entailed by threshold concepts when thinking about the learning goals that drive their general education courses and writing assignments.

In working with our skeptical colleagues, we can look for opportunities to highlight course objectives and writing assignments that tap into metadisciplinary, if not disciplinary, ways of knowing, doing, and writing, even as they promote liberal learning principles. Michael Carter (2007/2012) defines metadisciplines as “collections of disciplines that share an emphasis on certain metagenres” (p. 226), or collections of genres that entail similar ways of knowing, doing, and writing. He adds, “At the center of each metadiscipline is a way of doing shared by its constituent disciplines despite their differences in content knowledge,” which “complicate[s] the assumption that disciplines are defined exclusively or even primarily by content knowledge” (p. 227). In other words, groups of similar disciplines tend to share common ways of building and communicating knowledge, despite differences in specific content. These metadisciplines can also indicate broad, metadisciplinary threshold concepts at work—ones we can use when working with instructors who are put off by too heavy an emphasis on disciplinary knowledge in general education courses.

To illustrate how an otherwise a-disciplinary course mobilized metadisciplinary threshold concepts, I discuss ethnographic data I collected in “Film and Folklore,” a 200-level course taught by Professor Emeritus Rob Robertson at University of the

Midwest (UMW).³ In designing and teaching this course, Professor Robertson was especially invested in a specific and unique vision of critical thinking, to the point that he disavowed any disciplinary function for his course at all. Nevertheless, I demonstrate how the ways of knowing, doing, and writing that Professor Robertson taught, while not strictly disciplinary, were nevertheless metadisciplinary; he emphasized ways of knowing and doing common to the humanistic metadiscipline, which suggests a pair of threshold concepts shared by those disciplines (despite their apparent differences): 1) that values and beliefs are open to critical scrutiny and 2) that one must produce logically sound arguments even while critiquing others' problematic beliefs. The students initially found these concepts troublesome and challenging to implement in their writing and in multimodal presentations, but eventually they were transformative. In other words, they demonstrate the key features of threshold concepts described by Adler-Kassner and Wardle (2015). In teaching these concepts, Professor Robertson laid the groundwork for transfer. As I will demonstrate, his students reported taking skeptical thinking beyond the classroom, and they also recognized similar concepts at work in their other classes, especially those in the humanities. Based on this analysis, I conclude by offering several questions WAC and general education professionals can ask of colleagues in faculty development workshops to generate discussion about the metadisciplinary threshold concepts undergirding their teaching and the kinds of writing assignments that can best support threshold learning. These strategies, I hope, can help us convince reluctant faculty members of the value of threshold concepts for transforming general education, building a grass-roots movement reminiscent of WAC's early days of curricular reform (Farris and Smith, 1992; McLeod and Miraglia, 2001; Russell, 2002).

Methods

I studied "Film and Folklore" at UMW, a large research institution in the Midwest with over forty thousand students, during the Fall 2010 semester, as part of a bigger research project about writing in general education courses. Following the tradition of ethnographic and naturalistic research in writing studies (Beaufort, 2007; Carroll, 2002; Herrington, 1994; Nowacek, 2011; Soliday, 2011; Walvoord and McCarthy, 1990), I used a range of methods to triangulate my findings: Professor Robertson and I held four interviews, and we discussed the course's relationship to disciplinary preparation and general education, as well as his students' learning. I also held four focus groups, consisting of three students who agreed to discuss their experiences writing over the semester.

To analyze my observation, interview, and focus group notes, I adapted the principles of grounded theory, and particularly Barney Glaser and Anselm Strauss's (1967) constant comparative method, by coding notes and transcripts, developing analytical

categories, comparing incidents within and across categories, and teasing out implications of conflicting explanations (p. 105–07). I also analyzed students' writing and course documents following Anis Bawarshi's (2003) process for genre analysis: I "collect[ed] samples of the genre, identif[ied] and describe[ed] the context of its use, describe[ed] its textual patterns, and analyz[ed] what these patterns revealed about the context in which the genre is used" (p. 158). I outlined the socio-rhetorical dimensions of each document based on close reading of textual details, as well as my assumptions, the professors' explanations, and students' reflections on rhetorical considerations such as audience, author, purpose, and textual strategies.

Course Background and Overview

Professor Robertson conceived of his course amid one general education initiative at UMW—a special topics seminar program—and continued to teach it during a second, more comprehensive, general education reform. As he recalled, the Dean of Arts and Sciences decided to institute the original topics seminars because he thought students had lost their ability to think critically. Ever since, Professor Robertson has maintained that his course is first and foremost a course in critical thinking. By the time I observed the class, he had had it changed from a special topics seminar to an elective in the department of folklore aimed at non-majors. He also had it approved for UMW's new (as of 2010) general education requirements, which promote critical thinking in foundational courses, including "arts and humanities" courses like "Film and Folklore."

Although Professor Robertson did design the course around his own disciplinary interests in supernatural phenomena, myths, and conspiracy theories, he distinguished sharply between his discipline and the practice of critical thinking. During our first interview, he told me:

This is not a customary folklore class. The focus is on critical thinking, and the subject matter that we deal with is taken from folklore and popular culture. We don't do critical thinking in folkloristics. What we do is we collect what people believe and we find out why and how and when and where and the context and the function. [. . .] We don't do critical thinking. We don't question somebody's belief in Bigfoot. That's why this course is not a typical folklore course, because in here we do question their belief.

At base, "Film and Folklore" shared content with the discipline of folkloristics. However, as Professor Robertson saw it, a typical course in folkloristics would not teach students to criticize strange beliefs; rather, it would offer tools and concepts for analyzing the origins and social purposes of those beliefs, no matter how fantastical.

In contrast, he did in fact ask his “Film and Folklore” students to criticize beliefs in the pseudoscientific, the paranormal, and the conspiratorial.

This distinction derived largely from Professor Robertson’s definition of critical thinking, which drove the ways of knowing, doing, and writing in the course (and not, as we might expect, disciplinary methodologies from folkloristics). Rather than define critical thinking through a disciplinary perspective,⁴ an institutional mandate,⁵ or a professional standard,⁶ Professor Robertson equated critical thinking with skepticism. He drew his definition directly from the course textbooks: Carl Sagan’s (1996) *The Demon-Haunted World: Science as a Candle in the Dark* and Michael Shermer’s (2002) *Why People Believe Weird Things*, both of which criticize beliefs in conspiracies, myths, and the paranormal. In his avowedly a-disciplinary approach to critical thinking, Professor Robertson represents perhaps the most extreme example of the larger issue, that some instructors, in some general education courses, may not care to teach disciplinary threshold concepts to students (and indeed, he told me disciplinary initiation was not his goal in this class). Nevertheless, I hope to show how he still employed *metadisciplinary* perspectives that could offer valuable inroads to threshold thinking and pathways for transfer to other educational contexts.

Take, for instance, Professor Robertson’s use of Sagan and Shermer, who describe skepticism as a strategic approach to evaluating the accuracy of arguments, rather than a dogmatic point of view.⁷ Professor Robertson emphasized this distinction early in the semester when he shared with students the credo of the Skeptics Society, published in every *Skeptic* magazine. In part, this credo says:

Some people believe that skepticism is the rejection of new ideas, or worse, they confuse “skeptic” with “cynic” and think that skeptics are a bunch of grumpy curmudgeons unwilling to accept any claim that challenges the status quo. This is wrong. Skepticism is a provisional approach to claims. It is the application of reason to any and all ideas—no sacred cows allowed. In other words, skepticism is a method, not a position. Ideally, skeptics do not go into an investigation closed to the possibility that a phenomenon might be real or that a claim might be true. When we say we are “skeptical,” we mean that we must see compelling evidence before we believe. (Skeptics Society, n.d., para. 3; reproduced in the Detection Kit)

Professor Robertson used this credo to distinguish between the skeptic as an identity and skepticism as a critical thinking strategy. According to this formulation, the skeptic is often considered a fixed identity, at least when it is equated with the kind of curmudgeonly cynic who automatically gainsays any suspicious claim. Adopted as a critical thinking strategy, however, skepticism professes to treat belief as always

open to investigation, criticism, and change—the first of two interlinked threshold concepts for the community of skeptics and for the course.

To help students learn this concept, Professor Robertson found particularly useful Sagan and Shermer’s tools for practicing skepticism and recognizing flawed arguments. According to Sagan (1996), “What skeptical thinking boils down to is the means to construct, and to understand, a reasoned argument and—especially important—to recognize a fallacious or fraudulent argument” (p. 210). Here, Sagan emphasizes the recognition of logical or rhetorical fallacies as the central move of skepticism. To that end, he includes a chapter called a “Baloney Detection Kit,” which he believes “helps us recognize the most common and perilous fallacies of logic and rhetoric” (p. 212). Similarly, Shermer’s (2002) chapter, titled “How Thinking Goes Wrong: Twenty-Five Fallacies that Lead Us to Believe Weird Things,” covers problems with scientific, pseudoscientific, and illogical thinking. Taken together, Sagan and Shermer’s toolkits bespeak a second threshold concept for the course, this one shared by skepticism and rhetoric: that rhetorical commonplaces (and fallacies) can be resources for producing an argument as well as a means of argumentative critique. As Douglas Eyman (2015) puts it, “The power of rhetoric, as I see it, is that it can be employed as both analytic method and guide for production of persuasive discourse” (p. 16)—and the same can be said of Professor Robertson’s version of critical thinking *qua* skepticism.

As a means for helping students practice critical thinking, and critique the lack thereof, Professor Robertson extracted Sagan and Shermer’s toolkits from their books and combined them into his own list, which he titled “Critical Thinking Tool Kit: A Comparative List,” or the “Detection Kit” for short, a nine-page handout including quotes from Sagan in black, quotes from Shermer in blue, and his own additions in red. Rhetoricians would recognize the Detection Kit (and Sagan and Shermer’s prior versions) as one instance in a larger genre of rhetorical tool kits, including the sections on fallacies like *ad hominem*, begging the question, and slippery slope that often appear in argument textbooks (see for example textbooks by Lunsford and Ruskiewicz, 2009; Ramage, Bean, and Johnson, 2011; or Williams and Colomb; Lanham’s [1991] *A Handlist of Rhetorical Terms* would be a standalone analogue). One example from Professor Robertson’s kit reads:

Begging the question~Assuming the Answer~Tautology—{when the proposition to be proved is used as one of the assumptions.}

We must institute the death penalty to discourage violent crime. But does the violent crime rate in fact fall when the death penalty is imposed? {I.E. We assume that the death penalty will discourage violent crime, but we actually have proof to the contrary.}

Or: *The stock market fell yesterday because of a technical adjustment and profit-taking by investors*—but is there any *independent* evidence for the causal role of “adjustment” and profit-taking; have we learned anything at all from this purported explanation? {I.E. The fall of the value of stocks is assumed to have been caused by a technical adjustment that is not explained.}

Like many rhetorical tool kits, the Detection Kit lists each fallacy, defines it, provides a short example (above, in italics), and briefly critiques the problem with the example. Professor Robertson took this example from Sagan’s (1996) list (p. 213) but added his own explanations, which I have bracketed (those sentences are red in the Detection Kit). The students used the Detection Kit actively throughout the course. It became a springboard for metadisciplinary ways of knowing, doing, and writing characteristic of the humanities, as well as a tool for helping students “see” and “sell” connections (Nowacek, 2011) across courses, suggesting the value of metadisciplinary threshold concepts for facilitating transfer.

Threshold Learning and Metadisciplines

To reiterate, two primary threshold concepts drove students’ learning in “Film and Folklore”: first, that belief ought to be persistently open to critical investigation and second, that writers must produce logically sound arguments critiquing illogical ones. The bulk of students’ practice with these concepts occurred during weekly panel presentations, which required students to apply the Detection Kit to videos, films, and popular books. During the first of two seventy-five-minute class periods, most groups showed a video, such as a Discovery Channel or History Channel program, and summarized a book for the class, which students gathered from Professor Robertson’s personal library of materials on topics ranging from Atlantis and Bigfoot to JFK assassination theories and the alleged UFO crash at Roswell. On the second day, the student panelists used game shows, debates, and mock trials to get the class to critique the video and passages from the book with the Detection Kit in hand. Students supplemented these larger genres with handouts, notecards, PowerPoint presentations, video interviews via the application Skype, scripts, and images from the videos and books. In other words, students’ threshold learning in this course was highly multimodal and interactive.

However, their threshold learning was not necessarily easy or automatic; the course’s key concepts were often troublesome for students during these panels. Paraphrasing David Perkins (2006), Adler-Kassner, Majewski, and Koshnick (2012) explain that threshold concepts are troublesome “because they challenge existing beliefs, past practices or inert knowledge, or can be conceptually difficult” (“Transfer and Threshold Concepts,” para. 1). Indeed, some student panels treated strange beliefs

as “inert knowledge,” as unproblematic facts to be recalled (during a “Jeopardy” game, for instance), rather than as opportunities for practice with the Detection Kit. To account for such oversights, Professor Robertson often found opportunities to challenge the class with more critical thinking by asking them to identify flaws in fact-based questions and answers. As with other threshold concepts, this one placed students in a liminal position. According to Adler-Kassner, Majewski, and Koshnick (2012), threshold learning “does not happen in a straight line but instead in iterative and recursive stages” (“Transfer and Threshold Concepts,” para. 1), demonstrated in this case by the continual practice Professor Robertson felt students needed in avoiding flawed arguments.

Eventually, the course’s skeptical threshold concepts became a “portal” (Adler-Kassner, Majewski, and Koshnik, 2012) for students to learn larger metadisciplinary ways of knowing, doing, and writing—and particularly ones associated with the metadiscipline that Carter (2007/2012) argues is “composed of disciplines that emphasize research from sources,” especially “disciplines in the humanities” (p. 228). This may come as a surprise, considering that Sagan and Shermer explicitly link skepticism to the sciences, which generally fit in the metadiscipline involving empirical inquiry (Carter, 2007/2012, p. 228). However, the metadiscipline involving research from sources—the humanistic metadiscipline—more accurately describes skepticism as Professor Robertson taught it via the Detection Kit. According to Carter (2007/2012), genres within the humanistic metadiscipline have “two primary distinguishing characteristics”:

- (1) the kind of research that is done, that is, not based on data gathered from independent observations but largely on sources that have their origins elsewhere; and (2) the goal of the research, which typically does not have extrinsic value, such as solving practical problems or investigating hypotheses, but value that is intrinsic to the discipline. (p. 222)

Despite the absence of a clear link to the disciplinary ways of knowing, doing, and writing in folkloristics, and although students were not conducting “research” in the strong (read: *disciplinary*) sense of the word, these two distinguishing characteristics—data from external sources and analysis with intrinsic value to the discipline—also characterize students’ work in the course. For instance, the critique of videos and books points to the intrinsic value of working with sources that Carter (2007/2012) argues is characteristic of the humanistic metadiscipline, in that research is seen as “a means to an end defined by the individual discipline” (p. 223). In “Film and Folklore,” the end derives not from a way of knowing defined by folkloristics, but rather from one defined by and valued in the “field” of skepticism and embodied in the Detection Kit. Maura put the matter succinctly in our first focus group: “I do want to know the

truth, and I do want to expose and really look at things and see [whether it is] just manipulation, or what's the truth? Or what's accurate, I guess?" Truth versus manipulation: this is the key distinction defined intrinsically by, and valued within, the field of skepticism itself. To explore the relationship of truth and manipulation, students had to use the Detection Kit to critique a host of other genres, many with "their origins elsewhere," as Carter says of the humanistic metadiscipline's objects of inquiry. Students gained practice addressing this larger motivating question through a recursive process of threshold learning, enacted on the panel presentations and in their final papers for the course.

Metadisciplinary Writing in "Film and Folklore"

As on the panels, the students in "Film and Folklore" enacted metadisciplinary ways of writing in their final papers, which required a critique of a video and a book on a topic that had not been covered by one of the panels. According to the prompt, "Students *are not being asked to solve any of the problems* represented by the topics; the only task here is to critically assess the use of critical thinking in the video and the book chosen for analysis." In this prompt, Professor Robertson's proscription against problem solving distinguishes the assignment from the problem-solving metadiscipline, which would entail an extrinsic motivation.⁸ Instead, the prompt effectively solidified the course's association with the humanistic metadiscipline, which involves research from sources (here again, a video and a book), and entails intrinsically defined motives.

Unsurprisingly, given the above prompt, the Detection Kit continued to dominate students' approach to writing. As with the panels, it drove their analyses of the videos and books, and it also shaped both the form and content of their papers. When talking to my focus group about their papers, I found that they all followed a similar process of invention: they always began by watching the film or video and reading the book (sometimes re-watching or re-reading them), Detection Kit in hand, in order to identify fallacious claims and flawed reasoning.

Because of its near omnipresence during their writing, the Detection Kit helped students articulate a rhetorical purpose, structure their papers, and execute their analyses. As Lane, one student in the focus group, explains in his introduction, he analyzes "fallacies of reasoning" in the book and video in order to "avoid falling into the trap of unreasonable thought." Both of these quoted phrases come directly from the Detection Kit; Lane's use of the phrases illustrates the intrinsic rhetorical purpose motivating his work, and, by extension, his peers'. Without another genre, like a game show or debate, in which to deploy the identification of fallacies, students wrote by reproducing the list-like structure of the Detection Kit, which defines a flaw, provides an example, and analyzes the example. For instance, early in his paper on the alleged predictions of Nostradamus, Michael writes:

After the terrorist attacks of 9/11, some supporters of Nostradamus claim the third antichrist is Osama Bin Laden. Lorie poses the question in reference to the third antichrist, “Is this Osama Bin Laden? It would be convenient to suppose so” (Lorie [2002] 36). In this case, this exhibits an example of special pleading or stacking the deck. Lorie is using an argument to support his point of view by asking a question that he can answer.

According to the Detection Kit, “A common technique in special pleading is to use unanswered questions as a way to suggest unproven assumptions or as a way to guide the reader/observer to a desired (albeit unproven) conclusion.” Here, Michael follows the general statement-flaw-analysis pattern that was common in his peers’ papers and in the Detection Kit. It seems, then, that the “Film and Folklore” students produced a “mutt genre,” which Elizabeth Wardle (2009) defines as “genres that do not respond to rhetorical situations requiring communication in order to accomplish a purpose that is meaningful to the author” (p. 777)—often because students are caught up responding to a rhetorical situation that is meaningful to the instructor within the context of the learning environment set up in the course.

Within this classroom situation, not only did students use the Kit to structure their critiques, but also they were aware of its presence when writing sentences and choosing words. In part, this awareness stemmed from Professor Robertson’s main writing advice, which was a warning about writing sentences that exhibited a lack of critical thinking—a warning that would fall under Janet Giltrow’s (2002) definition of meta-genre. According to Giltrow, metagenres are “talk about genres” (p. 187) or the “demonstrated precedents or sequestered expectations—atmospheres surrounding genres” (p. 196). In other words, metagenres (in her formulation) police generic boundaries, delineating appropriate and inappropriate forms and functions for individual instances of genres. Professor Robertson’s metageneric language appears on the back of a writing handout, where he includes pairs of statements, a “poor sentence” and a “correction.” For example, he first writes, “Exorcisms are rituals performed in order to relieve a person of a demon or evil spirit,” and then corrects it by writing, “Exorcisms are rituals performed in order to relieve a person *believed to be possessed* by a demon or evil spirit.” The qualifier in the second sentence, “*believed to be possessed*,” eliminates a flaw in critical thinking.

In a focus group, Michael told me, “One thing I made note of is how I would word things in the paper. When I referred to [Nostradamus’s] predictions, I would be sure to use words like ‘alleged,’ ‘supposed,’ ‘claimed,’ rather than just [. . .] making it sound like a true statement. I wouldn’t even use ‘true,’ I would use ‘accurate,’ rather than making flaws in my own critical thinking.” Michael clearly took Professor Robertson’s admonishments to heart: he avoided writing his own flawed statements while analyzing others’. Without this kind of attention to the rhetorical effects of their word

choices, students' writing itself might be subject to critiques using the Detection Kit, in much the same way that the doomsday panelists' flawed questions were. Professor Robertson's metageneric writing advice and Michael's concomitant rhetorical strategy (repeated by my entire focus group) were thus bound up with the course's metadisciplinary threshold concepts, particularly the one focused on production as well as critique.

Some students' critiques took on metadisciplinary qualities beyond the ones entailed in the Detection Kit, too. For example, Michael pushes his own critique further in ways that are characteristic of the disciplines that Carter (2007/2012) associates with the humanistic metadiscipline. After the above statement-flaw-analysis, Michael argues, "Many translations from the original texts have been altered in order to make connections between recent events that have already happened. Translations of the text can change from time period to time period as major world events occur." Before 9/11, Michael asserts, Nostradamus supposedly predicted "Ayatollah Khomeini, Saddam Hussein, and Slobodan Milosevic" as the anti-Christ, not Osama Bin Laden. In making this claim, Michael seems to be developing an argument about the influence of historical context on interpretations of Nostradamus' quatrains—a way of knowing that might be considered a metadisciplinary threshold concept characteristic of many disciplines in the humanities, including history, certain schools of literary criticism, and religious studies.

Moreover, during our focus groups, both Michael and Maura connected their work in "Film and Folklore" with other classes in the humanities. Both majored in the sciences, where they experienced a distinct emphasis on memorization in the service of exams. As Michael put it, in the sciences, "I know exactly what I have to write." In contrast, he compared "Film and Folklore" to a children's literature class, both of which required textual interpretation: "You reflect a little bit and you apply more than you would [with] just straight memorization. [. . .] It was taking something pretty simple [like a children's book or a single statement from a video] and applying something complex to it [like a theory or a skeptical perspective]." In fact, Michael told me in our final focus group that he wished he had had access to "actual, direct translations" of Nostradamus's text so that he could analyze the language himself, rather than relying on Lorie's (2002) book. In so doing, he demonstrates a humanistic way of doing—direct recourse to source texts—employed in the service of skeptical critique. Similarly, Maura compared "Film and Folklore" to a philosophy class in which, after reading articles about different ethical perspectives, she "would be assigned a point of view, and [she] would have to argue for it." Like Michael, Maura realized her humanities courses entailed ways of knowing similar to those in "Film and Folklore": in both courses she had to craft arguments using an assigned perspective (ethical, skeptical) that she had encountered in outside readings (an ethics article, the Detection Kit).

Broadly speaking, then, both students demonstrated an awareness of the larger meta-disciplinary interpretive methods they were engaging in the course. With explicit curricular attention to the metadisciplinary threshold concepts undergirding these interpretive methods, students like these might be in an excellent position to explicate the similarities and differences among their courses and transfer ways of knowing, doing, and writing across them. After all, as Adler-Kassner, Majewski, and Koshnick (2012) explain, students' "knowledge [. . .] becomes less tacit and more explicit, discursive, and conscious" when learning new threshold concepts ("Transfer and Threshold Concepts," para. 2). Such conscious knowledge can serve as a resource for transfer even when an overtly disciplinary perspective is absent.

We can see this potential in some "Film and Folklore" students' experiences taking critical thinking beyond the classroom—a commonplace goal of most general education programs, including UMW's. Late in the semester, my focus group reported that they started thinking skeptically in their everyday lives. As Michael told me, "A lot of the things I'll see now, I can definitely see how things are a lot more slanted. [. . .] I am more aware of it, whereas before I would brush it off. I wouldn't give it any thought, but now I'm a lot more conscious of it, especially in the news." Here Michael points to the "unforgettable" nature of threshold concepts, which, "[o]nce understood, [. . .] are often irreversible" (Adler-Kassner and Wardle, 2015, p. 2). Maura added that she had tried to share the Detection Kit with a friend who believed the moon landing was a hoax: "I had a friend who happened to be watching the moon landing things right when we watched it. I told him, watch 'Mythbusters' [a Discovery Channel show that sometimes debunks hoax claims] [. . .] So I got [the Detection Kit] out to share with him. And I told him [. . .] about the fallacies. I've been able to share the fallacies with different people and point them out." Clearly these students saw the value of the Detection Kit for practicing and promoting critical thinking. In fact, their comments suggest that they were able to act as "agents of integration," or "individuals actively working to *perceive* as well as to *convey effectively to others* connections between previously distinct contexts" (Nowacek, 2011, p. 38). Michael and Maura's ability to "see" and "sell" connections across contexts, as Nowacek puts it (p. 39), indicates the potential value of metadisciplinary threshold concepts for facilitating transfer—after all, such concepts are "integrative, demonstrating how phenomena are related, and helping learners make connections" (Adler-Kassner and Wardle, 2015, p. 2), a potential that could be borne out in future longitudinal studies.

Metadisciplinary Learning in General Education

To be clear, although I found the course successful when I observed it, and although Professor Robertson reported that he was largely pleased with the outcome at the end of the semester, I am not arguing that the course is especially unique or that it ought

to be taken as a model for all general education courses. Rather, I am suggesting that “Film and Folklore” is fairly representative of general education courses where successful learning, and successful writing, need not be strictly disciplinary. Although “Film and Folklore” was linked to the discipline of folkloristics through its content and its departmental location, those divisions of content and department can mask larger conceptual links among disciplines—precisely the kinds of links that many general education programs hope to promote. A metadisciplinary perspective can accomplish this goal. As Carter (2007/2012) argues, “[I]n de-emphasizing the knowledge base of the disciplines, metagenre and metadisciplines also highlight relationships among the disciplines that are often otherwise obscured, a concept of the disciplines that is much more fluid than the focus on specialized knowledge would promote” (p. 232). If we consider the implications of Carter’s (2007/2012) analysis for general education, we can see that it is less important in such courses to introduce students to any single area of declarative knowledge, any one body of disciplinary discourse, and even any one set of disciplinary threshold concepts; it is more important to help students engage in larger, metadisciplinary ways of knowing, doing, and writing.

We might do well, then, to ask colleagues like Professor Robertson to reflect upon the potential metadisciplinary threshold concepts—texts and beliefs being open to critique rather than containers of truth, or the influence of context on textual interpretation—that underlie their general education courses and writing assignments, and to share those concepts with students explicitly.

In making this recommendation, I part ways with Carter (2007/2012), who suggests that the concept of metadisciplines is of more use to WAC professionals than to faculty in the disciplines because “[f]aculty focused on their own programs may not find that the concept resonates with their needs,” whereas WAC professionals could benefit from “the ability to perceive broader disciplinary formations and to understand the way genres shape and are shaped by those formations” (p. 229). From my perspective, if skeptical instructors can appreciate the ways their courses and their writing assignments mobilize metadisciplinary threshold concepts, as I have done here, they may become allies with WAC in our efforts toward general education reform. To that end, in course and curriculum development workshops and consultations, we might ask them to articulate the following:

1. *How do you define liberal learning principles like critical thinking, civic awareness, or information literacy? What relationship, if any, do those principles have to learning and writing in your discipline?* In answering these questions, faculty members can make explicit their (perhaps tacit) assumptions about what students ought to be learning in general education, as well as the role disciplinary ways of knowing, doing, and writing play or do not play in liberal learning.

2. *What are your central pedagogical tools (i.e., toolkits, texts, writing assignments, and activities) for helping students accomplish these goals? How successful are these tools? In what ways do students struggle with them?* These questions are designed to get instructors to articulate the ways their pedagogical practices are designed to teach liberal learning principles. WAC professionals may want to pay special attention to the ways faculty align their writing assignments with liberal learning goals. In tandem with the last question, about students' struggles, these questions can turn instructors' attention toward threshold concepts, since those are defined as "troublesome" (Adler-Kassner, Majewski, and Koshnick, 2012) sites of struggle.
3. *What genres do you typically assign, and why are those genres especially useful for promoting liberal learning for your students?* In asking about genres, we can highlight the typified rhetorical actions (Miller, 1984) that instructors employ in their general education courses. As Carter (2007/2012) argues, such genres can be grouped in to collections, called metagenres, according to their shared ways of knowing and doing; we can then look to the larger metadisciplines that share metagenres to articulate their commonplace epistemological assumptions, actions, and rhetorical principles. By grouping genres in this way, faculty members can see the metadisciplinary assumptions underlying their writing assignments, even if they forgo disciplinary education in their classes. The process may also help them avoid teaching mutt genres (Wardle, 2009). Those metadisciplinary assumptions, in turn, can point to metadisciplinary threshold concepts that they might work with their students to explicate, especially in writing.
4. *Finally, and crucially, how do all these concepts, tools, and methods benefit students as they move beyond general education, into the disciplines and beyond?* This final question asks instructors to work with transfer in mind, to ask of each course objective, writing assignment, and lesson, how students might use their learning in subsequent situations, particularly when they write in other general education courses, in their majors, in the workplace, or in community or civic contexts.

In asking such questions, we need not default to a strictly disciplinary perspective on teaching and learning about writing where one is not needed or wanted. Through threshold concepts, we can instead take a metadisciplinary perspective on writing and promote general education's aspirations of integrated, expansive learning.

Acknowledgments

I would like to thank Professor Robertson, Michael, Maura, and Lane for their time during this study. I am also grateful to the two anonymous reviewers also offered valuable feedback that I believe helped me sharpen this argument. Finally, I want to thank my writing group at UND, along with Kim Donehower, for working with me on earlier drafts of the article.

Notes

1. Of course, these are not the only options for general education, nor are they mutually exclusive. Broadly speaking, according to the AAC&U (2015b), general education exposes students “to multiple disciplines and forms the basis of developing essential intellectual, civic, and practical capacities” (para. 2). Beyond this broad definition, though, general education looks very different both historically (see Russell, 2002) and across institutions.

2. WAC scholars have long known that faculty typically want their students to approximate the discourse conventions, authorial roles, knowledge-building purposes, and social activities associated with writing in their fields, even if they are not entirely aware of the disciplinary roots of those expectations (Beaufort, 2007; Carroll, 2002; Herrington, 1994; Nowacek, 2011; Walvoord and McCarthy, 1990; and Wilder, 2012), knowledge that threshold concepts could help support.

3. In accordance with IRB protocols, names of all participants have been changed, along with the institution. All students signed permission forms to release their writing.

4. William Condon and Diane Kelly-Riley (2004) argue, “The kind of critical thinking” that instructors typically expect “is driven by the values and the types of work required in the discipline” (pp. 63–64). In folkloristics, critical thinking might involve interrogating the structure and social function of folk beliefs and practices.

5. UMW’s college of arts and sciences overview of liberal learning states, “The liberal arts teach students to think critically and creatively. As perceptive analysts of what they read, see, and hear, students must learn to reason carefully and correctly and to recognize the legitimacy of intuition when reason and evidence prove insufficient.” However, Professor Robertson never referenced UMW’s liberal learning principles when defining critical thinking for his class.

6. The AAC&U (2015a) defines critical thinking as “a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion” (para. 2), but again, Professor Robertson did not invoke a definition of critical thinking promoted by any professional academic organization.

7. Sagan and Shermer's brand of skepticism should be distinguished from the tradition of skeptical philosophy. According to Richard H. Popkin and Avrum Stroll (2002), skeptical philosophy invites "a general skepticism about all assertions, promises, and verbal commitments," thus "challeng[ing] the very existence of knowledge and certainty" (p. 31). They contrast this radical skepticism with "everyday, practical doubts, which are more local" and which "allow for the existence of knowledge and certainty in some cases, while denying it in others" (p. 31). Sagan and Shermer's skepticism is more akin to these everyday doubts than to radical skeptical philosophy.

8. Carter (2007/2012) outlines a constellation of disciplines that "generally call for students to define a problem, establish parameters for a solution to the problem, generate possible solutions, and identify and justify a recommended solution to the problem" (p. 220).

References

- AAC&U (2015a). Critical thinking VALUE rubric. Retrieved from <https://www.aacu.org/value/rubrics/critical-thinking>
- AAC&U (2015b). What is a 21st century liberal education? Retrieved from <https://www.aacu.org/leap/what-is-a-liberal-education>
- Adler-Kassner, L., Majewski, J., & Koshnick, D. (2012). The value of troublesome knowledge: Transfer and threshold concepts in writing and history. *Composition Forum*, 26. Retrieved from <http://www.compositionforum.com/issue/26/troublesome-knowledge-threshold.php>
- Adler-Kassner, L., & Wardle, E. (2015). *Naming what we know: Threshold concepts of writing studies*. Logan, UT: Utah State University Press.
- Beaufort, A. (2007). *College writing and beyond: A new framework for university writing instruction*. Logan, UT: Utah State University Press.
- Bawarshi, A. (2003). *Genre and the invention of the writer*. Logan, UT: Utah State University Press.
- Carroll, L. A. (2002). *Rehearsing new roles: How college students develop as writers*. Carbondale, IL: Southern Illinois University Press.
- Carter, M. (2012). Ways of knowing, doing, and writing in the disciplines. In T. M. Zawacki & P.M. Rogers (Eds.), *Writing across the curriculum: A critical sourcebook* (pp. 212–38). Boston: Bedford/St. Martins. (Reprinted from *College Composition and Communication*, 58(3), 385–418.)
- Condon, W., & Kelly-Riley, D. (2004). Assessing and teaching what we value: The relationship between college-level writing and critical thinking abilities. *Assessing Writing*, 9, 56–75.
- Dryer, D. B. (2008). The persistence of institutional memory: Genre uptake and program reform. *WPA: Writing Program Administration*, 31(3), 32–51.

- Eyman, D. (2015). *Digital rhetoric: Theory, method, practice*. Ann Arbor, MI: University of Michigan Press.
- Farris, C. R., & Smith, R. (1992). Writing intensive courses: Tools for curricular change. In S. H. McLeod & M. Soven (Eds.), *Writing across the curriculum: A guide to developing programs* (pp. 52–62). Newbury Park, CA: Sage.
- Fitzgerald, L. (2013). What is general education? In R. Malenczyk (Ed.), *A rhetoric for writing program administrators* (pp. 93–104). Anderson, SC: Parlor Press.
- Giltrow, J. Meta-genre. In R. Coe, L. Lingard, & T. Teslenko (Eds.), *The rhetoric and ideology of genre: Strategies for stability and change* (pp. 187–206). Cresskill, NJ: Hampton Press.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory*. Chicago: Aldine Publishing.
- Herrington, A. (1994). Writing in academic settings: A study of the contexts in two college chemical engineering courses. In C. Bazerman & D. R. Russell (Eds.), *Landmark essays on writing across the curriculum* (pp. 97–124). Davis, CA: Hermagoras Press.
- Lanham, R. A. (1991). *A handlist of rhetorical terms*. Berkeley: University of California Press, 1991.
- Lorie, P. (2002). *Nostradamus 2003–2025: A history of the future*. New York, NY: Pocket Books.
- Lunsford, A., & Ruskiewicz, J. (2009). *Everything's an argument*. Boston, MA: Bedford/St. Martin's.
- McLeod, S. H., & Miraglia, E. (2001). Writing across the curriculum in a time of change. In S. H. McLeod, E. Miraglia, M. Soven, & C. Thaiss (Eds.), *WAC for the new millennium* (pp. 1–27). Urbana, IL: NCTE.
- Meyer, J. H. F., & Land, R. (Eds.) (2006). *Overcoming barriers to student understanding*. London, UK: Routledge.
- Miller, C. R. (1984). Genre as social action. *Quarterly Journal of Speech*, 70, 151–67.
- Nowacek, R. (2009). Why is being interdisciplinary so very hard to do?: Thoughts on the perils and promise of interdisciplinary pedagogy. *College Composition and Communication*, 60(3), 493–516.
- Nowacek, R. (2011). *Agents of integration: Understanding transfer as a rhetorical act*. Carbondale, IL: Southern Illinois University Press.
- Perkins, D. (2006). Constructivism and troublesome knowledge. In Jan H. F. Meyer & Ray Land (Eds.), *Overcoming barriers to student understanding* (pp. 33–47). London, UK: Routledge.
- Popkin, R., & Stroll, A. (2002). *Skeptical philosophy for everyone*. Amherst, NY: Prometheus Books.
- Ramage, J., Bean, J., & Johnson, J. (2011). *Writing arguments*. Boston, MA: Pearson Longman.

- Russell, D. R. (2002). *Writing in the academic disciplines: A curricular history* (2nd ed). Carbondale, IL: Southern Illinois University Press.
- Russell, D. R., & Yañez, A. "Big picture people rarely become historians": Genre systems and the contradictions of general education. In C. Bazerman and D. R. Russell (Eds.), *Writing selves/writing societies* (pp. 331–62). Fort Collins, CO: The WAC Clearinghouse and Mind, Culture, and Activity.
- Sagan, C. (1996). *The demon-haunted world: Science as a candle in the dark*. New York, NY: Ballantine.
- Schaefer, K. L. (2015). "Emphasizing similarity" but not "eliding difference": Exploring sub-disciplinary differences as a way to teach Genre Flexibility. *The WAC Journal*, 26, 36–55.
- Shermer, M. (2002). *Why people believe weird things*. New York, NY: St. Martin's Griffin.
- Soliday, M. (2011). *Everyday genres: Writing assignments across the disciplines*. Carbondale, IL: Southern Illinois University Press.
- Thaiss, C. (1992). WAC and general education courses. In S. H. McLeod & M. Soven (Eds.), *Writing across the curriculum: A guide to developing programs* (pp. 63–77). Newbury Park, CA: Sage.
- Thaiss, C., & Zawacki, T. M. (2006). *Engaged writers and dynamic disciplines: Research on the academic writing life*. Portsmouth, NH: Boynton/Cook.
- Skeptics society. (n.d.). A brief introduction. Retrieved from http://www.skeptic.com/about_us/
- Walvoord, B. E., & McCarthy, L. P. (1990). *Thinking and writing in college: A naturalistic study of students in four disciplines*. Urbana, IL: NCTE.
- Wardle, E. (2009). "Mutt genres" and the goal of FYC: Can we help students write the genres of the university? *College Composition and Communication*, 60(4), 765–89.
- Wilder, L. (2012). *Rhetorical strategies and genre conventions in literary studies: Teaching and writing in the disciplines*. Carbondale, IL: Southern Illinois University Press.
- Williams, J. M., & Colomb, G. G. (2007). *The craft of argument*. Boston, MA: Pearson Longman.