From Answers to Questions: Fostering Student Creativity and Engagement in Research and Writing

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In an earlier article for this journal, called "Using Blogs for Better Student Writing Outcomes," I claimed that the informality of the blog format inspired student writing that was richer, deeper, and had fewer usage and stylistic problems than what I had read in their traditional term papers. While I argued for the benefits of casual, peer-reviewed writing, I hoped to make it clear that I also valued (and assigned) traditional writing assignments, and that the "decision to assign a blog *or* a research paper is not an either/or proposition."[1] Given my students' excellent blog writing, I knew that they were capable of much more than the awkward, pedantic, jargon-filled term papers that I was used to grading. Looking back at the blogs, I found the most inspired writing was what students wrote from the position of the specialist. Instead of awkwardly rearranging the thoughts and words of other scholars, these students were writing about music from their own knowledge, and I wanted to recapture that natural intelligence in the more formal, research-based writing assignment. In an effort to reinvigorate the research paper for my music history survey students, I discovered that I had to disabuse them of an assumption that they often make: that the burden of education is largely the professor's while the student remains relatively passive.

Students who do not feel confident with the complex subject matter of a research assignment often write awkward papers; indeed, writing expertly about music is difficult. It is unreasonable to expect an undergraduate to acquire the requisite mastery in a survey course. Instead of struggling against the issue of mastery, I decided to take a different tack. Inspired by the work my students had done in their informal blogs, I decided to change the emphasis of the formal research assignment from the daunting task of acquiring knowledge from external sources to a focus on questions that students generate themselves. In order to get the students to write with more authority, I urged them throughout

1. Sara Haefeli, "Using Blogs for Better Student Writing Outcomes," this *Journal* 4, no. 1 (2013): 39–70, http://www.ams-net.org/ojs/index.php/jmhp/article/view/101/126.

the research and writing process to look not for answers but, instead, to embrace questions. The students who succeeded were the ones who were most comfortable with the ambiguity of inquiry. I found that when the students began their research project with an open question instead of a research "topic," the quality, depth, and breadth of the research and writing improved dramatically. For example, instead of writing an "all about" paper on the basset horn, one student asked, "Why did the basset horn all but disappear in the mid 1800s, considering its popularity—especially as a solo instrument—in the late 1700s?" Students who were able to keep a question at the center of their project wrote with authority and used evidence to support their own findings. Good research questions inspire a natural interest in the research and writing process. This approach had the additional benefit of giving students a sense of ownership over their learning: they discovered that they were ultimately in charge of their own educational outcomes. They were no longer passive recipients of "facts," but were part of the creation of the body of knowledge we call history.

At Ithaca College we teach the music history survey over three semesters. During the first semester the students formulate a research question on materials before 1750 and write an annotated bibliography. They do not "answer" their research question but rather gather sources that would start them down the path toward an answer. The second semester, in which we cover Classical and Romantic era topics, is a college-designated "writing intensive" course. Students now formulate a new research question, compile an annotated bibliography, and write a research paper in multiple stages (free writing, outline, opening statement with thesis, draft, final draft, revision, and reflection). In both semesters, much of the work the students do (including an intensive peer-review process) is collaborative. The focus of *this* essay, however, is on the students' work with research questions both semesters. I outline the approach that I adopted to teach my music history students how to create initial research questions, and how I urge them to push the questions into areas of deeper inquiry throughout the research and writing process. Before describing the details of the research question assignments, however, it is important to understand the educational philosophy behind this pedagogical maneuver.

The Skill of Creative Inquiry

Too many of our students come to us with the notion that it is the job of the scholar, the specialist, or the professor to *have the answers*. While specialists may have a lot of answers, the truth is they have far more questions. As teachers, we are challenged to encourage these students who have largely been trained to memorize and repeat answers to become comfortable with the ambiguity of *questions* and to recognize that the best research is riddled with them. It would

be convenient to blame this answer-focused mindset on the K–12 public educational system's focus on standardized testing, but unfortunately, the structure of most of our higher education programs is also not conducive to creative intellectual work, for students or professors alike. The challenge is getting the students to understand that inquiry is a *skill* and although we are teaching content through research and writing, we are also teaching the essential cognitive skill of seeking and articulating interesting questions.

In a recent book review, Andrew Granade points the reader to a recent comic strip from the series "Pearls Before Swine." The strip pokes fun at how we study history in the internet age. Why bother memorizing facts when we have almost immediate answers via Google? Granade points out that "Most of our students in the music history classroom carry in their pockets a quick portal to all the names and dates, the basic facts, they need; memorizing chronology and opus numbers is no longer the basis of music history pedagogy."[2] Access to facts is now relatively simple, but contextualizing and understanding these facts is a different issue altogether. The ability to contextualize, understand, and question information are skills—skills that are not easily attainable via Google.

The ability to ask questions is essentially a creative act, and, according to social psychologist and creativity specialist Teresa Amabile, in order to cultivate creativity we need to

- recognize creative work;
- encourage risk taking;
- create a supportive, encouraging environment;
- create challenging work that feels important;
- allow freedom to decide how to do one's work;
- provide sufficient resources to complete the task.[3]

According to Amabile, factors that discourage creative work include

- surveillance while working;
- competition;
- lack of self-determinacy;
- constrained choice;
- expected evaluation or criticism of one's work;

2. Andrew Granade, review of *Music in the Twentieth and Twenty-First Centuries* and *Anthology for Music in the Twentieth and Twenty-First Centuries*, by Joseph Auner, *College Music Symposium* 55 (2015): para. 2, http://dx.doi.org/10.18177/sym.2015.55.rev.10874.

3. Teresa Amabile, "How to Kill Creativity," *Harvard Business Review* Sept.–Oct. 1998, https://hbr.org/1998/09/how-to-kill-creativity/ar/1. Amabile has published prolifically on the nature of creativity and how to encourage it.

- external motivation, e.g., work done for reward (such as grades);
- extreme time pressures.

Using these criteria, it is clear that the framework of the typical music history survey actually discourages creative work. For example, the course is usually required for graduation, and assignments are typically narrowly defined and closely graded. While the course work is difficult, students often don't perceive the challenging work as important. Students are often motivated by the "reward" of a good grade, but the pressure of the grade discourages creativity. Cameron Ford explains, "People are most creative when they feel motivated by the interest, enjoyment, and challenge associated with a particular task. External pressures, such as direct rewards or evaluations, tend to block creativity."[4]

I am not alone in deemphasizing memorization of facts in order to focus on creative inquiry. In a 2002 *New York Times* article, Julie Flaherty asked leaders in higher education the question, "what should you get out of college?" Nancy Cantor, chancellor at Rutgers University (then at the University of Illinois at Urbana–Champaign) answered that "There isn't a pat answer anymore . . . the best we can do for students is have them ask the right questions."[5] Similarly, Leon Botstein, president of Bard College, said:

> The primary skills should be analytical skills of interpretation and inquiry. In other words, know how to frame a question. How do you evaluate the safety record of an airline? How do you evaluate the risk when you smoke? . . . You should not be dependent on the sources of information, either provided by the government or by the media, but have an independent capacity to ask questions and evaluate answers.[6]

While Botstein is speaking of a liberal arts education in general, the music history classroom is an excellent forum for inquiry, and the research paper assignment is a particularly apt vehicle to exercise the skill of creative inquiry and interpretation. Access to facts is quick and easy, but the ability to formulate research questions and to evaluate answers through the writing process are essential skills, as is the ability to cope with the ambiguity and risk associated with creative work. Students are accustomed to history classes that focus on the acquisition of information, but not on the acquisition of skills, and the acquisition of skills is different from the acquisition of information. Skill acquisition

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4. Cameron Ford, "Creativity Is a Mystery: Clues From the Investigators' Notebooks" in *Creative Action in Organizations: Ivory Tower Visions and Real World Voices,* ed. Cameron Ford and Dennis Gioia (Thousand Oaks, CA: SAGE, 1995), 36.

5. Kate Zernike, "Tests Are Not Just for Kids," *New York Times*, August 4, 2002, http://www.nytimes.com/2002/08/04/education/tests-are-not-just-for-kids.html.

6. Zernike, "Tests."

takes time, requires practice (just like learning an instrument), and demands active engagement. To demonstrate this kind of active engagement I tell my students about buckets and ice cubes.

A Bucket vs. an Ice Cube

One fairly traditional educational philosophy assumes that the learner is like a bucket. Students start the educational process as empty buckets and the bits of knowledge we teach them are like chunks thrown into their buckets. We can measure the level in the bucket with tests or other types of assessments, whereupon significant measuring points are celebrated with graduations and awards. There are a number of assumptions in this educational philosophy that are problematic. First, this model assumes that we are all more or less uniform learners who can acquire and retain knowledge and skills similarly. Second, by necessity, this model assumes that the bucket stays still. How can the teacher throw in the educational lumps if the bucket is fidgeting, interrupting, or asking questions? Since the buckets are passive and uniform, the burden of success with this model is on the teacher. In his seminal work *Pedagogy of the Oppressed,* Paulo Freire calls this pedagogy the "banking" approach to education; instead of buckets, he uses the metaphor that students are "bank accounts" and teachers make deposits into them. Freire claims that this system is "an instrument of dehumanization."[7] The bucket or banking pedagogical approach is designed to produce students who can regurgitate correct answers; it does not support the skills necessary to create independent, creative researchers and writers. There is no room for questions in the bucket.

The social psychologist Kurt Lewin proposed an alternative model. Lewin suggests that instead of buckets, learners should be like ice cubes.[8] As learners we start the educational process with a very predictable and stable mindset—hence the frozen cube metaphor. The educational process is like the ice cube moving toward a heat source such as a candle. As the ice cube gets close to the candle, part of it melts. This process is uncomfortable for most learners. It is a process of dismantling the existing mindset and might involve quite a bit of confusion. For students who are familiar with the bucket pedagogy, this process feels like losing ground. Most people find this period of ambiguity very uncomfortable, and the obvious reaction is to back away from the heat source. The last stage is that of "refreezing" as our new mindset crystallizes and the ambiguity abates. As we "refreeze" we never assume the old cube shape—we assume an

7. Paulo Freire, *Pedagogy of the Oppressed,* trans. Myra Bergman Ramos (New York: Continuum, 1970), 54.

8. See Edgar H. Schein, "Kurt Lewin's Change Theory in the Field and in the Classroom: Notes Toward a Model of Managed Learning," *Systems Practice* 9, no. 1 (1996): 27–47.

interesting, new, slightly more complex shape. Initially, the ice cube is "pushed" toward the flame; that is, we push the students toward transformative change through required assignments and class meetings. But as all educators know, the student is in control of the transformation. (Not all come away from our classes changed.) Ideally the students will become comfortable enough with the ambiguity of transformational change that this process of "melting" and "refreezing" takes on its own momentum. Hopefully this process continues as the cube returns again and again to the flame under its own motivation, continually transforming until it is a unique and complex creation. Similarly, Freire argues for "co-intentional education." He claims that teachers and students "are both Subjects, not only in the task of unveiling . . . reality, and thereby coming to know it critically, but in the task of re-creating . . . knowledge. As they attain this knowledge of reality through common reflection and action, they discover themselves as its permanent re-creators." Freire claims that this model is not one of "pseudo-participation, but committed involvement."[9]

Students are empowered by the melting ice cube metaphor, but the metaphor loses power as time passes. In my classes, the students need regular reminders that I expect creative, co-intentional ("ice cube") engagement. This education model is unfamiliar to them; it has to be explicit in the classroom and continually reviewed. My role as an instructor has changed as a result of this model: whereas in the past I did my best to give students clear study guides, I now encourage them to make their own study guides through engagement with the music. If I am clearly and consistently guiding the students' educational pathways they might become more musically sophisticated in some ways, but they will remain passive learners and they won't know how to continue the process without an instructor.

Ideally, the educational environment that we help to create provides the open, ambiguous-yet-safe, motivating experience that inspires this kind of transformation. The ice cube model recognizes that we are not uniform learners. Some students may find the recognition of their differences empowering; others will find it intimidating. The understanding that the burden of acquiring this kind of education is firmly on the learner and not on the instructor is challenging for students, especially those who are extrinsically motivated and are working for the expectation of a reward or grade. However, if the student is intrinsically motivated, learns how to formulate good research questions, and can operate in the field of ambiguity that accompanies inquiry, then their educational process will drive itself, as Robert Frost put it, like the ice cube on a

9. Freire, *Pedagogy of the Oppressed,* 69.

hot stove, riding on its own melting.[10] Questions can be that "heat source" that encourages transformative change.

In an economy driven by credentialism, students are too often focused on the grade or the degree and not on the transformative experience. Explicitly focusing on questions instead of answers in the research paper assignment is one way to turn from the expected, measured, predictable (awkward, boring, "bucket") student paper to writing that is more creative, less contrived, and surprisingly engaging. Focusing on questions encourages the students to *own* their research projects, to know that they are in control of the process, and as a result to write with more natural authority.
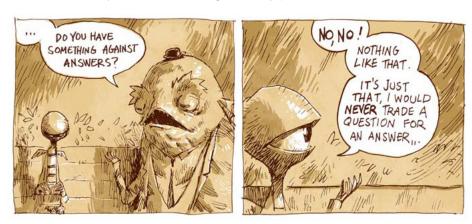
Teaching the Skill of Inquiry

The best research projects are the ones that start from questions that rise from ambiguity and may create more of it. This premise may seem obvious, but most students propose research projects that start with *answers* instead of *questions*. When we ask students to propose a *topic* for a research project, we are actually encouraging them to start with an answer. Starting with a real question is very difficult for students, because it creates an ambiguous situation: "What if I can't actually find the answer? What if all I'm left with at the end are *more questions?*" Many students are not well prepared for this kind of assignment. Some actually panic, but they do learn by the end of the project that successful research clearly and convincingly explains why the original question begets only provisional answers and inspires more, perhaps even better, questions![11]

When we begin work on the research paper in my classes, the first assignment is a reading assignment: the class reads "A Day at the Park" by Kostas Kiriakakis (**Figure 1**). This is a charming tale of two creatures, one of which collects questions and the other answers. Through this story Kiriakakis points out that answers are not as valuable as questions. They are "static in nature" and only "one frozen snapshot" of reality. Answers are "useful to have around, but kind of boring too." Questions, on the other hand, are always valuable. Even the seemingly useless questions (which don't create good answers) can create *better questions*. According to Kiriakakis, questions are the ones that "participate in the ever transforming dance of the whole universe." The Kiriakakis cartoon thoughtfully unpacks the role of questions and answers and points out how

10. Robert Frost, "The Figure a Poem Makes," *The Robert Frost Reader: Poetry and Prose,* ed. Edward Connery Lathem and Lawrance Thompson (New York: Henry Holt, 2002), 442. Frost asserted that the creation of a poem has to have this kind of momentum: "Like a piece of ice on a hot stove the poem must ride on its own melting."

11. A great tool to use with students in order to dispel the myth that their work should be centered on answers is Stuart Firestein's TED Talk, "The Pursuit of Ignorance," http://www.ted.com/talks/stuart_firestein_the_pursuit_of_ignorance?language=en.

Figure 1: Kostas Kiriakakis, "A Day at the Park" (excerpt), 2015, http://kiriakakis.net/comics/mused/a-day-at-the-park. Image used by permission.

easily we can get attached to answers that have lost their value or usefulness. I talk about the value of questioning *everything* that has been handed down to us. Did Charles Ives *really* write a piece that depicts two marching bands crossing? Why did Bruckner revise his symphonies so many times? What does it mean when we talk about Mozart as a genius?

After establishing the value of questions, we start to look at how musicologists use questions to frame their research. In class we look at several examples together, starting with articles that have clear research questions stated explicitly as questions in the opening paragraphs. For example, Stephen Bonta's article "The Uses of the *Sonata da Chiesa*" is built on the following questions: "Were instrumental pieces used as preludes or postludes to liturgical chants? Were instrumental or vocal pieces used as substitutes for these chants? And, if so, what happened to the liturgical texts of these chants?"[12] We then move to examples of scholarship in which the question is not stated as such, but which is still easily discernable. For example, we look at Marc Vanscheeuwijck's article "Recent Re-evaluations of the Baroque Cello and What They Might Mean for Performing the Music of J. S. Bach."[13] I ask the students to recreate the author's original research question based on the opening statement. They might offer a reconstruction of the question that is something like, "What was the nature of the Baroque cello during Bach's time?" Or, "Is the cello that Bach wrote for the same cello that we have today? If not, what difference does it make or *should* it make to modern performers?" I then give them an assignment to complete as

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12. Stephen Bonta, "The Uses of the *Sonata da Chiesa*," *Journal of the American Musicological Society* 22, no. 1 (1969): 54.

13. Marc Vanscheeuwijck, "Recent Re-evaluations of the Baroque Cello and What They Might Mean for Performing the Music of J. S. Bach," *Early Music* 38, no. 2 (2010): 181–92.

homework in which they identify the research questions in opening statements from three different published articles.[14]

Creating a Research Question

After studying research questions in existing scholarship, the students start to create their own research questions. Questions do indeed start from "topics" or areas of interest and curiosity. The students are required to do some basic background research on the topic, but they have to move beyond a topic. They then start interrogating this existing research by asking typical questions: why? how? when? what? They are encouraged to create as many questions as possible and to write them down as quickly as they come to mind. They should not judge or try to refine the question at this point. After generating a number of questions, the students then return to the list and ask, "Is this question closed or open?" Closed questions are easily answered with "yes," "no," or just a few words. Open questions lead to complex, contextual, critical analyses.[15] It might be helpful at this point to have a discussion about the difference between open and closed questions and have the students offer examples. Students may come to recognize that they are used to closed questions and the clear answers they generate and that open questions are daunting. Some may find at this point that they aren't actually asking *real* questions, but instead are trying to disguise a topic in the form of the question. For example, the question, "What were young girls expected to know when it came to music education in England during the Elizabethan period?" is less an open question than a topic about music education. However, it might be a good starting point for a student that will discover an open question as he or she continues their research.

Returning to the three research questions described earlier will provide an opportunity to examine the intricacies of working with research questions in more detail: (1) Did Charles Ives *really* write a piece that depicts two marching bands crossing? (2) Why did Bruckner revise his symphonies so many times? (3) What does it mean when we talk about Mozart as a genius? The first question about Ives might be a closed question, as there are multiple bands in *Three*

14. I teach the formulation of research questions during the first semester of the music history survey so the articles I have chosen for the students focus on the musical materials from that semester. Articles I have used in the past include Peter Downey, "The Renaissance Slide Trumpet: Fact or Fiction?" *Early Music* 12, no. 1 (1984): 26–33; Harold Powers, "Tonal Types and Modal Categories in Renaissance Polyphony," *Journal of the American Musicological Society* 34, no. 3 (1981): 428–70; and Joseph Dyer, "The Place of *Musica* in Medieval Classifications of Knowledge," *Journal of Musicology* 24, no. 1 (2007): 3–71.

15. See especially the excellent work of Dan Rothstein and Luz Santana, *Make Just One Change: Teach Students to Ask Their Own Questions* (Cambridge: Harvard Education Press, 2011), 73–86.

Places in New England. The question about Mozart and genius—while an open question—might be impossible to answer. Perhaps it is possible to push the question about the multiple bands in *Three Places in New England* into the realm of an open question (e.g., *How* does Ives depict multiple ensembles within one larger ensemble? What does it mean that they *cross*?). And perhaps it's possible to limit the Mozart question in a way that would make it a more manageable, more meaningful question for study (e.g., Given that we think of Mozart as a "genius," why was it so difficult for him to secure employment? How was it possible for his work to remain in continual performance from his lifetime until today?). It is helpful to workshop difficult questions in class, in small groups, and during one-on-one conversations during office hours. After brainstorming as many questions as possible, the students change the closed questions to open questions as they push topical interests into areas of true inquiry.

At this point in the process the students should have several potential open research questions, all connected to their original area of interest. They then "test" their questions with the following guidelines:

1. *Is your research question clear?* Does it give you enough guidance to know what it is you are going to be searching for? Does the question help you direct your research in the vast field of knowledge?
2. *Is your research question focused?* Is the question specific enough to be well covered in the limited space available (i.e., 5–7 pages)?
3. *Is your research question complex? Does your question require both research and analysis?* These open questions should require critical thinking and analysis and active engagement with the sources and scholarship; there is no pat answer. The question may even explore an area of contention.

In addition to the formal guidelines given above, I ask the students to test their question with an informal guideline that pushes them toward exploring an area of ambiguity: "Are you unsure of the outcome? Does this question scare you?" The answer to these prompts should be "yes."

As the students begin their research I urge them to try to delay finding an answer. If they do happen upon an answer right away, that quick and easy answer should serve as a provisional way station on their journey toward a better question. I expect the research questions to change over the course of the writing assignment. In addition, every student is required to include in the concluding paragraph of the research paper a question for further research. This provision is usually a standard requirement of the conclusion, but in this new light, the typically perfunctory suggestion for further research can take on new significance as it emerges organically out of the question-driven writing process.

Students find that this orientation radically changes their approach to research. They find themselves reading more broadly and with more interest than they had previously. With a topic-driven research project they would simply search for evidence that they could quote in their paper. With research driven by an open-ended question—and a question that was likely to transform as they made discoveries through their research—they were more likely to diversify their sources and to look to different types of scholarship. Instead of searching for answers, they used research to test their questions. They start to understand that the final product of their research should be an answer perhaps, but a provisional one, one that would be replaced by a more interesting and sophisticated question.

Research Guided by Questions Instead of Topics

I would like to offer here some qualitative evidence that this approach creates better writing outcomes by offering student examples of excellent research questions. The first question is the original research question proposed at the beginning of the semester. The second question is the research question as it appeared in the paper, ideally substantially refined and revised. The third question is a question for further research, required in the concluding paragraph of the final draft of the research paper.

Example 1
   Original research question:
   What did a typical piano lesson taught by Carl Czerny look like? (I hope to explore his teaching style and pedagogical legacy.)
   Final, refined research question:
   What does Carl Czerny teach us about the role that improvisation played in the musical development of pianists in the eighteenth and nineteenth centuries?
   Question for further research:
   How can understanding the cognitive processes involved in improvisation affect teaching approaches? What additional non-music-related benefits might improvising have on a person?

This is an excellent example of a set of questions that properly developed as the student explored the evidence. The question started as a legitimate, if somewhat unsophisticated, question (with a topic lurking parenthetically in the background). The refined question is focused, clear, and original. It is evidence of higher-order thinking because the student has gone beyond understanding

and applying the existing research in this area of inquiry to evaluating Czerny's creative context and has created a new connection between the fields of improvisation, technique, and memorization. Had the student started with the topic "Czerny's pedagogy and legacy," I doubt the student would have ventured into this relatively uncharted area of study on improvisation.

Example 2

    Original research question:
    What was the role of lullabies during the Romantic Period, and how did their musical characteristics help to fulfill their function?
    Final, refined research question:
    What are the fundamental musical elements of lullabies, and how do these elements help lullabies, including those of the Romantic Period, to effectively soothe and lull children to sleep?
    Question for further research:
    What musical features, or *gestures*, cause listeners to naturally sway back and forth while listening to music, including lullabies? How might this explain why traditional lullabies are typically sung in triple or compound duple meter?

This question is from a student who is a music minor and whose main field of study is physical therapy. I urged students from the beginning to embrace their own expertise in their questions and this student did so beautifully. She drew on her analytical skills as a musician as well as her ability to understand and interpret the scientific literature on brain development in infants. The sources for this paper were a balance of historical, musicological, and scientific studies on the effect of lullabies on babies. Note that the suggestion for further research is situated even further into her chosen field of cognitive sciences and therapy. This is an example of a genuinely engaged student.

Example 3

    Original research question:
    What was going on musically during the nineteenth century in Iceland?
    Final, refined research question:
    What role did the *rímur* tradition play in nineteenth-century Iceland?
    Question for further research:
    What other folk music traditions does Iceland have to offer? What role did liturgical music play in that country?

Again, this is a question that was appropriately refined and narrowed through the research process. This student started with a legitimate and admittedly

terrifying question. She knew nothing about music in Iceland before the twentieth century. She tested her research question by consulting the *Grove Music Online* article on Iceland and found that one of the largest collections of Icelandic music and primary sources was at Cornell, less than three miles away. Her research took her into the archives at Cornell, and she was able to explore just one of the Icelandic musical and poetic traditions of the nineteenth century. This was a valuable introduction to primary sources. The question for further research, however, is too easy. I would have liked her to discover an even more refined question about the *rímur* tradition specifically, say its social function, or theoretical issues connected to the musical practice.

Surprise No. 1: Silo Thinking

Some of the research questions this past semester arose naturally out of class discussions. One such question was about the nature of rococo style in the court of Louis XV and another concerned the advertising of Mozart's operas. These were legitimate, open questions that came directly from moments of curiosity in the classroom. On the other hand, there were a number of students who had significant difficulty finding a question. Some had proposed clumsy questions that either didn't connect to their skill sets or that seemed overly safe or strategized. They needed help. When these students came to me during office hours, I would ask what they were working on in their lessons or ensembles. When I urged students to start asking questions about their private lesson literature they often said, "We can do that?" I was surprised by a tendency *against* integration of their performance literature and their work in music history class. It was evidence of silo thinking and an outcome from years of standardized "bucket" experiences in school.

One student (a string player) came to me with a question about C. P. E. Bach keyboard sonatas. I asked her why she had chosen that area for her project, and she said that she assumed there would be a lot of existing scholarship to work with. (This is the kind of "strategizing" that I often see; i.e., students choosing a topic that they believe will be easy rather than exploring an area that is either relatively unexplored or of genuine interest.) But she didn't have any natural interest in C. P. E. Bach or his music. When I asked her what she was working on in her lessons, she finally came around to confessing that she was working on the Beethoven "Ghost" Trio (op. 70, no. 1). I asked her if she had any questions about that piece, and she answered no. We talked about the piece, the challenges inherent in it, and finally she said, "Did you know that there are supposed to be quotes from his Second Symphony in the piece?" This unleashed a torrent of questions: *Where? Why?* This turned into a genuine set of open questions connected to the student's natural interests and existing skill sets.

Surprise No. 2: Students' Hesitancy to Trust Their Own Ideas

There were at least four times during the semester when I met with students who thought that they were going to have to abandon their research questions. They were frustrated because they thought they had great questions, but they couldn't find sources that answered their questions. The student who wrote about the role of improvisation in Czerny's pedagogy said that she thought that improvisation was connected to memorization (she had found that Czerny's students were more likely to play from memory than others) and to technical fluency. *But she couldn't find a single source that said this.* I was surprised that I had to tell her that she was allowed to have her own ideas and the role of research is to offer evidence to support her conclusions; this was surprising to her, as it was to other students. In this case, the student had access to Czerny's letters, memoires, and étude books, as well as excellent secondary studies on the composer and his pedagogy.[16] What was most impressive, however, was the student's ability to apply current research on memorization and improvisation pedagogies to this historical study, supporting her conclusion through a creative synthesis of otherwise unrelated (or loosely-related) fields.[17] While she couldn't find a single source that confirmed her hypothesis, she was able to make a compelling case through the integration of existing primary and secondary sources.

Outcomes and Conclusions

In the book *Make Just One Change: Teach Students to Ask Their Own Questions,* Dan Rothstein and Luz Santana claim that teaching K–12 students how to ask and refine questions produces a behavioral and affective change in the students. The skill of asking and refining questions makes the students feel more confident

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16. Carl Czerny, *The Art of Finger Dexterity for Piano*, ed. Harry Dexter (London: Hansen House, 1975); "Recollections from My Life," trans. Ernest Sanders, *The Musical Quarterly* 42 (1956), 302–17; *A Systematic Introduction to Improvisation on the Pianoforte, Op. 200*, trans. and ed. Alice L. Mitchell (New York: Longman, 1983); *Letters to a Young Lady, on the Art of Playing the Pianoforte*, trans. J. A. Hamilton and ed. Bea Friedland (New York: Da Capo Press, 1982). Secondary sources on Czerny included the collection of essays in David Gramit, ed. *Beyond The Art of Finger Dexterity: Reassessing Carl Czerny* (Rochester: Univ. of Rochester Press, 2008); and Martin Gellrich and Richard Parncutt, "Piano Technique and Fingering in the Eighteenth and Nineteenth Centuries: Bringing a Forgotten Method Back to Life," *British Journal of Music Education* 15 (1998): 5–23.

17. Jennifer Mishra, "A Century of Memorization Pedagogy," *Journal of Historical Research in Music Education* 32 (2010): 3–18; and Robin Moore, "The Decline of Improvisation in Western Art Music: An Interpretation of Change," *International Review of the Aesthetics and Sociology of Music* 23 (1992): 61–84.

working in areas of ambiguity and solving problems for themselves.[18] Similar research on university students has yet to be completed; however, in my experience with my own classes, I have witnessed this behavioral and affective change and have anecdotal evidence of increased problem-solving skills. I was hoping to find evidence of an increased sense of ownership in the students' reflections on their work. Indeed, when asked what they did well in the research paper they overwhelmingly said that they had good ideas, that they were able to integrate research with their own ideas well, or that they felt that the overall content of the paper was strong. While I was initially disappointed that only one student said that the strongest aspect of his or her paper was a strong and original research question, I came to realize nonetheless that by creating a clear research question, the students took ownership of the content of the paper. In comparison, when I taught students to write topic-driven research projects, they struggled far more with the content of their writing. The topic-driven assignment might have given the student a superficial sense of engagement in scholarly discourse, but the inquiry-based research made the student a co-creator of knowledge.

While the students felt that the content was one of the strongest aspects of their papers, I was surprised by the sheer creativity of their scholarly projects. In comparison to topic-centered papers, these papers focused on unique areas of inquiry.[19] A number of recent headlines have lamented the lack of creativity in recent graduates, and many employers claim that creativity and creative problem solving is one of their most highly prized skills alongside the ability to work well in teams and to communicate effectively.[20] Part of our student learning outcomes need to focus on teaching divergent thinking and creativ-

18. This research is based on K–12 educational settings with the most attention paid to the lower grade levels. Similar research has not, as far as I know, been systematically applied to higher educational settings and students. Rothstein and Santana, *Make Just One Change*, 82.

19. The following are some of the strongest research questions from this assignment: (1) How did Gluck's *Armide* influence later settings of the text, specifically Rossini's *Armida*? (2) How and why did Beethoven revise the duet 'O namenlose Freude!' for his opera *Fidelio,* and how did these revisions change the drama of the opera? (3) Who was cast in the original production of *The Beggar's Opera*, why were actors (and not singers) cast, and how did audiences of the time react? (4) Does Tchaikovsky's Fourth Suite "Mozartiana" foreshadow the Neoclassicism that emerges in the early twentieth century?

Not all the questions were unique and creative. Some of the questions resembled the typical "all about" topic-driven paper. These questions asked about the instrumentation of the Mozart Clarinet Concerto, Mozart and the Freemasons, appropriate performance practice of Beethoven's Piano Sonata, op. 109, etc.

20. See Scott Jaschik, "Well-Prepared in Their Own Eyes," *Inside Higher Ed,* January 20, 2015, https://www.insidehighered.com/news/2015/01/20/study-finds-big-gaps-between-student-and-employer-perceptions, and Hart Research Associates, "It Takes More Than a Major: Employer Priorities for College Learning and Student Success," *Liberal Education* 99, no. 2 (2013): https://www.aacu.org/publications-research/periodicals/it-takes-more-major-employer-priorities-college-learning-and.

ity. Inquiry-based research is essentially creative problem solving and involves both divergent and convergent thinking. Research is often a matter of quickly alternating between the two: divergent thinking imagines something new, convergent thinking asks if this something new is worthy of consideration given what I already know. Some students found that their creative research question was not worthy of consideration given the existing research. Some started with an original question, but backslid into old patterns of convergent thinking and wrote "safe" papers. However, many were able to adapt their question in order to find a balance between a new idea or hypothesis and existing research.

The following is a (surely incomplete) list of skills that we want to engender in our students so that they may continue asking questions and continue to value questions over answers, even in their own writing. We want them to:

1. Be curious and constantly interrogate the musical world around them. We want them to make connections between areas of study, ensembles, private lessons, and the larger musical world through inquiry, research, and writing.
2. Have the drive and initiative to pursue the questions and the ability to sustain an attitude of inquiry throughout a long project such as a research paper.
3. Be comfortable with a sense of autonomy. Even though most of what we do is built on the work of previous scholars, hopefully we are contributing something genuinely new. That is equally frightening as it is exciting.
4. Practice the skills of good observation, evaluation, and analysis. The ability to ask good questions stems from the skill of creative inquiry. Answers ("facts") are means to better questions.
5. Engage primary sources in order to pursue the good questions. Inquiry will naturally drive the students toward this kind of evidence as they question existing scholarship.

Philosophers of education such as Freire have been thinking about how students can take control of their educational experiences and outcomes for a very long time. While public schooling has recently been moving toward an increasingly standardized "bucket" or "banking" model, educators have long understood that true transformational change happens in an environment of ambiguity.[21]

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21. See recent research on confusion as a powerful educational tool: Steve Kolowich, "Confuse Students to Help Them Learn," *Chronicle of Higher Education,* August 14, 2014, http://chronicle.com/article/Confuse-Students-to-Help-Them/148385/, and Blair Lehman, Sidney D'Mello, and Art Graesser, "Confusion and Complex Learning During Interactions With Computer Learning Environments," *Internet and Higher Education* 15, no. 3 (2012): 184–94.

These philosophers argue that inquiry and the ability to cope with the ambiguity that accompanies inquiry are skills that must be learned and practiced.

The research paper can be an arcane relic, especially for our students who have grown up with easy answers at their fingertips. My Ithaca College students in particular seem to be especially risk-averse (especially those conscientious students whose grades are tied to their scholarships). Students perceive ambiguity as risky and thus it is difficult for us to get them to engage in inquiry. Putting questions at the center of the research project challenges the students to work through (or indeed within!) ambiguity. The focus on questions recognizes that our students are curious human beings who already have the basic ingredients for interesting inquiry. If they are reflective enough to recognize it, they are living in a world of questions. Validating those questions validates their status as students, as thinkers. It also empowers the students to become not just passive recipients of knowledge but co-creators of knowledge. While we cannot change the "bucket" educational experience that most students have internalized coming into our classes, we don't have to abandon a more independent, question-based, skills-focused pedagogy of research and writing.