Critical Inquiry Across the Disciplines: Strategies for Student-Generated Problem Posing

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Abstract

Moving from lecture-based to student-centered instruction can be challenging for faculty and students alike. This article describes an interdisciplinary framework for redesigning courses so that students are more responsible for their learning and faculty become process facilitators. When students are required to use and reflect on course content through focused contexts and are encouraged to grapple with their own thinking, they can reach deeper levels of understanding and sustain a level of critical thinking which helps them move course content beyond the classroom.

Keywords: critical thinking, student responsibility, active learning, interdisciplinary, teaching methods
Recent scholarship in critical thinking, writing in the disciplines, and problem-based learning all have one thing in common—an approach that makes students more active in their role as learners. In general, active learning (cf., Bean 2003; Bonwell and Eison 1991; Fink 2003) means that students must do more than simply listen to lectures and take notes. They must engage in higher-order thinking tasks to learn course content in ways that allow them to use their newfound knowledge outside the classroom.

An alternative to textbook- or lecture-centered courses, student-centered instruction puts the responsibility for learning onto the students. However, faculty cannot assume that students can make the move easily to a more responsible role, nor are faculty always eager to place the onus on students and risk giving up control. As Felder and Brent (1996) argue, “The students, whose teachers have been telling them everything they needed to know from the first grade on, don’t necessarily appreciate having this support suddenly withdrawn” (43).

It follows, then, that faculty need to design courses to help students become active learners and use their higher-order skills. Additionally, students need to be able to readily identify the link between course content and their own learning. To create student-centered classrooms to reach these goals, faculty must become “designers of learning experiences” (Spence 2001, 12). By redesigning courses and developing reflective students who are responsible for their own learning, faculty can help students move beyond a rote knowledge of foundational concepts to make significant changes in their own lives (Levine et. al 2008).
Developing Student-Centered Learning Experiences

How should faculty spend course preparation time to maximize course content and students' learning at the same time? Problem-based learning (PBL) offers one approach. In general, PBL requires students to identify and research the concepts needed to work through problems they might encounter outside the academic setting (Duch, Groh, and Allen 2001). Students must think critically to use the knowledge derived from course content in an applied situation, which orients them “toward meaning-making over fact collecting” (Rhem 1998, 1). PBL also fits nicely with the findings of the Boyer Report\(^1\) which, quoting John Dewey, states that “learning is based on discovery guided by mentoring rather than on the transmission of knowledge” (The Boyer Commission 1998, 15). Additionally, the report reminds us that traditional lecturing and note-taking, certified by periodic examinations, was created for a time when books were scarce and costly; lecturing to large audiences of students was an efficient means of creating several compendia of learning where only one existed before. The delivery system persisted into the present largely because it was familiar, easy, and required no imagination. But education by inquiry demands collaborative effort; traditional lecturing should not be the dominant mode of instruction in a research university. (16)

Two key problems intrude, however, when faculty work to build student-centered classrooms that incorporate problem-based learning. The first is the basic faculty lament that students often fail to understand how course content is explicitly tied to their own learning and often resist attempts to make them responsible for their learning. Designing a lecture course to teach content mastery is not as difficult as designing a course that has students use course content in ways that
develop stronger connections between the learner and the subject matter and between the classroom and the non-academic world.

A second problem for faculty working toward student-centered instruction is students’ limited ability to frame deeper questions. Students tend to scratch the surface and don’t seem to fully appreciate the multiple layers in problem-based learning assignments. Further, students are often more concerned with the product or end-result of the assignment than the course concepts, and consequently limit their engagement with the thinking and writing processes foundational to completing the assignment. Faculty, too, can be assignment- or outcome-focused, which is another reason that engaging students with course content (versus the assignment itself) is important (East 2009).

In response to these issues, our project began with a common purpose: to redesign our courses to help students grapple with deeper questions that can lead to more critically-determined answers. Our belief is that strengthening students’ problem-posing skills can help them achieve deeper levels of sustained thinking and critical reflection. Moreover, possessing effective problem-posing skills is valuable as students enter the workplace, where practitioners’ ability to ask effective questions is critical to analysis and decision making.

**Developing Learning Experiences that Encourage Problem Posing**

This paper describes a semester-long, reflective series of assignments we piloted, designed as a learning experience for our students to engage more personally in course content and to strengthen their problem-posing skills. Our disciplines are marketing and English and we developed the assignments for use in our consumer behavior and argumentation classes, respectively. At the heart of our experiment was our desire to create a learning experience which addressed the struggles we had experienced: that students have trouble linking course content to
their own learning and have trouble moving beyond superficial analysis to deeper questions that can lead to deeper insights.

Two main strategies formed the framework of the learning experience we developed. First, we identified a single focused context for our two disparate courses and designed a series of problem-posing activities that led students to view course content through this lens. Connecting the whole semester through this focused context allowed students to dig deeper into their thinking and reflection, yet still gave them a structure through which to gain perspective and insight from a variety of angles. Further, identifying a focused context can help ground students’ work in a common language and framework and help them more readily see connections to course concepts.

A second strategy in our framework was to reposition students to take ownership and responsibility for their coursework and learning. Amador (2006) suggests the analogy of being the driver versus the passenger in a car. When students are drivers, they “learn the content (route) in the process of solving the problem (trying to get to [the] destination)” (7). The active work drivers do to get to the travel destination is akin to the active work students must do to get to the knowledge destination. In giving students the driver’s role, instructors must “step aside” in order to “shift the focus of classroom instruction from what the teacher will do to what the students will figure out” (Blair 2009, 42). Putting students in the driver’s seat to take ownership of their learning, then stepping back to give them room to take that role, was critical to how we approached our design of the learning experience.

These two strategies—identifying a focused context and putting students in the driver’s seat—served as the foundation of our project. These dual strategies helped students stay engaged in the process and not just the product of the assignments, gave them multiple
opportunities to hone their problem-posing skills, and helped them work through the multi-layered nature of critical thinking. As our project unfolded, we were energized by the synergy of two faculty teaching two different courses, in two very different disciplines, yet co-developing learning experiences that prompted students to be more active in their role as learners. What follows is a detailed description of how we implemented these strategies in our courses.

Identifying a Focused Context

*Affluenza: The All-Consuming Epidemic* (de Graaf, Wann, and Naylor 2005) provided the focused context for both of our courses. This book was the university’s Common Reader for the year. de Graaf, Wann and Naylor (2005) define affluenza as “a painful, contagious, socially transmitted condition of overload, debt, anxiety and waste resulting from the dogged pursuit of more” (2) and discuss how affluenza is a deadly social disease gripping the United States. Following the theme of affluenza as a disease, the book offers a detailed and compelling analysis of symptoms, causes, and possible treatments for the affliction. In very general terms, the thesis of the book is that we have too much stuff, it doesn’t make us feel good, and it’s bad for us, our relationships, our communities, and our planet.

The book and its thesis provided a rich focused context for our students to engage in spirited discussions and to work on their problem-posing skills. *Affluenza* also fit nicely with the content and objectives of each of our courses in consumer behavior and argumentation. Students talked about their consumption habits and the likelihood they had the “disease,” and engaged in personal and societal reflections about overconsumption and the “dogged pursuit of more” (de Graaf, Wann and Naylor 2005, 2) As we surmised, by analyzing the authors’ argument of affluenza as a deadly social disease and analyzing their own complicity in the epidemic, students
were better able to use the material to learn course content, since their learning derived from a specific focused context and from their personal engagement with the arguments in the book.

As an added bonus, we were excited for our students to engage in the broader university-wide dialogue about *Affluenza*. Because it was the Common Reader, students, faculty, and staff across the university were engaged in these discussions. Plus, special programming occurred throughout the year, such as a two-day presentation series when the *Affluenza* authors visited campus, and monthly presentations on themes related to overconsumption and its various impacts on society.

A note about focused context: integrating *Affluenza* into the consumer behavior course is obvious. Students in the argument course used consumption as their focus to analyze a variety of media messages about consumption-related issues and the arguments within. In both courses, the focused context gave students something to hang the problem-posing on, so that when they applied course content, they had the necessary structure to keep them engaged. For us, the focused context created deeper and richer dialogues than either of us had experienced before when teaching the same courses.

The choice of focused context depends on the instructor(s) and the needs of the course(s). In our case, the focused context contributed to our project’s interdisciplinary nature since *Affluenza* works well as a learning tool whether faculty teach consumer behavior, argument, sociology, or agriculture. The focused context is not limited to books, however. Imagine a course designed around a political campaign as the focused context. Creating a series of reflective assignments about the campaign would help direct students’ attention to their personal interpretations of the campaign versus some more generalized notion of how campaigns work. As another example, Eisen, Hall, Lee, and Zupko (2009) used water as a focused context to help
promote students' interdisciplinary thinking. Other focused contexts could be a contemporary event, an era in history, a movie or documentary, or a geographic area.

Two key purposes of our focused context were to frame the course content and to give students a context for developing their problem-posing skills. As students tacked back and forth between the focused context and the course material, during each foray into the focused context, they saw new connections and probed a little more deeply. Figure 1 provides some examples of this tacking back and forth in the consumer behavior course and shows that, as students examined multiple course concepts through the lens of the focused context, their thinking got progressively deeper.

----- Insert Figure 1 about here -----
One of the interesting ironies about becoming more effective teachers is that we must give up some control and put our goals in the hands of our students. This practice is particularly difficult for those of us who are products of the lecture-based paradigm and who have felt success as lecturers in the past. We are used to being in the driver’s seat of our students’ learning and, while it’s a comfortable place, we must allow students to take control of reaching their destination if we expect them to be able to apply course concepts outside the classroom. If we sit beside them and help to guide them—as a driving instructor might do—both faculty and students can reach their goals. Students can learn the content better by using it in multilayered learning situations, and faculty can be assured that our students reach the proper destination because we have been guiding them all along.

Imagine in this extended metaphor that the car we are riding in has dual controls. Most of the time the student driver has control, with the instructor as facilitator, giving praise and guidance as needed. If the instructor has to take the wheel or apply the brakes at some point, that’s fine. The student still maintains control overall and can take the wheel back as soon as her/his confidence is raised. An important note is that both controls cannot be functioning at once. The main controls lie with the student. Faculty only have auxiliary control as we guide the structure of the process, but the actual process and content belong to the student. A key point is that when students assume responsibility for their learning and faculty become process facilitators, students must grapple with their own thinking.

Another key challenge is that student-driven learning experiences are messy, and students will rarely take the best or most elegant route while they are learning. But the messiness and struggle are important for students’ growth, and faculty must learn to be comfortable with the emergent nature of student learning. Putting students in the driver’s seat may not be as efficient
as a faculty-driven model might be, but it’s ultimately more effective and lessons learned are transferrable. When students struggle with the route, they may likely get lost a few times along the way, but they will still be able to reach the destination, and ultimately their learning will be more deeply embedded and their understanding heightened.

**Designing a Problem-Posing Mindset**

With our focused context and driver’s seat strategies as the backdrop, we approached our pilot learning experience using five techniques: self-reflection, modeling, metaphor, grappling, and synthesis. This section of the paper discusses each of these teaching and learning tactics, the specific assignments linked to each tactic, and some observations about how the assignments contributed to our problem-posing objectives. Table 1 provides an overview of the problem-posing activities linked to our specific tactics. Helping students develop a problem-posing mindset was among our chief aims, since this mindset is integral to the students being able to manage their self-driven experiences.

----- Insert Table 1 about here -----

**TABLE 1. Overview of problem-posing activities.**

<table>
<thead>
<tr>
<th><strong>Self-Reflection</strong></th>
<th><strong>Modeling</strong></th>
<th><strong>Metaphor</strong></th>
<th><strong>Grappling</strong></th>
<th><strong>Synthesis</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase Diary</td>
<td>Affluenza</td>
<td>Intervene with deeper meaning: “Soup Kitchen” metaphor for asking deeper questions</td>
<td>Develop questions</td>
<td>White Paper (Argument class)</td>
</tr>
<tr>
<td>Can’t Do Without Assignment</td>
<td>Affluenza and Escape from Affluenza documentaries</td>
<td></td>
<td>Revise questions</td>
<td>Public Service Announcement (Consumer Behavior class)</td>
</tr>
<tr>
<td>Integrative essay interpreting personal consumption practices</td>
<td>Story of Stuff</td>
<td></td>
<td>Pilot questions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Revise questions</td>
<td></td>
</tr>
</tbody>
</table>

11
Self-Reflection

The self-reflection assignments we created—"Purchase Diary" and "What Can’t You Do Without?"—were geared to help students get in the driver's seat and analyze consumption and overconsumption in their own lives. We did not assign pre-reading or lead class discussions about overconsumption before these assignments. Rather, we wanted students to think about their consumption habits from their own frames of reference, unprompted by any content we would cover on these topics.

In the "Purchase Diary," students kept a log of everything they bought, including dollar amounts, for seven days. Next, they grouped purchases into categories, totaled spending in each category, and reflected on what stood out to them from this exercise. Finally, students examined how essential each purchase was to their lives, the most important things they bought, and any items they wish they had not bought or had second thoughts about. The "What Can’t You Do Without?" assignment involved a series of writing-to-learn prompts, such as, "What products do you consider necessities in your life?" and "Which products can’t you do without?" This assignment culminated in an analytical essay in which students reflected on their own sometimes frivolous consumer habits and the role society plays in creating wants and needs.

These self-reflection assignments were important in helping students identify their own culpability in our consumption-happy society. Taking this step back to look at their behaviors more critically was fundamental to our critical thinking and problem-posing goals for our students. Once they began to see their own motivations and culpability regarding consumption, the more personal their learning became, and, fortunately, the more interested they became in the process we were introducing.
Modeling

To prompt our students to practice thinking in questions and to begin to learn to ask deeper questions, next we exposed them to critical viewpoints and arguments about consumption. Students read passages from Affluenza, watched the Affluenza and Escape from Affluenza documentaries, and watched Story of Stuff (http://www.storyofstuff.com/). Each of these resources served as models for asking deep and critical questions. To accompany the readings and videos, we engaged students in several small-group and all-class discussions about consumption, overconsumption, the consequences, and society's role.

Students were quite receptive to the extended treatment of consumption since it is immediately relatable to their everyday lives and they have much personal experience in which to ground discussion of the issues. As they progressed through the readings and videos, as might be expected after exposure to the ideas and arguments in these works, students recognized some of the societal impacts on overconsumption and began to ask more and slightly-deeper questions than they had asked earlier in the semester. For example, as one indication of how their problem-posing improved somewhat, students began to ask deeper questions about "why" consumption is a problem instead of just asking about "what" consumers do. However, the concept of asking "deep" questions was still muddy for many students, and this challenge led to the next phase of our project.

Metaphor

The concept of what makes a deep question is not well discussed in the literature and is often hard for students to grasp and for faculty to explain. Often we know a deep question when we see one, but defining it can be a challenge. In our search for some concrete ways to explain the concept, we were inspired by one of the insights from George Mehaffy, Vice President for
Academic Leadership and Change at the American Association of State Colleges and Universities, during his visit to our campus.³ One of his stories was about a conversation with a friend who had volunteered at a soup kitchen. When he asked his friend about the experience, the response was about how it feels good to help other people, and, when Mehaffy pressed for more, the response still centered on the feel-good nature of helping others. While this is all well and good, Mehaffy argued, what was missing from his friend’s analysis of the experience was to ask the bigger questions of “Why do soup kitchens exist, anyway?” and “Why are they so prevalent in the United States of America?” Stated differently, he wondered aloud how we could get people to think past their local experiences volunteering at a soup kitchen—e.g., who was there, what food was served, how it’s sad that some people don’t have enough food, how it feels good to help others—and to ratchet up the thinking to the bigger picture of why: Why are soup kitchens needed in the land of plenty?

This story was our inspiration for how to explain—in one concrete way—what makes a deep question. A deep question is a “soup kitchen” question. By sharing this story and explaining that a big question is a “soup kitchen” question—“Why do we have soup kitchens?”—we gave students something concrete to grab onto. The soup kitchen metaphor became our teaching metaphor for the remainder of the semester. We wanted students to strive to develop questions at the soup kitchen level. It might be somewhat ironic that we used a metaphor to make something concrete, but this metaphor served just that purpose—to help make concrete one example of how to ask deep questions.

Grappling

In the next step in our process, students revisited their self-reflection assignments. Drawing from the insights they had gained into their personal consumption habits, their task now
was to pose questions that could help them learn about others’ habits and learn how affluenza might be reflected within a culture larger than themselves. Students wrote five questions each on index cards, one question per card. Then, students formed groups and pilot tested the questions, exchanging cards and answering the questions on the back of each card. When the cards were returned to the original owners, the disappointment was palatable. Students did not get the answers they thought their questions would elicit. Instead, they found the answers to be more superficial and less detailed than they anticipated.

Groups next took turns going to the board and talking about the questions and answers. Those who had asked the questions discussed what they thought each question should have gotten in response, and students then began collectively designing improved questions that would elicit deeper responses. Students only had to go through a few questions before the conversation took a more critical turn: they were able to see differences in the original versus the revised questions, recognize why some questions got better results than others, and understand the benefits of the deeper questions.

In our view, grappling is critical to any critical thinking exercise. By forcing students to grapple with their questions, they can better see where the questions are clear or not, what kind of responses their questions might generate, and how the questions can be improved. Plus, revisiting and grappling with questions at multiple points during the semester provides opportunity for students’ questions to grow deeper and more nuanced. Had our students not spent this time grappling, talking with each other, and being disappointed in their initial work (recall that as faculty, we were only guiding the process, not the content), they would never have developed a deeper understanding of problem posing and its importance to grasping course concepts. An important clarification is that students may not get to the soup kitchen level of
thinking the entire semester, but the point is that they were able to discern different layers of questions and worked to delve relatively deeper than where they started.

*Synthesis*

The final step in the learning experience we created was to develop a synthesis assignment for each course in which students would integrate *Affluenza* arguments, together with their own thinking and problem posing about consumption, into a concrete deliverable. Since both of us are avid followers of writing-to-learn philosophies, our aim in designing the final deliverable was for students to use writing to apply their new-found, student-developed knowledge. We created assignments that students would encounter outside the classroom, to help them connect course content to their own lives and keep the learning experience going.

The synthesis for the consumer behavior students was a public service announcement (PSA). Now that students had been thinking about their own consumption habits and how society promotes overconsumption, each wrote a PSA urging listeners to think twice about their consumption and how they handle their household waste. For the argument students, the synthesis was a white paper. Students took on the persona of an intern in a governmental office and developed a white paper that formulated talking points for a speech about consumption their policy-maker boss would deliver.

Our synthesis assignments could have developed in a number of ways, and, although our final deliverables were different to fit our course content, both assignments forced students to use their new knowledge to inform their writing. An added practical consideration was course size—100 consumer behavior students and 15 argument students—which meant the assignment for the former needed to be relatively short to allow for students to apply course concepts and for grading to be manageable. In consumer behavior, the PSA gave students a focused, discipline-
related avenue for their final deliverable, and the 28-second PSA, which translates to 8-9 lines of text, was manageable to grade even for 100 students. In the smaller argument class, a longer white paper made sense as the final major paper. Because students had been studying argument structure all semester and had been reading examples of good and bad public arguments, fallacies, logic, etc., this assignment forced them to integrate course content with their focused context of consumption behavior.

In both courses, the synthesis projects showed students had indeed understood the course content, developed a problem-posing stance, and were able to use that to inform their final papers. Because the students had to apply that which they were thinking about all semester, they were able to develop a concrete use of the material, rather than allow an abstract understanding of how consumer behavior or argument works to suffice for their learning. Rather than students gathering facts about consumer behavior or argument strategies as the means to an end, the students were now able to use these facts and the skills they gained in the classroom to apply them to a non-academic setting, thus giving students an opportunity to see how their coursework has meaning beyond the academy.

Summary

This article presents a cross-disciplinary learning experience created as a semester-long, reflective series of assignments piloted in a consumer behavior and an argument course. The project was designed to contribute to strengthening students’ problem-posing skills and engage them more personally in course content. Our key strategies were to identify a focused context (in this case, Affluenza) to frame course discussions and assignments and to put students in the driver’s seat as responsible for their own learning. We adopted five specific teaching tactics—self-reflection, modeling, metaphor, grappling, and synthesis—and developed classroom
activities and assignments for each, all geared to help students develop a problem-posing mindset and work on their problem-posing skills. A key benefit of this kind of learning experience is that students are engaged in course content in ways that traditional classroom structures don’t allow.

Designing this learning experience made a difference in both of our courses. We could see the students actively grapple with the questions they posed and sustain a dialogue about course content in ways we had not witnessed previously. When students tack back and forth between the course content and the focused context, their thinking gets deeper and they are able to work through problems in much the same way they will find problems in the non-academic world—multilayered without one concrete answer.

Among the strengths we see in such a course design are that it is interdisciplinary, the process can be modified to fit a variety of course needs, and faculty serve as process facilitators, stepping aside so that students can drive their own learning. Change is a slow process. It takes time for faculty to shift their orientation and practices to a facilitator role and to create assignments that encourage students to ask deeper questions, and some students may need more than one semester to take this more active role in their own learning. However, we believe that when more courses model deeper levels of thinking as a sustained component of the learning experience and require students to grapple with deeper levels of thinking, students will eventually be able to transfer skills from this type of practice to other areas of their lives.

NOTES

1. The Boyer Commission on Educating Undergraduates in the Research University met in 1995 to deliberate about the changing nature of undergraduate education. Among their concerns was the unique place of undergraduates in a research university and the propensity for students and parents to see education from a more consumer-based model. Equally of concern is that the research university presents a set of characteristic challenges that if not met would lead undergraduates to miss the kind of education they should expect from a research institution, namely that of inquiry-based learning.
2. *Story of Stuff* is a 20-minute film that critically analyzes the progression of products: they originate by stripping the Earth of its resources, then use up additional resources to produce and distribute, and then, following consumption, eventually hit the landfill. The movie paints a vivid picture of how, even though many of these steps are hidden from view, they nonetheless cause much harm to our environment and society.

Each of the resources we modeled for our students (*Affluenza* book, *Affluenza* and *Escape from Affluenza* documentaries, *Story of Stuff*) features a range of companion resources, many of which are freely available over the internet, such as discussion guides, suggested readings and activities, and blogs.

3. George L. Mehaffy was the keynote speaker for an American Democracy Project Planning Retreat at our university. His presentation was on “Developing Informed and Engaged Citizens: The Imperative for Higher Education.” The soup kitchen story was a small piece of his presentation and we were inspired by how it could serve as an effective metaphor for how to ask deep questions.

REFERENCES


