Thirty years of the scholarship of teaching and learning have provided a plethora of books about teaching, containing potential assessments, advice about course design, teaching tips, and prescriptions. Much of this work, which arises from practical classroom experience, useful as it may be, treats symptoms—specific student difficulties—rather than diagnosing the underlying illness, so that there is no framework for applying solutions. The "Decoding the Disciplines" ("Decoding") methodology provides such a framework; it has led us first to identify and then classify student difficulties or “bottlenecks” in history. These turned out to be closely related to the epistemology of the discipline. While we do not expect that most of our students will become historians, our charge as college teachers is to teach students to think historically, whatever they go on to do, and this means that they must understand the ways of knowing of our discipline. Our teaching has been radically altered by this insight. We have found that the disconnect between epistemology and teaching is standard in many other disciplines. If we are to change student learning through our efforts, we will need to delve into the heart of this darkness.

"Decoding the Disciplines," a methodology developed by Joan Middendorf and David Pace as part of the Freshman Learning Project (Pace & Middendorf 2004), arose from the realization that there is a disciplinary unconscious, automatic moves learned tacitly by experts. Teachers expect, however, that students will be able to make these moves equally automatically, without being told to do so, much less how or why they should. Pace and Middendorf developed an interviewing process which helps faculty see moves that are so deeply ingrained that they are invisible, and render these moves explicit. The methodology is a series of steps, beginning with the identification of the “bottleneck” the teacher is concerned with and ending with sharing the results, which we are doing here.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>What is a bottleneck to learning in this class, a place where many students consistently fail to master crucial material?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>What do specialists do to get past this bottleneck?</td>
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<tr>
<td>Step 3</td>
<td>How can I explicitly model these operations for students?</td>
</tr>
<tr>
<td>Step 4</td>
<td>How can I give my students an opportunity to practice and get feedback on each of these operations?</td>
</tr>
<tr>
<td>Step 5</td>
<td>How can I motivate students and address the affective side of learning?</td>
</tr>
<tr>
<td>Step 6</td>
<td>How can I tell whether students have mastered these operations by the end of the process?</td>
</tr>
<tr>
<td>Step 7</td>
<td>How can I share what I have learned with others?</td>
</tr>
</tbody>
</table>

Table 1: The Steps of the “Decoding the Disciplines” Methodology

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The History Learning Project (HLP) has focused the "Decoding" methodology on a single discipline. We began by interviewing 27 faculty members in history about their students' difficulties. The faculty discussed an impressive list of bottlenecks.ii (Díaz et al. 2008) What we did not realize at the time is that these bottlenecks all arise from the failure of the students to understand the epistemology of the discipline and of faculty to teach it explicitly.

The discipline of history does not proceed by laws and theories that are refined and updated (Mink 1966) and are widely accepted, nor does it seem to have essential “threshold concepts.” (Meyer and Land 2006) Philosophers of history are not fully agreed on the nature of history, but they concur that history is narrative in form (Carr 2008) and that historical practice is held together by common features such as colligation, the linking of evidence from many sources into webs of meaning (McCullough 1989). Because interpretation plays such a powerful role in creating historical knowledge, history (and the other social scientific and humanist disciplines) can produce mutually incompatible truths, or explanatory pluralism (Van Bouwel and Weber 2008).

Students (and most laypeople), in contrast to historians, tend to assume that history is about facts (Wineburg 2001). They have mostly experienced historical facts as "display knowledge" and fixed narratives, rather than as objects for historical analysis. (Barton and Levstik 2004) Consequently, they see history as uncontested and unintellectual. If historians disagree, one of them is "wrong" or "biased." The students do not understand that their job is interpreting the "facts," nor do they see that just like other interpreters, they themselves have a vantage-point (often referred to as positionality in the pedagogical literature). In the absence of awareness of their own positionality, they cannot contextualize either contemporary historical writing or the actions of people in the past. (Sexias 1994; VanSledwright 1997-98). So when we ask students to analyze, they tell us what happened.

This is not surprising. In most history classes, students are shown the end products of historical thinking, such as scholarly books, and are expected to be able to execute similar historical thinking untaught. They are tacitly expected to derive sophisticated meanings, perhaps from a single source, that historians themselves have arrived at only after long study and reading many sources. Students can learn to do these things, but they will be able to do so only if their instructors can ground the instruction in well-articulated epistemologically grounded moves and provide effective modeling, a lot of scaffolding, frequent practice and regular feedback. While not all students will fully master disciplinary moves, the goal is for all students to make progress toward this.

Each of us has taken a different approach to resolving these student difficulties in our classes, but we share a common approach. "Decoding" is not prescriptive about what is most important, so each of us has focused on a bottleneck from our list that is crucial to learning in our individual classes. While we continue to teach essential historical skills--to "play the whole game" (Perkins 2008)--we decode the bottleneck we have chosen for our students all semester long, assessing their work both in progress and at the end.iii

Our assessments have presented a methodological issue; Social Science research has traditionally relied on multiple coders independent of the instructor to turn qualitative data into quantitative data for analysis. In history, content knowledge and interpretative skill are powerfully interdependent (Leinhardt and Young 1996). Students need to know the content of an historical field in order to interpret within it competently, so a single instrument is not practical. Furthermore, historians generally only know the literature and sources of their own historical fields. An independent coder would not only need to know a given field well, but also what
specific materials the students in the course have been exposed to. Thus to date, each of us has coded his or her own students’ work. We began this way in order to make it very clear to ourselves what the criteria ought to be. We are now developing coding rubrics and testing them for inter-coder reliability. It is in this light that readers should take the evidence from the individual studies that follow.

David Pace: Assumptions and Values

Is there any common classroom experience more frustrating to both student and instructor than the effort to explain what it would take to transform a “B+” paper into an “A”? A “B+” student has done the work, understood the material, and written clearly. There is something missing—usually an analysis that transforms the repetition of the ideas encountered in the course into a personal interpretation of the phenomenon in question. But if the student understood how to create such an analysis or that such an analysis was required in history, he or she would probably already have done so.

The “Decoding the Disciplines” process allowed me to escape from this pedagogical Catch-22. In an upper-level seminar on the history of Western ideas about conflict and competition since the Middle Ages a central bottleneck to learning had been the fact that many students did not know how to move beyond a simple summary of ideas of the authors we read to create an analysis of different perspectives on conflict and competition, a crucial part of the way history creates knowledge about the past. With some guidance most of my students were able to master the complex mental operations required to understand the often archaic words of these authors. But they often had great difficulty identifying the deeper patterns of thinking that marked each thinker and distinguishing each system of thought from those that preceded or followed it. They could provide the historical equivalent of a plot summary, but real analysis escaped them.

I could not help my students surmount this obstacle until I had defined for myself at least some of the operations that I, as a professional in the field, automatically perform to move from summary to analysis. The list of ways to make this transition is potentially quite extensive, but in this course I chose to place particular emphasis on two: the identification of the assumptions and of the values that are implicit in a text. As many of our interviews indicated, beneath these two skills there lurked a more fundamental capacity—the ability to recognize that choices must be made in the production of any historical object and that these choices reflect the concerns, values, and assumptions of the period in question.

Now I needed to find strategies for modeling these processes for my students. To help prepare students to recognize the constructed nature of historical sources, I first showed them a series of classic gestalt images, and we briefly discussed how the decision to foreground particular elements can completely alter the viewer’s comprehension of the object. Then each learning team was asked to retell a classic story (Cinderella, the three little pigs, etc.) from an entirely different point of view. Finally, I asked the teams to come up with a list of issues of concern to either the medieval theologian Thomas Aquinas or the early 18th century writer Bernard Mandeville. Using the new Prezi presentation software, I entered the items they had produced (the afterlife, economic productivity, etc.) around the names of both Aquinas and Mandeville. I then asked the class how important each quality was first to Aquinas and then to Mandeville, making the term expand or contract on the screen in response to the students’ instructions. As the contrasts grew between the two representations, the students saw how differently the two writers organized their universe.

Over the remainder of the semester I used class discussions to model the processes involved in indentifying the assumptions and values built into particular passages, frequently asking them
to contrast the values or assumptions behind specific passages from writers with very different world views. But as the "Decoding" model suggests, it is rarely sufficient simply to demonstrate a complex disciplinary operation. Therefore, I gave students opportunities to practice and get feedback on these skills through in-class collaborative activities and on-line weekly assignments. In the fourth week, for example, an on-line assignment began by requiring students first to answer several questions about Thomas Hobbes’ views on particular topics, but then asked them to describe one assumption he made about human nature. They had to provide a passage in which this assumption could be detected, and to explain what about this passage convinced them that Hobbes was making this assumption. Then they were given the second sentence of the American Declaration of Independence (“We hold these truths…”) and were asked to describe briefly one assumption of Hobbes that would have made him think that this passage was nonsense. Similar tasks were repeated across the semester, since multiple exposures to new ways of thinking are almost always required to fix them in students’ minds.

Now that I had defined a bottleneck and the operations required to surmount it, modeled those operations for my students, and given them opportunities to practice and receive feedback, there remained the task of assessing the extent to which my students had successfully mastered these skills. The earlier steps of the process made this easier because I was judging student mastery of two specific, well defined abilities, rather than a vague and global concept like critical thinking. Moreover the normal activities of the course itself provided a good deal of information about the extent that students had internalized these skills. For example, at the end of the course, I asked the students to write a letter to an imaginary friend giving advice about how to succeed in the course. Without any prompting and knowing that I would not see their “letters” until after the grades had been turned in, almost half of the students spontaneously referred (directly or indirectly) to the process of identifying assumptions and values as a crucial element. One student wrote “The readings will challenge your understanding of history and deal mostly with ideas instead of facts. Look at the values and assumptions of the authors.” Another suggested that “Professor Pace likes us to look at the assumptions and values underlying thought, at least in part because it gives us some degree of empathy for others. This is not trivial, and it is a valuable skill even in our daily lives.”

I could also look at students’ work across the semester to see if their mastery of these operations increased. While such comparisons can never provide absolute proof of learning, because the materials that students were working on at different points in the semester were not the same, they are highly suggestive. Therefore, I compared students’ success in moving beyond literal descriptions in the questions concerning Hobbes’ assumptions in the on-line assignment from the fourth week with their work on a parallel assignment from the end of the course. The comparisons showed significant improvement over this eleven week period. I ranked their responses on a five-point scale (1 = repetition of literal meaning; 5 = polished presentation of the assumptions implicit in the text; n=20). The average score moved from 2.3 to 3.5, an increase of 34%. While I did not have a parallel assignment from early in the semester that focused on values, an analysis of a question from the fifteenth week using a similar scale produced an average value of 3.4 in their identification of a writers’ values.

These results, buttressed by other student work, suggest that the "Decoding" process is giving me new tools to offer my students ways of thinking that produce successful history papers and that can be extremely useful throughout life. They also make it clear that there remains a minority of students who are still not fully mastering these skills. For their sake I need to reexamine my model of historical thinking to see whether there are steps that I have left out and
to add further in-class and on-line exercises that give them more practice. But I now have tools that are showing success and I can answer with a much greater level of precision, what is needed to transform a B+ paper into an “A.”  

Joan Middendorf: Navigating Affective Bottlenecks

The literature on emotions and learning indicates that, “Human emotion is completely intertwined with behavior, memory, and decision making.” (Dragon et al. 2008). Although historians talk about this only infrequently, and generally in the context of controversial topics (see Percoco 2001, Pace 2003), nearly all of the 27 faculty members we interviewed mentioned emotional issues in learning. While these faculty members related this issue to different subject matters, this passage from an interview captured one of the important issues.

When I talk about the rise of Anglo-Saxonism in 1870s and 1880s and manifest destiny, some students will say, "Hey! You're attacking my heritage," or "You're attacking this part of me," or "This is part of who I am and stop beating up on us." Other students will say, "Oh, that is so remote; I'm glad we don't have to worry about that anymore"….To the extent that [students] identify personally with the negative stuff, they are turned off. To the extent to which they can identify with a kind of the notion of a dominant culture or white culture, without feeling targeted or without feeling some kind of moral guilt or anything, then they do engage. [Professor G., Indiana University, interview by Middendorf and Pace, August 4, 2006]

Students like the ones described here bear no responsibility for the actions of 19th-century people, and therefore shouldn't feel guilty, but their sense of implication can lead them to respond on an emotional level rather than in the ways demanded by history's epistemology. The "Decoding" process gave me a way to separate out these intertwined cognitive bottlenecks from emotional ones. Our experiments showed us that students cognitively frame ideas in different ways, some of which have a strong emotional charge (for instance, ideas routinely set in a patriotic framework). When the content of history approaches this material and appears to threaten its validity, students become distressed and may reject history’s approach or “program of truth” (Veyne 1988).

A careful analysis of the faculty interviews revealed two kinds of preconceptions which we call disciplinary preconceptions and narrative preconceptions. Disciplinary preconceptions, misunderstandings about the nature and function of a discipline, shape how students practice the discipline and apply the “methods” of the field. These are the "ritual interactions" referred to by Bain (2006), which have been inculcated over years of schooling, which for the most part do not derive from history's epistemology. When faculty do not accept "ritual" products, students get frustrated. But due to limitations of space, I will focus here on the narrative preconceptions that students carry around in their heads about the content of the discipline. Consciously or unconsciously, students have powerful emotional attachments to these narratives, which relate to their self-identity, their religion, their patriotic feelings, and their racial ideas and these are frequently reinforced by what they hear in the media. When these narratives are threatened, students may conclude that the teacher is "biased" or that the course is "worthless" or simply "wrong."

To investigate student emotions in history, I formed the Affective Learning Project with the assistance of the History Learning Project (HLP) Graduate Research and Faculty Fellows. The experiments were carried out in José Najar's class, Introduction to Latino History, a freshman course with 20-30 students which provides an overview of the historical and cultural experiences
of Latinos in the United States. José was actively involved as we designed lessons, created opportunities for student practice and feedback, and assessed changes in the students’ skills across successive semesters for over two years.

We began by reviewing the literature on student misconceptions such as that of Michelene Chi. (2008) She shows that to bring about a conceptual shift in science requires the instructor to understand the categories students are applying erroneously in their thinking and explicitly to teach them the characteristics of the applicable category side by side with their preconception. So our first task was to identify what students were bringing into the classroom.

To assess the students’ preconceptions prior to a lesson about Mexican cyclical migration, we constructed a pre-test where students were given a blank map of the Americas and were asked to draw a model of how Mexican immigration has looked historically. Visual assessments are especially useful to get at narrative preconceptions. (See Leah Shopkow’s section and HLP website) In Fall 2010 and Spring 2011, 57% and 66% of the students respectively drew maps that indicated a unidirectional model of immigration from Mexico to the US. We began referring to this as the “invasion model” (these students’ drawings often showed a hail of arrows moving from Mexico and converging on the US). Relatively few students (7% in the Spring) showed a sophisticated understanding of Mexican migration, including change over time, while the rest of the students demonstrated a somewhat complex view of Mexican migration, which incorporated multi-directional immigration or included vague references to historical context. Students were shown the results of this pre-test. Glaser and Strauss’ (1967) constant comparative method was used for naturalistic data analysis.

Next, to show the teacher’s narrative—a complex, multidirectional migration that changed over time—we designed a concept lesson. Presenting the new way of thinking first through a familiar metaphor or vivid analogy outside the discipline works with memory principles (Savion & Middendorf 1994) and helps students retain the way historians approach historical problems by cognitively moving them away from a purely emotional understanding of the discipline. Najar’s concept lesson described the cyclical migration of monarch butterflies to help students understand the pattern of Mexican cyclical migration. The underlying concept that students should have grasped from this concept lesson was the importance that established life patterns take precedence over changing political borders. For the practice part of the concept lesson, students discussed examples of cyclical migration they had noticed in their own lives in small groups.

After the concept lesson, Najar gave his student the same map exercise that he gave for the pre-test to see if their concepts of cyclical migration had changed. In Fall 2010, 24 percent of the students reproduced a linear model and 76 percent drew a cyclical model. In Spring 2011, 3 percent of the students reproduced a linear model and 97 percent drew a cyclical model. This shows that the concept lesson improved comprehension of cyclical migration. By assessing student preconceptions we were able to understand what they brought to the lesson and redirect them to a more complex, more historical way of thinking.

Knowledge of student preconceptions allowed Najar to provide students with an historical cognitive framework so that they did not default to a purely emotional one. While students may still be upset that their narratives are not featured in a course, careful attention to their preconceptions reassures them that their ideas are taken seriously. They need help to understand that the purpose of the class is not to indoctrinate or accuse them or their families, but to provide them with the skills of historical analysis so that they can explore and evaluate the range of perspectives and explanations over a single historical issue.
The simplified, emotionally charged narratives students bring into the classroom often disrupt the learning process before it even begins and prevent students from engaging in historical thinking. With such a drastically different understanding of the past, students struggle in a class that emphasizes complexity and ambiguity rather than simple identification. To their ears the terms and ideas of such an approach sound like a foreign language. Knowing how students conceive of the subject matter before they enter the classroom makes the teacher better able to teach charged material. It also makes the students more aware of how they think about the material, so that they are better able to distinguish between historical and non-historical ways of creating knowledge. This is our working prescription for helping students move through the bottleneck. It is toward this end that we will continue to refine our understanding of affect in the history classroom.

Arlene Díaz: Motivation and Accountability

Successfully introducing students to the ways of thinking in a discipline often requires careful consideration of teaching techniques that foster student motivation (Step 5), because learning new ways of thinking requires hard intellectual work. In my Colonial Latin American history survey course, I identified the places where my students got “stuck.” I carefully modeled how students should analyze historical sources and put the sources in conversation with other course materials in order to build a thesis statement. And I provided many opportunities for practice during the semester. Yet students were not using that knowledge to their advantage in their final essays. Just showing them the critical skills they needed did not capture their minds and hearts. Therefore, I adopted the Team-Based Learning (TBL) format to motivate the students to embrace new mental moves. TBL shifts content study outside of the classroom. Students come to class prepared to take individual and team quizzes, spending the majority of class time in team application projects. (Michaelson, Knight and Fink 2004)

In that first TBL course experiment, multiple choice quizzes focused student attention on the arguments of the readings and the supporting evidence for them. To make it clear to the students that history is not simply remembering facts, I let students bring two pages of notes to the quizzes. The application projects built on the students’ prior consideration of the arguments of others, but targeted the skills I wanted my students to master: the analysis of different sources to solve a historical problem and the deployment of evidence to support a thesis statement. In the process of building this class I realized that this TBL format was close to the way historians create meaning. Instead of listening to top-down lectures (which historians do relatively rarely), students, in a TBL class work in teams to understand sources, analyze them, paying attention to their multiple perspectives, and come up with the best answer they can based on their available evidence. All of these replicate activities historians routinely carry out, except for working in teams. Most of the class time was spent in a similar execution of the disciplinary skills that I wanted to see from them in their individual essay exams. In this sense, TBL provided a form for my history class that followed its function.

While the class could potentially create a culture of team work, which is much desired in the workplace and for the citizens we are educating, students in the humanities have little exposure to team work and tend be skeptical about it. This meant that I had to invite the students to buy into putting their individual grades, as some interpreted it, at risk from others. The peer evaluation feature of TBL, which holds students accountable for team-work also proved to be a challenge. While this issue requires an article of its own, it is clear that students in the traditional college-age group at Indiana University do not like to evaluate their classmates, and one rarely
sees a negative mark on a peer evaluation. The next version of this class will model basic tenets of good team work and productive interactions.

Was this “radical experiment” effective? Did the new class format address the motivation issue and get the students to put the required historical skills to work in their essays? To get at these core questions, I used three different assessments. The first analyzed students’ essay exams by coding the level of thinking involved in their essays’ thesis statement. When the thesis statement demonstrated a high-quality interpretation and synthesis of the course materials, I coded the thesis as a 4. If the thesis answered the question and offered a good interpretation, but had some inaccuracies, I gave it a 3. A broad, vague thesis that showed some understanding but included many inaccuracies would earn a 2, and a vague, inaccurate thesis would get a 1. I did this coding to a sample of the essays from my previous non-TBL 2008 course as well as to the whole class for my 2009 TBL course for comparative purposes. (See Table 2) At a glance, one can see that the TBL class showed progress in the level of thinking demonstrated in their essays’ thesis statements throughout the semester, from an average of 2.03 argument level to a 2.93 in the final exam. In the non-TBL class, there was a clear regression by the final exam and the improvement in numbers was not as significant as in the TBL class. While there is room for improvement, these results are encouraging.

<table>
<thead>
<tr>
<th>Course</th>
<th>Exam 1</th>
<th>Exam 2</th>
<th>Exam 3</th>
<th>Exam 4</th>
<th>N=</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2008</td>
<td>2.12</td>
<td>2.25</td>
<td>1</td>
<td>Only 3 exams in this class</td>
<td>10 (Sample)</td>
</tr>
<tr>
<td>Non-TBL Class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall 2009</td>
<td>2.03</td>
<td>2.89</td>
<td>2.73</td>
<td>2.93</td>
<td>47</td>
</tr>
<tr>
<td>TBL Class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Comparison of Students’ Level of Thinking in their Essay Exam’s Argument in a Non-TBL Class (Fall 2008) and a TBL class (Fall 2009)

The second assessment consisted of five students’ 30-minute interviews, conducted by the History Learning Project’ Graduate Research Fellows and Project Assistant during finals week. Four of the interviewees talked about how the new TBL format encouraged students to devote time and effort to the course, a positive result regarding motivation. Surprisingly, they also described the effects of the course on student learning at the metacognitive level. Each student mentioned their concern with not letting their team down which pushed them to complete most of the readings ahead of time. In addition, these students indicated awareness of the positive effects that team discussion had upon their ability to understand how much they had to read into something, to be specific on their use of evidence, or to further develop their ideas on a project, all of which they agreed helped them to much better understand historical concepts. The one student who was not very positive about the TBL experience seemed “stuck” in her expectation that the professor be the sole source of knowledge and the one who should tell students what was important on the exams. Clearly, she did not understand either the dynamics of TBL nor the interpretive nature of the discipline that I was fostering in this class.

Course evaluations provided a third assessment of the “radical” TBL experiment. Of the 44 students who completed the course evaluation, 61% responded in a way that strongly indicated some aspect of the course, such as the teamwork, led to an increase in their learning and understanding of the subject matter, while 18% said that some aspect of the course such as the difficulty of the assigned reading or the time allowed for the projects hindered their ability to
comprehend the course materials and to learn. The rest of the respondents did not address the question of learning, comprehension, or skills acquisition in their evaluations. Yet those students who did have a positive learning experience echoed many of the ideas of the interviewees, such as, “I learned the value of getting all sides of the story, to think objectively vs. subjectively when learning about history.” The application projects, one student wrote, “were effective in helping me critically think about topics,” while another added that “having multiple perspectives on subjects usually made me think of something I wouldn’t have before, and as a result I think about things differently.” Clearly, the format of the class did have some effect in helping many students open their minds to history’s disciplinary way of thinking.

This experiment and students’ responses to it convinced me that the structure of a course impinges not only upon student motivation but in conveying the epistemology of the discipline along with the content of the course. I learned that to capture students’ minds and hearts one has to structure the class in a way that it becomes meaningful and fun, yet holds them accountable. In addition, the course format simulated the way historians operate, reiterating the targeted skills throughout the semester to the point that metacognition was achieved by some students. And while some aspects of this experience will surely need to be modified to reach even more hearts and minds, it provided me with the empirical evidence to get the students to come to their own solutions to historical problems rather than passively accepting those of other people

Leah Shopkow: Grasping the Concept of Historical Audience

Philosophers of history have argued that narrative is deeply engrained as a human way of creating meaning for readers--an audience--and that history explains primarily through narrative (Carr 1986; White 1980). This is why narrative preconceptions are so problematic. Audience is a concept historians use all the time, often informally, to understand primary sources. Even sources which do not seem to have an audience, such as contracts, served social purposes and had conventions that were understood by contemporaries when they read them. When students think about documents like contracts, they can grasp the purpose at the most obvious level, but often do not grasp what the conventions meant to the audience. Narratives present even more difficulties for students. They may seem to have no purpose except to tell a particular story, and have such a strong "reality effect" (Barthes 1989) that students simply accept them as givens. For many students, narratives do not "mean"; they simply are.

In a class I regularly teach, Medieval Heroes, a lower-level "topics" course of mostly first- and second-year students, my goal has been to get students to understand what narratives about heroes "meant" to the people who were the audiences for their stories. I use both "fictional" and "historical" narratives. But I constantly stumbled over the student tendency to read these works either as simple factual documents or as "just stories." They were unable to see these narratives as I do, as suspended in a web from which they drew their meaning. And yet for true civic engagement, students need to understand this about everything they read.

In the first year of my three-year project, I asked my students to draw the figure of Beowulf from the poem of the same name as the audience would see him. The students were to include citations for each of the traits they chose to illustrate so that I could see how they were reading the text. I was, in other words, examining their conceptions.
I selected a random sample of 22 of the approximately 80 drawings done by students who gave permission to analyze their work (out of 100 students) and counted the overall number of traits the students illustrated (determined by the number of citations) and classified each trait. The average number of traits in each drawing was 12. Of these many qualities were generic, such as courage or strength, qualities possessed by many heroes in many cultures. What makes a hero "mean" something powerful to people of a society, however, are more specific traits, such as the fulfillment of social expectations. These emerge most clearly in character traits and social interactions. On average, however, only three of the twelve traits identified by the students were social or character traits. Since my students were focusing largely on generic qualities, plot points and objects, rather than on social relationships or character, they didn’t arrive at a portrait specific to Anglo-Saxon notions of heroism and thus to Anglo-Saxons. This was reflected in the final essays of the students, few of whom demonstrated deep understanding of the concept of audience. To think about audience the way I do, the students would need a deep factual knowledge about the time and place a narrative came from and identify its intended or potential audience. They would have to hypothesize connections between these to arrive at the text's "social logic," the cultural work it was meant to do (Spiegel 1990). And they would need to test their hypotheses rigorously.

I was not providing the depth of content knowledge the students needed to make these moves, so I abandoned the survey approach I had previously taken and divided the course into five units, four from selected time-periods and featuring a single hero or type of hero, while the fifth featured a single hero--King Arthur--across the Middle Ages. I hoped the students would, in this last unit, be able to see how changing the audience changed the details of Arthur's story. The students practiced individually in homework assignments, but worked in teams to produce a series of posters, discussing the audiences of particular texts. Students got feedback after each poster and were guided in the stages of making their posters by teaching assistants in their tutorials. The "final exam" was a juried poster session with a prize awarded by jury of outside judges to encourage the students to be engaged by making their work public.
Of the final 16 posters, none failed to address the concept of audience in some way. Four posters referred to the concept but only partially grasped it, five connected the texts and their audience (albeit without making the connection entirely clear), four made a good connection and provided a plausible argument for it, while three provided a deep and convincing analysis and a clear presentation. A few posters were quite weak in their grasp both of the concept of audience and of the course content. The poster that won the jury prize had a clear and powerful presentation, but had some historical inaccuracies (not caught by the judges who were not medieval specialists) that flawed the argument.

In the third iteration, I simplified the course. The students did only three posters in their teams, but after the second poster, we had a mini poster session, in which the students were asked to review another team's poster and to critique it, and then afterward to critique their own poster and reflect on how they might improve their performance. In other words, I added a metacognitive element, which I hoped would help students do better on their third posters. As my table shows every team improved at least a little across the semester, with a big jump occurring between the second and third posters. In the third posters, one-third of the class demonstrated excellent mastery of the concept of audience.

<table>
<thead>
<tr>
<th>Level of Mastery</th>
<th>First Poster</th>
<th>Revised First Poster</th>
<th>Second Poster</th>
<th>Final Poster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little or None (0)</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Beginning (1)</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Partial (2)</td>
<td>1</td>
<td>4</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Good (3)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Excellent (4)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 3: Student Mastery of the Concept of Audience in "Medieval Heroes"

It was clear that the self-critique was very useful to the students. One student commented that the team needed "more effort on everyone's part, finding more evidence, finding a detailed and thorough hypothesis that is clearly backed by evidence." All five members of this team mentioned the need for more evidence, for the evidence to be more clearly presented, and more carefully weighed. Their comments could not have been more to the point or more motivational. All five members of this team had arrived at the same conclusions as I had about how to better master the concept of audience. They had grasped the underlying principles by which historical context is created, even if they could not fully execute the moves, and all of the teams had made progress in that direction by the end of the course.

Conclusions

While all four of us were taking different approaches to nominally different problems, in the process, we came to see connections between the discipline and the work we were doing in our classes. As we struggled to help our students understand disciplinary moves, our classrooms became less and less traditional, as did our assignments and assessments. We imported historical practice into our classes or at least a "junior version" of it (Perkins 2008), but also explained why we were doing so. In other words, we drew on the discipline's understanding of itself, its epistemological underpinnings, to structure our classrooms, and we asked our students to play our epistemic games (Collins & Ferguson 1993). In the process, we strove to disrupt the "ritual
interactions" of the traditional history classroom (Bain 2006) and to replace them with full-
fledged historical analysis.

As Bain points out, students come to us after many years of "ritual interactions" in history
classes (Bain 2006). Some of them have done no more than look at a primary source or be told to
read it in high school. (Barton and Levstik 2004) Instead, they have read the textbook, taken
multiple-choice texts, listened to lectures and been encouraged to memorize facts. If we want to
disrupt these rituals, as Bain advocates, we have to be conscious of the signals we send the
students. If we seem to replicate the familiar rituals, students will respond as they are
accustomed to do. Instead, in our classrooms, we have over and over again stressed the way
historians create knowledge and given students repeated opportunities to solve historical
problems for themselves.

The alternative is to make our classrooms exclusive clubs, where we determine which
students are "smart" enough to intuit the processes of the discipline on their own and thus
remain. We are disinclined to become educational bouncers. Instead, we are committed to
helping students assimilate a mode of thought, through explicit discussion of some characteristic
of disciplinary thinking and explicit practice in it in each of our classes. So through this union of
epistemology and teaching, we hope to create an environment in which to train our students
intellectually to use history to think with.

Boyer (1997) distinguished the scholarship of discovery, where the epistemologies of the
disciplines are developed, from the scholarship of teaching. But we would argue that they are
inseparable. Effective teaching is deeply rooted in disciplinary understanding. Developing the
scholarship of teaching requires systematic inquiry into both disciplinary ways of knowing and
student ways of learning. Disciplinary research depends on disciplinary epistemologies to
produce knowledge; teaching within the discipline must as well. This realization provides a way
to define "signature pedagogies," described by Lee Shulman; a signature pedagogy must be a
form of teaching that most clearly enhances a student’s understanding about how a discipline
produces knowledge and develops the student’s ability to develop this kind of thinking.

We invite those in other disciplines to join us in exploring the relationship between the deep
understandings deployed in their disciplinary research and what they teach in their classrooms.
Naturally, the disciplines create knowledge in different ways, but our students need to have a
basic grasp of all of these ways. Individuals who cannot understand the way history creates
knowledge may fall into conspiracy theories. People who cannot understand how scientific
theories function may not vaccinate their children. Men and women who do not understand
notions of value may make foolish economic choices. Someone outside of the disciplines may
well be able to see where students get stuck, but only those with great familiarity with the forms
of knowledge of a given discipline can fully articulate why and lead students out of the
epistemological bottleneck.

References

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Leinhardt, Gaia and Young, Kathleen McCarthy. 1996. "Two Texts, Three Readers: Distance and Expertise in Reading History." *Cognition and Instruction* 14(4):441-86.


Indiana University-Bloomington is a Research-Extensive, public, "selective" university, with around 40,000 students, most of whom are "traditional" 18-22-year-old residential students.
The interviewing method ultimately derives from the "think-aloud" protocol. For a discussion of our earlier interviews, see Díaz, Middendorf, Pace, & Shopkow 2008.

Our study has been approved by our IRB as #11-11350, approved March 11, 2009. All students are required to consent or refuse to participate in the study. Consents are administered by third parties, who do not inform the instructors until final grades are submitted who has consented. No special work is required from participants.

Examples of these questions and other materials discussed in this section may be found on the History Learning Project web site at http://www.iub.edu/~hlp/j300exercises.

Because the term “misconception,” has the connotation of "wrong" ideas, we use the term “preconception” to designate a pre-formed idea or opinion that is not shared by scholars or derived by scholarly methods.

Source: Indiana University, Department of History, H211/L210 “Latin American Culture and Civilization I,” Exams, Fall 2008 and Fall 2009. Level of Argument goes in a sliding scale from 1 (Low Level) to 4 (High thinking level).

All students in the class were all invited to participate in the interviews and the instructor was neither involved in the invitation process nor in the interview, except as its subject.

Readers are welcome to contact me at <shopkowl@indiana.edu> for the criteria.

There has not been enough research on this point, but Russell (2008) found in a very small study that at the university level, lecturing even when primary sources were assigned, did not significantly enhance most students' historical understanding.