

# Utilizing Interdisciplinary Insights to Build Effective Reading Skills

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In team-teaching a first-year undergraduate Honors course, we (an economics professor and a history professor), have found that even well-motivated students complain of “too much reading.” When they find reading assignments difficult to master quickly and easily, students often want professors to summarize the readings in class, and when professors rightly refrain from such simplification, students’ frustration can lead to a lack of motivation. In this chapter we will explore student attitudes towards reading assignments that span a variety of disciplinary boundaries – including economic monographs, historical texts, and an historical novel, among other materials. Given this variety of assignments, we exploited interdisciplinary pedagogies that melded diagrammatic economic methods with extensive historical prose. In doing so we found it necessary to construct tasks and provide incentives that help students read in a more organized and productive manner and then use those readings to produce written work and oral class presentations. When, at the close of the course, we asked our students to discuss their most significant mental breakthroughs (“ah-ha” moments), many of their “ah-ha”s combined historical with economic perspectives, confirming our expectation that asking students to engage deeply with texts across interdisciplinary lines can generate extraordinary learning and creativity.

When in the summer of 2013 we were putting the finishing touches on our team-taught, first-year Honors course, “Ideas that Shaped the West,” we were aware of many of the undergraduate reading problems outlined by Alice Horning (2007), Judith and Keith Roberts (2008), and John Bean (2011). Such research indicates that while expert reading is required in order for college students to generate the kinds of writing that reflect critical and analytical thinking, there is evidence that students are not developing these expert reading skills.

Many authors have described the characteristics of expert, or “college-level”, reading. Roberts and Roberts (2008) describe the term as follows:

A good reader forms visual images to represent the content being read, connects to emotions, recalls settings and events that are similar to those presented in the reading, predicts what will happen next, asks questions, and thinks about the use of language. One of the most important steps, however, is to connect the

manuscript [they] are reading with what [they] already know and to attach the facts, ideas, concepts, or perspectives to that known material. (p. 126)

Writing assignments can encourage students to do this sort of close reading. As Horning (2007) has pointed out,

The side-by-side integration of reading and writing has been firmly established by research reported by Linda Flower and her colleagues in the 1990s. Their study of reading-to-write as the cognitive work of college students makes clear that new college students face the challenge of moving beyond simple comprehension of texts and response to them in writing . . . Flower's findings show that students need to move beyond simple comprehension and beyond simple response to "adapt, restructure, or synthesize knowledge in order to answer complex questions . . ." (Defining reading, para. 4)

Perhaps the richest description of what we mean by college-level reading is provided by Ken Bain (2012), in his book *What the Best College Students Do*. He says, "Reading can take many forms, and how it is done makes a huge difference" (p. 232). For Bain, creative and critical thinkers do all of the following: they read with deep intention, they make predictions and look for arguments before they begin and then test those predictions as they go, they examine the reading before engaging it, they make connections as they read, they look for arguments in the text, they evaluate the quality and nature of the evidence, they read any text against others they have read, and they engage in all cognitive activities at the same time (pp. 233–238). Bain says, "They remember, understand, apply, analyze, synthesize, and evaluate as they read" (p. 237) and they "read as if they plan to teach" (p. 238). These activities often require multiple readings of any given text, and allow the students to then use what they have learned to create their own ideas in writing.

Though aware of many of these issues, we approached our fall Honors course with great confidence. Our students had been selected from the top of our entering freshman and sophomore classes; their reading and writing skills were surely first-rate. We had taught this course twice before (in 2005 and 2008) and had received good reviews from the students. Prior to 2005, we had taught clusters as well as team-taught courses, combining our two disciplines of economics and history, and had found a host of benefits in such interdisciplinary instruction (Abbott & Nantz, 1994, 2001, 2012).

Once we were into the semester, our confidence continued. We were working harder than ever to provide a range of student reading and writing experiences. In class, we frequently broke the students into small groups and had them report orally on the reading assignments. Every week a group of four or five students would give a

formal oral report on the week's readings. We gave our students written questions on the reading, which were discussed in class. We gave them outlines, study guides, and glossaries. We gave them diagrams and charts to help them visualize textual elements, including double-entry drafts, cause-effect matrices, and simple concept maps. Our writing assignments included short "brainstormer" essays along with longer polished papers. The students appeared to be enjoying the class and, to judge from the mid-semester assessment and from end-of-semester reflection essays, learning a great deal.

Imagine our surprise, then, when the student evaluations placed us, and our course, among the bottom 10% in our university and in the entire IDEA database (IDEA is our university's student evaluation-of-teaching instrument, see <http://www.ideaedu.org>). We had both won teaching awards in the past, and our student evaluations, both for the team-taught Honors course and other courses that we had taught separately, had never been this low for the economist, and seldom if ever for the historian. Although we knew that the instructors in the other section of this Honors course had given higher grades for a similar or lighter workload, and that some of our students might therefore have rated us lower out of a sense of unfairness in grading, we knew that there had to be more to it than that, particularly inasmuch as the majority of the student complaints had to do with reading. There was too much of it; it was not organized; it was not covered adequately in class.

We thus subjected our entire course to a painstaking review. We explored student attitudes towards our reading assignments; we explored the connections between reading, writing, and speaking that our students made as they completed the assignments. We examined student artifacts, including term papers, short writing assignments, and final portfolio reflections, in which students responded to our questions, which of the course readings had made the biggest impact upon their thinking, and what their most significant mental breakthroughs ("ah-ha" moments) were.

The results of our research, which we present in this chapter, confirmed many of the advantages that interdisciplinary instruction has for the development of expert, "deep" reading in undergraduates. Many of our students' "ah-ha"s combined historical with economic perspectives, showing the creativity that can result from reading economic monographs, historical texts, and a historical novel all in the same course. We believe that interdisciplinary tools can be used in *any* course to make it easier for *all* students to do the kind of deep reading that leads to critical thinking as well as to effective written and oral work. We also learned that in some respects interdisciplinary courses and clusters need particular care if reading-skill goals are to be reached.

Our challenge, as we see it, is twofold. We need to help students build the skills they need to become deep readers: readers who can use what they have learned through reading to think and write in sophisticated ways. We also need to establish incentives that motivate students to read our assignments carefully and productively. These challenges are related, but they must be addressed separately if students are to attain our learning outcomes.

## Description of the Course and the Students

Fairfield University is a comprehensive, Jesuit-founded school located in southwestern Connecticut, with a population of around four thousand undergraduates. We attract students with strong academic backgrounds, primarily from the northeast. The course we describe here, “Ideas that Shaped the West,” is the first course in our university’s Honors program. It is team-taught, in this case by an economist and a historian; some of the main goals are to introduce students to the kinds of interdisciplinary inquiry that are featured in our Honors program and to engage first- and second-year students intentionally in seminar-style learning, which depends on student preparation for class and close reading of texts. Students are concurrently taking other classes to satisfy core curriculum and often major program requirements.

Students who selected our section (as opposed to another section taught by a literature professor and a psychology professor) tended to have majors in business, nursing, and other social sciences, and had a wide variety of interests and backgrounds. We were teaching this course for the third time; this class had 29 students, the 2008 class had 28, and the 2005 class had 18. According to the catalog: “This team-taught lecture/seminar course examines selected ideas or themes from Western intellectual history, focusing on developments in philosophy, society, science, and the arts.” In our section, students explored the theme of Empire using a historical lens and an economic perspective. We only briefly touched on the ancient empires so that we could spend most of the semester in the modern era. We did provide an introductory week on current-day empires, which allowed us to introduce the notion of economic rather than territorial empire building. Our hope was that we could then hook historical events onto this “imperial” scaffold and allow students to make connections between the past and present.

In September 2013 we enthusiastically introduced the course and started working our way chronologically through the key western ideas, in a manner similar to the two previous times we had taught this course. We assigned three texts that addressed the course themes and which introduced material at a variety of levels; Fusfeld’s (2001) *The Age of the Economist* provided a history of economic thought, Ferguson’s (2004) *Empire: The Rise and Demise of the British World Order and the Lessons for Global Power* traced the rise and fall of the second British Empire, Lal’s (2001) *Unintended Consequences: The Impact of Factor Endowments, Culture, and Politics on Long-Run Economic Performance* provided a cultural explanation for economic growth, and Clavell’s (1966) *Tai Pan*, a historical novel set in Hong Kong during the 1840s, described the tea-opium trade between Britain and China. We also cobbled together an extensive “Course Reader,” which included additional readings (excerpts from Adam Smith’s (1776) *The Wealth of Nations* and Karl Marx’s (1848) *The Communist Manifesto*, and a variety of short readings), maps, organizers, and class discussion questions.

We expected that our students would use all of this material to engage with class themes and to complete course writing assignments. It was never our intention that they would intensively read every piece; some were for illustrative purposes while others were more central to class discussion and assignments. Because our Honors program brings together students from every program and school at the university, we included a wide variety of readings so that every student could find subjects that fit his or her particular interests. We did not, however, distinguish carefully enough between the illustrative and the central, which led to some of the motivational problems described below. We have since learned of Alice Horning's advice, to highlight "particular reasons that any of us uses a reading selection: Is the text being read for content, as part of a process, or to illustrate a structure?" (Rhodes, p. 7). This is particularly necessary in an interdisciplinary course such as ours, inasmuch as economists' reading habits and styles can differ somewhat from those of historians. As Lynn Rhodes points out: "We must explicitly share our expectations with students about performances that we identify as good reading in our classrooms . . . If we want students to read strictly for content, we must teach strategic summary skills. If we want students to analyze genres, we must explicitly direct analysis and interpretations" (p. 7).

Our problem was that we wanted to achieve all of these goals with our reading and writing assignments. Unlike English composition courses, where reading assignments can be selected primarily as a means of modelling good writing (Bunn, 2013), we were responsible for content: for covering historical and economic data and themes in a first-year honors course. Hence, as we show below, we alternate between the teaching of "reading" as process and the selection of "readings" as course content, because the selection of those readings has multiple goals. Sometimes we want the students to summarize the text; sometimes we want them to mine it for specific data and then analyze it; sometimes we want them to do both. We found that the quality of student reading, as well as their motivation to do good reading, was clearly related to their understanding of our goals.

## Overcoming Challenges: Motivation

Susan Ambrose (2010) and her co-authors have outlined three types of value that students attach to their work: attainment value, which is the sheer satisfaction of having completed a difficult task; intrinsic value, which comes from interest in the subject itself, and instrumental value, which "represents the degree to which an activity or goal helps one accomplish other important goals, such as gaining what are traditionally referred to as *extrinsic rewards*" (p. 75). Even in an Honors course, the third type of value is likely to be the most common. As Ambrose, Bridges, DiPietro, Lovett, and Norman (2010) have shown, further, students can have positive

or negative “outcome expectancies”: the belief either “that specific actions will bring about a desired outcome” or that “specific actions have no influence on a desired outcome” (p. 77).

Negative outcome expectancies are a particular problem in history reading, inasmuch as it is difficult to test students on all of the information covered in 60 or 70 pages of a historical monograph or novel, let alone the entire work. Unlike a mathematics text, which presents a logical progression from simple to more complex, a history text too often comes across as a sea of detail, a small part of which will be on the exam or be expected to be used in an essay. Students who come to the reading asking only “What is going to be on the test?” or “What parts of the reading do you want us to cover in our essay?” are only expressing a logical desire not to waste time and effort on something that will not pay off in the form of a higher grade. Thus, extensive reading assignments by their very nature are often frustrating, because the student does not know how much, and which parts, of the reading are going to provide an immediate reward. One can and should explain to students that a purpose of extensive reading is to give them mental exercise in organizing information by differentiating specific from general points and figuring out cause-and-effect chains: skills that are useful in any career. However, for instrumental-value students, these explanations can be insufficient to prevent frustration, resentment, and a consequent lack of motivation. We must show them how to conduct these mental exercises, teaching reading as process AND as content mastery.

Here is where a combination of history and a mathematically-oriented social science such as economics can be helpful. In having students write essays on readings that covered both disciplines, we found that more of the reading could be made “instrumentally” relevant to the assignment than in a straightforward history essay assignment, because the questions asked could be conceptually broader. There is greater variety not simply of readings, but of reading goals and of the methods that are possible to pursue.

Certainly effective and thorough “mining” of readings for information is one important goal. There are, however, different kinds of mining. Less productive assignments encourage students to look for specific, isolated facts and discard the rest of the reading as useless. If, however, the mining entails the drawing of connections between two or more readings, from different disciplines, in an illustrative, comparative, argumentative, and/or problem-solving mode, the student has to read each of the various sources *actively, keeping information from the other sources in mind* as he/she does so. By improving students’ connection-making skills, this variety, together with the above-cited writing assignments, actually make the exercise of reading easier by making it more interesting. There is a focus and a purpose to the readings, beyond simply a search for miscellaneous facts.

A related issue concerning motivation was raised in a recent article by Naomi Baron (2015) titled, “The Plague of tl;dr” (“too long, didn’t read”). Baron explores

the ways that reading has changed as a result of new technology, as we have moved from reading print to digital screens. She says, “When reading on-screen, we can rapidly click or scroll our way from page to page within a document. We are able to connect with the outside world, to hop from site to site, to multitask. Sustained concentration, analysis, and rereading are not encouraged” (para. 4). Students use word searches, find-functions, and other digital tools to perform a sort of “scavenger hunt”; our tech-savvy students seek out answers in the text by searching on a single word or phrase that might provide an immediate answer to a question, rather than truly engaging with the text. Baron concludes, “When we give students ever-shorter reading assignments (in the hope they will be completed), we imply that substantial or complex texts aren’t worth the effort” (para. 21). As we work harder to help students build reading skills, they spend their lives in a digital world that sends the message that close reading and deep, reflective pondering are lost arts. Baron quotes research from the University College London that concludes, “It almost seems that [readers] go online to avoid reading in the traditional sense” (para. 12). Thus our task is even more daunting than it may have been ten or 20 years ago: How do we provide incentives for students to value deep reading as a worthwhile skill? How can we draw them into the processes of reading, pondering, and constructing meaning that college-level work requires? These are the challenges we take up in what follows.

## Building Reading Skills Through Writing Assignments

Taking these deep reading characteristics as our reading goals, we chose to begin with relatively straight-forward but creative writing assignments that required particular reading skills. We built upon these assignments through the semester with increasingly challenging problems. We assigned four short essays, which we called brainstormers; the goal was to get students to mine readings, make connections (particularly between economic and historical concepts), and put down conclusions on paper without worrying about grammar and spelling. We also assigned two longer essays (“polished papers”) in which formal grammar rules were included in the rubrics, and integration of course themes was required. Our overarching goal in all of these writing assignments was to replicate Joan Didion’s experience: “I write entirely to find out what I’m thinking, what I’m looking at, what I see and what it means.” (1976).

Though similar in that they melded economic with historical problems, the four brainstormer assignments each focused on different reading goals. The four grading rubrics, which we handed out with the assignments, were thus different for each paper. The first assignment, which was based upon the concept of empire, emphasized creativity in imagining all aspects of the human experience: political,



economic, religious, social, technological, and geographical. Students were to create their own empire, describing all the characteristics that would make it both sustainable and conducive to the greatest good. We purposely did not emphasize reading for content in this introductory assignment. We wanted students to summarize the reading assignments, take a few concepts from them, think hard about the basics of the human condition, and as Roberts and Roberts (2008) describe, connect what they were reading with what they already knew. Hence, the rubric asked: (1) Were all the characteristics of your empire (political, economic etc.) described clearly? (2) Was the notion of the “greatest good” defined and explained? (3) Did you clearly explain HOW each of the characteristics of your empire will lead to the “greatest good”? (WHY, in other words, is each of these characteristics superior to the alternatives?) (4) In explaining bullet 3, do you draw upon factual knowledge? (5) What makes you believe that this empire is sustainable, and why? (6) Were you able to present your ideas in a creative but understandable way? Each requirement was assigned the same number of points, so actual mining of the readings for information was only one sixth of the grade. The class scored an average of 67.14% on this part of the rubric.

The second brainstormer assignment included more of what Flower, Stein, Ackerman, Kantz, McCormick, and Peck (1990) suggest, that students “adapt, restructure, or synthesize knowledge in order to answer complex questions” (p. 249). Students were asked to read from a complex economic text, Deepak Lal’s (2001) *Unintended Consequences*, and also from a historical novel, James Clavell’s (1966) *Tai Pan*, and explain how the latter illustrated the former’s concepts. Here the mining of information from both texts was given a high priority - two-thirds of the available points - but it was not simply a treasure hunt; students needed to keep the Lal concepts in mind as they read the Clavell and apply them to that novel. This connection-making task was simplified by being confined to two sources, by our summary of the Lal concepts in the assignment prompt, and by our simply calling for illustrative examples out of the *Tai-Pan* novel. Here the average results for the extent to which students mined the readings for information took a big jump, to 72.21%. The other third of the rubric assessed coherency and connection-making: the actual describing of how the *Tai-Pan* information illustrated Lal’s concepts. For this portion of the rubric, the score was 69.2%.

The third brainstormer assignment moved from illustration to advocacy, thus requiring many of the processes outlined above by Bain (2012). It asked the students to argue the economic pros and the economic cons of the 18<sup>th</sup>-century slave trade and New World slavery, using the relevant economic principles that had been presented in the course readings and by the economics professor (Nantz) in class, along with the historical accounts of slavery and the slave trade. In the prompt this time we did not describe the relevant economic concepts; students had to search both the economic and the historical sources and connect them via a cost-benefit assessment. The rubric



here had only two parts: mining of the reading and coherency. Whether because the assignment involved argument instead of illustration, or because the students were becoming more familiar with our standards for utilization of the reading material, the average score for mining the readings went up to 76.12%.

The fourth brainstormer combined the skills required in the first three: imagination, illustration, and argument, while dealing with a broader range of subjects than 18<sup>th</sup>-century slavery. Students read Karl Marx's (1848) *Communist Manifesto* and, pretending that they were writing in 1945, argued whether the events of the period 1883–1945 had done more to bear out his views (economic, political, social) or to disprove them. As before, the rubric included the thoroughness of the historical information, but it also included the accuracy with which the student understood and applied Marx's views. Despite the larger amount of historical information required than in the previous assignments, the “mining” score dipped only slightly, to 73.85%. It would appear that, as the complexity of the assignment increased, the students' reading efforts rose to match it. Whether their reading analysis grew more sophisticated is unclear, as the scores for organizational effectiveness on these essays declined as the essays became more complex. Nevertheless, the constructive nature of economics pedagogy, which starts from simple concepts and builds an increasingly complex structure from them, is clearly useful for history instructors, whose readings are too often the same in quantity and complexity over the course of a semester.

The first polished paper utilized the concept of interdisciplinary inquiry, and followed Ambrose et al.'s (2010) recommendation to “Provide Authentic, Real-World Tasks” (p. 83). Students pretended that they were advisors to Secretary of State John Kerry and used the historical and economic knowledge that they had acquired to suggest a course of action to maintain peaceful relations with China amidst the ongoing disputes in the South China Sea. Here our students were expected to draw upon all of the course readings, from the Clavell (1966) novel to the history monographs to the economics texts, but in a real-world problem-solving mode rather than the more theoretical and academic exercises of the brainstormers. Every element of Bain's (2012) rich description of the reading process was required if students were to write a good paper. We were pleased by the results; the average scores for mining of information and for the logic of the arguments were higher than in any of the brainstormers: 89.87% for the former, and 81.58% for the latter.

At the very end of the course, each time we have taught it, we have assigned a haiku. Students must, in 17 syllables, describe the ideas that they found most important in this course. This was a low-stakes assignment; there was no grading rubric to measure student use of course material, and every student who completed the assignment earned an A. Its main purpose was to help students pull together the major themes of the course in a creative way. Each time we have taught this course many of the student haikus have revealed an effective integration of course themes. Here are some examples:

Wal-Mart slavery  
stream of trade and intellect  
pass the eggrolls please  
(Colleen Gibson, 2005)

Growth, property, apps  
Make it last—adapt! Survive!  
Compete till you win  
(Lily Savage, 2013)

I dream of peace, bread  
To truly have all men fed  
But Marx is still dead.  
(Michael Spiller, 2013)

In promoting haiku as a means of teaching economics, Stephen T. Ziliak (2011) praises its interdisciplinarity, writing that “Poetry can fill the gap between reason and emotion, adding feelings to economics” (p. 1). We did not adopt Ziliak’s “haiku economics” in any of the complex metaphorical ways he outlines in his seminal 2009 article, and we did not get any written student evaluation of the assignment since the haikus were due on the last day of class. To judge from the class discussion, however, reciting their poems and listening to everyone else’s efforts in a friendly environment (we professors had to write haikus too) was clearly an enjoyable way to summarize the semester’s work. In the end, we were left with the question: How can we better provide students with the deep-reading tools they need to produce the sort of integrative thinking shown by these examples?

## Helping Students Read More Efficiently

Although our students’ reading abilities appear to have improved with these written assignments, the students often complained that the class sessions did not sufficiently organize the reading for them. Such complaints put us in mind of the early 20<sup>th</sup>-century efficiency experts Frank and Lillian Gilbreth, who, with their pioneering studies of human motion, earned praise from factory workers for making it “easy for a man to work hard” (quoted in Cooper, 1981, p. 171). Because our students could not master all of the readings quickly and easily, they wanted us to “make it easy” for them by lecturing on the readings and discussing all of them in class, a practice criticized by Bean (2011) and Roberts and Roberts (2008).

Although we agree with Bean that we as instructors can do too much of the work that students need to be doing, we realized that, in an interdisciplinary course such as ours, the reading material needs greater coordination than we gave it, precisely *because* of that interdisciplinarity. As instructors, our job is to provide some of the integrative tissue that students need to see readings - to see the authors' perspectives and content - as related to one another.

In exploring the move in K-12 education from “learning to read” (K-5) to “reading to learn,” Lee and Spratley (2012) state, “We call this more advanced form of literacy required of adolescent readers ‘disciplinary literacy’ because each academic discipline or content-area presupposed specific kinds of background knowledge about how to read texts in that area . . .” (p. 2). This is even more true of college-level reading, which requires moving beyond “reading to learn” to reading to learn *across disciplinary boundaries*.

Our two disciplines provide excellent examples. With regard, first, to processes of reading, economics readings tend to be relatively short as measured by absolute page count. Students often assume they can buzz through 20–30 pages per week from their economics course text with ease as compared to their history courses, which may require over 100 pages from a variety of primary and secondary sources. What they often fail to realize is that several pages of complex economic arguments and graphical analysis might take considerable time to master. The historical reading, on the other hand, must be skimmed and organized around themes rather than consumed word-for-word. By the same token, economics and history courses assign different types of writing assignments; economists focus attention on applying economic concepts and analyzing data to improve understanding of economic outcomes or to forecast future outcomes while historians, as we have seen, ask students to process large amounts of information to identify support for positions or to describe connections among events, ideas, and/or source documents. Each discipline calls upon students to utilize the skills outlined by Horning (2007) and Bain (2012), but in different ways.

Second, with regard to content, there is the mastery of discipline-specific vocabulary. As Young and Potter state:

Students identified vocabulary as one of the biggest challenges in their effort to successfully read academic material. Moreover, students appear to need help dealing strategically with the new and – to them – strange words that they frequently encounter in college level reading assignments. It is essential that students be taught to identify key terms that hold particular disciplinary value in texts that are filled with unfamiliar, difficult words. We cannot expect students to identify and understand disciplinary-specific academic terminology without instruction on doing so . . . (pp. 16–17).

Students must understand the importance of such specialized languages – and practice the skill of mastering them – if they are to build the kind of reading skills that will allow them to access the content of a particular discipline.

Although we selected readings for content overlap (Ferguson [2004] and Clavell [1966] both deal with Chinese-British relations; Lal [2001] and Fusfeld [2001] both cover economic systems), our students frequently complained that the course readings took off in all directions and did not wrap up sufficiently in a general summary. One student, asked whether the interdisciplinary combination of economics and history contributed to his/her learning, replied:

Yes, in some ways. It helped that money tends to be a heavy influence throughout history, and the Economics perspective helped to explain some of the actions and reactions. However, it did not contribute when it added on additional knowledge that seemed distinct from the history, considering that it was difficult to understand.

Another student stated:

It was rather overwhelming to have many multiple assignments from many different books all at once for a few readings . . . I felt as though I was supposed to be able to find a connecting theme between all the readings and sometimes I was unable to and it was rather frustrating.

In a Midsemester Assessment of Teaching (MAT) performed by our university's Center for Academic Excellence, students complained that the readings were "too long" and "unconnected."

Like Jolliffe and Harl (2008), therefore, we found that our students needed more help in making thematic connections among the course readings (pp. 612–613). Because reading facility in any subject depends upon knowledge of context and familiarity with the subject (Haswell, Briggs, Fay, Gillen, Harrill, Shupula, & Trevino, 1999), we found outlines, discussion questions, study guides, and glossaries useful (pp. 12–13, 17–18). Here the diagrammatic methods of economics helped students comprehend more loosely-connected historical narratives. (See Figures 1A and 1B.) We used matrices and other visual methods to accustom students to different patterns of prose, giving them practice in what Nancy Spivey (1990) calls the "reorganizing" of unfamiliar texts so as to make them "conform to [the students'] own schemata" (p. 264). The historian (Abbott) began constructing topical reading charts, which encouraged students to lay out all of their sources in front of them and read by topic, rather than simply reading through one source at a time. (See Figure 2.)

FROM THE GREAT WAR TO THE GREAT DEPRESSION, 1918-1930

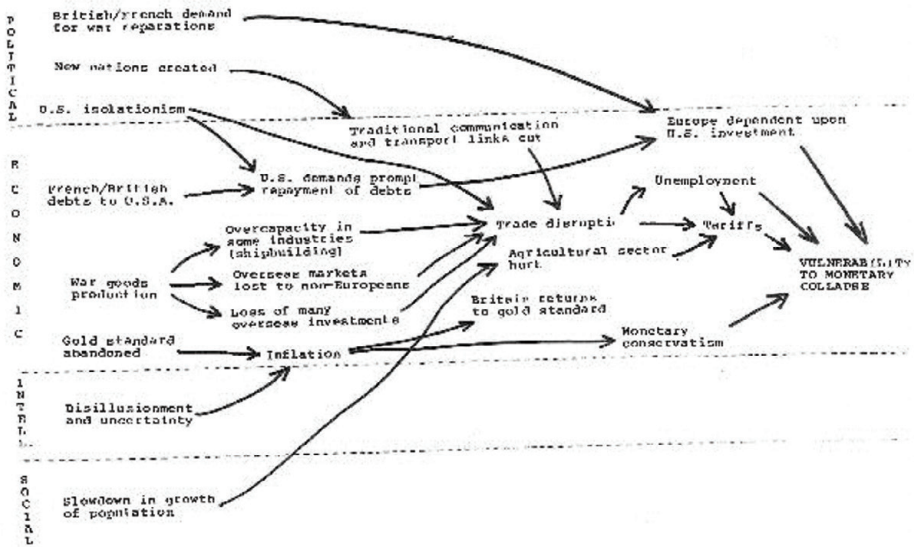


Figure 1A: Cause-Effect Matrix, from World War I to the Great Depression

English class structure, 1500-1800

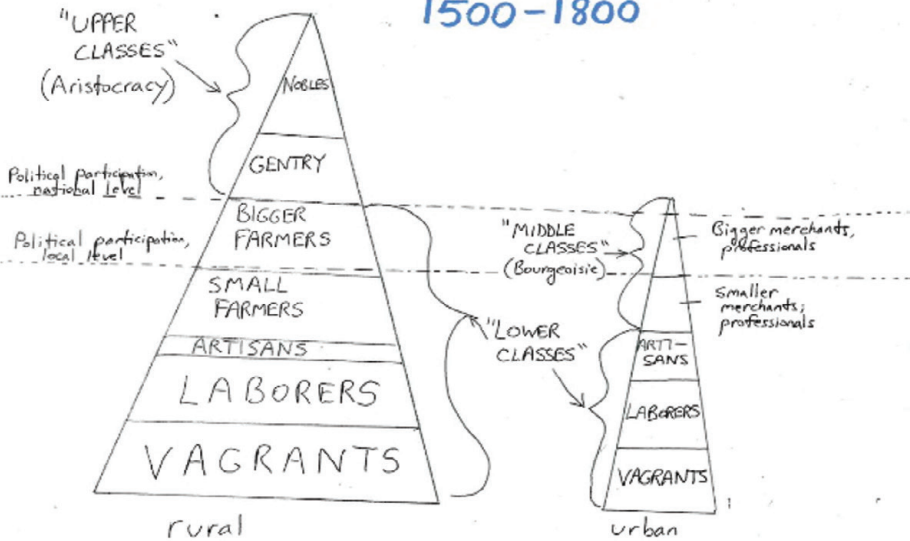


Figure 1B: Social Classes in Early Modern Britain

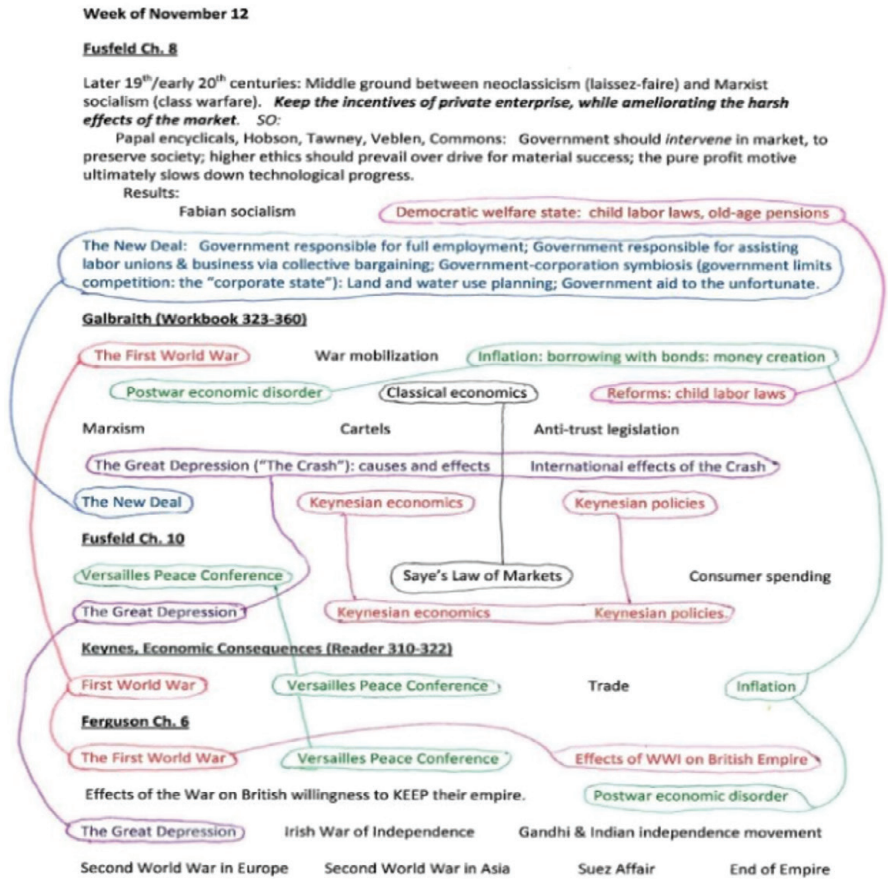


Figure 2: Topical Reading Chart: Galbraith, Fusfeld, Ferguson

By modeling this method of integrating the reading across authors and texts, our hope was that students would begin using this reading strategy themselves. (We did not ask them do this task; upon reflection, we should have done so as an in-class or homework exercise.) Young and Potter (2013) suggest an initial classroom exercise: “annotation and discussion of an assigned academic article, to find key words and define them.” Then, discuss “key claims and concepts in another article,” and finally “synthesize and apply these keywords, claims, and concepts through the creation of indexes and study guides” (p. 6). When the students themselves identify terms common to both historical and economic readings (capitalism, socialism, Karl Marx, J.M. Keynes, the Great Depression), they can more effectively make mental connections between the disciplines, to the enhancement of their reading skills.



Pursuing Bain's goal of having students "read as if they plan to teach," we also used oral group-reporting assignments, which were designed to encourage both understanding of weekly assignments and connection-making between the different readings. Student panels pulled together common themes from the readings and related them to their own life experiences. Our rubric included the following elements: balance (each presenter to have equal time), clarity, originality (encouraging and rewarding creativity in the presentation of material), and connection-making between student life experiences and current world events. Students were put in permanent groups (mixed by gender and major), and each group made two presentations during the semester. The grades on these presentations were mostly As with a few Bs, as students came up with creative slides, provided maps and other visuals, created games to illustrate important concepts (like the Prisoner's Dilemma and how capitalism creates winners and losers), and found wonderfully aligned video clips and online material to share. We gave each group extensive feedback on their work within hours of their presentations.

## Student Comments and Opportunities for Improvement

Predictably, the extent to which we reached our reading-skill goals varied with individual students. However, in addition to the IDEA student evaluation forms, handwritten evaluation forms, a mid-term assessment, and a questionnaire, we also had students write a fifth brainstormer, a reflective, end-of-semester assignment, which asked them to assemble all of their course writing in a folder and then craft a one-page reflection on how their writing and thinking had changed and evolved over the course of the semester. These reflection papers revealed both positive and negative student perceptions of our interdisciplinary course.

Notable among the positives were the mental connections that most of our students were able to make between the two disciplines, thereby creating more of Ambrose et al.'s (2010) "intrinsic value" as a motivator (p. 75). Mixing historical with economic readings clearly provided more of those "ah-ha" moments of discovery that make the reading interesting. One student stated: "I learned about international economic relations and strategy. I didn't realize how many things are mutually advantageous and necessary between nations and that they impact more than just the economy (ex. Social or political relations). I learned SO much this semester." Another student wrote that her biggest "ah-ha" moment involved learning how the world "acts as a multi-faceted machine: connections between historical events and economics." Further, about her writing process, she noted, "the importance of using all the sources and not rushing into the writing process . . . [You need to] take time to digest and illustrate the connecting factors and relevant examples." Each of these examples reflect Ambrose et al.'s definition of intrinsic value: ". . . the



satisfaction that one gains simply from doing the task rather than from a particular outcome of the task” (p. 75).

Another interesting result came from student reading preferences. No single source received all negative or all positive reviews: the class divided fairly evenly in preferring the Lal (2001), the Fusfeld (2001), the Ferguson (2004), the Clavell (1966), or the Course Reader. Thus we conclude that by providing different genres of reading, and not just similarly-written texts on a variety of subjects, our interdisciplinary course stood a better chance than single-discipline courses of catching all of our students’ interests. Commenting on the second brainstormer, one student stated:

I read each text (Tai-Pan and Lal) carefully, and highlighted the important quotes. From there the paper seemed to write itself. I think this ease of writing was due to the fact that I enjoyed Tai-Pan the most of the readings. It illustrated the concepts we were learning with a rip-roaring good yarn, applying them to a real-life situation and showing how they unfolded in the real world.

Another student commented:

Chapter 4 in the Lal was my favorite read within the class. The ideas regarding Promethean growth in the West and cosmological beliefs helped me draw connections to other empires we have been discussing throughout the semester. Lal had me thinking like no other. With each of the Lal readings I adapted to his views and would begin to think like an economist, as we got further into the course. In my opinion, Lal provided me with an understanding in which I would then be able to draw connections and ideas from Lal to the other readings: Ferguson, Clavell and Fusfeld.

Yet another student stated: “A lot of my sources for [Brainstormer #3] came from Fusfeld, which was my favorite book to read. This is because it was not too hard and he looked at events in an economic perspective, which I usually do not do; so it was very interesting to me and made me think differently.” Clearly, our interdisciplinary instruction and reading helped achieve Ambrose et al.’s (2010) goals of “connecting material to student interests,” “providing authentic, real world tasks,” and “showing relevance to students’ current academic lives” (pp. 83–84). In so doing, it also fulfills Bain’s (2012) and Horning’s (2007) definitions of good college reading.

Students responded positively to the various visual organizers and reading

guides we provided. They enjoyed breaking down the historical outcomes by using matrices that connect social, political, economic, technological, religious, and other factors. (See Figure 1A.) One student commented,

With each assignment I learned to firstly analyze the categories that we have been using throughout the semester to understand the historical forces that make up an empire: economic, political, social, cultural, intellectual, and technological. I felt that this was critical to my writing and how it has improved over the course of the semester. This technique enabled me to present my ideas in a much more understandable way and draw connections when comparing and contrasting authors and empires.

Another student said, “The maps and diagrams in the reader were very helpful, as I am a visual learner and was able to draw a lot of connections through viewing timelines and flow charts.” Next time we teach this course, we will make sure to align assignments to these sorts of tasks, asking students to create their own visual organizers. Use of concept mapping software, and other kinds of online apps for creative graphical representations, might be easy and fun for students to use for these tasks.

Our students liked readings that were, in their words, “not too hard,” or written in “simple English.” This brings up another issue: the effectiveness of the prose in our reading assignments. While increasing the sophistication of our students’ reading material is an important goal, sophisticated readings need not be difficult to follow. One student praised the Fustfeld (2001) by saying: “Every fact had information to support it and help make it more understandable.” Here economics has an advantage over history in that its readings are more concise and coordinated; again, the one discipline can assist the other in this context. When next we offer the course, the historian (Abbott) will remember that brilliant historians can often write turgid prose, and will select readings accordingly.

In addition to responding positively to writing assignments that addressed common themes, students appreciated texts that helped tie other texts together. “I liked reading the course reader,” said one student, “because it gave a lot of background info on historical topics that I thought the other books were lacking in.” When we next teach this course, we plan to assign a brief, concise western civilization text that the students will read first and master its basic vocabulary; we will then build our other readings around that summary.

While some students preferred that professors lecture on the reading rather than having the weekly oral panel presentations by peers, one student commented that having to produce an oral presentation “forced me to think of the material in less conventional ways.” Thus it seemed as though *constructing* the presentation encouraged

deep reading. However, students became passive audience members rather than engaged co-learners when they were not presenting. In the future, we need to make class engagement a bigger part of the presenting group's overall grade while at the same time reminding the audience members that their participation, too, will be graded.

Another suggestion from some students was that we give quizzes or tests on the material. In an Honors course such as ours, we thought we would not need to use such ordinary assessment methods, but it is possible that such exams would increase our readers' motivation and morale by providing a greater variety of assessments. It is one task to mine readings for information relevant to an essay assignment; it is another to summarize a reading for a review; it is yet another to organize the reading mentally into general categories and subcategories so as to complete a quiz. Other students opposed quizzes and exams, stating that they would reduce student incentive to read. Bean (2011) provides support for this position: "Quizzes encourage students to extract 'right answers' from a text rather than to engage with the text's ideas, and they don't invite students to bring their own critical thinking to bear on a text's argument or to enter into conversations with a text's author" (p. 168). The latter, Bean apparently assumes, is impossible to test in a quiz, but Nilson (2010), citing research on the pros and cons of reading quizzes, suggests that if they are to be used they should focus on major points and concepts rather than details (p. 220), and Young and Potter, as we have seen, propose "teaching students to read and respond in an exam setting to a range of academic and popular texts" (p. 6). Balancing these alternative motivational and de-motivational factors is difficult in any class, but particularly so in an interdisciplinary course where students are not held responsible for a body of content knowledge specific to a particular major or minor. Our students needed to internalize enough of the course content to successfully engage in class discussions, and to write meaningfully about concepts and ideas. We are uncertain whether or not regular reading quizzes would help or hinder our course goals.

## Understanding Evaluation Scores

Despite the weaknesses in our course, we would have expected the abovementioned strengths to have resulted in better student evaluation scores than we actually received, particularly given the more favorable results of 2005 and 2008. In comparing the syllabi from those two classes with that of 2013, we note that, although the reading load was similar and many of the texts were the same, a new aspect of our 2013 version was the course Reader, in which we included more short articles than we had given out previously. As we were putting the Reader together we may have fallen into the old trap of including a reading simply because it looked interesting to us or was a favorite of ours, not because it supported a specific learning goal.

This larger *number* of individual readings may have been a reason behind student complaints that the course reading should have been better coordinated.

A breakdown of our IDEA scores, moreover, indicates that we were more successful in achieving learning goals than in winning student satisfaction with us and our course. The IDEA Diagnostic Report breaks down instructor performance into three categories. Twenty-five percent of the score is the average of answers to the question “Was this an excellent course?” Twenty-five percent is the average of answers to “Was this an excellent instructor?” Fifty percent of the score is the average of answers to the question “How much progress did I make?” on three or four learning goals selected by the instructor from IDEA’s list of 12 goals. Although our scores on the first two questions were in the bottom 10% of the entire IDEA database, our score in the third was much closer to the IDEA average.

That we had greater success with learning goals than with student satisfaction is further suggested by the positive comments in the fifth, reflective-essay brainstormer, some of which are quoted above. By asking not simply what basic concepts students had learned with each of the earlier assignments, but also (1) whether there were any “ah-ha” moments when different ideas seemed to connect together in a mental breakthrough, and (2) which readings or authors made the biggest impact on their thinking and why, such a reflective essay gave us a more complete picture of student achievement than did the more general and standardized learning goals on the IDEA form. We hope, too, that a reflective essay written over several days is more thoughtful, and hence more reliable, than standardized forms filled out in 20 minutes or so.

In our case, too, a reason for the lower IDEA scores may well have been the differing perceptions of what constitutes a “fair” grade. Grade inflation has been well-documented among U.S. universities, and Fairfield is no exception (Abbott, 2008). As at other universities, also, grading patterns at Fairfield vary widely from department to department: there is little to no consensus on what an A, a B, a C, or a D means, or what constitutes “fairness.” Most students use their own life experience to construct their expectations with respect to grades; in our case, half of our students, as first-semester freshmen, had no basis for comparison to college-level standards. With the grade point average of *all* of Fairfield’s first-year students hovering around 3.1, many Honors students, even first-year students with no previous experience of college-level work, have logically come to expect something considerably higher in their Honors classes. Our average in this Honors course was only a 3.27. This contrasts with the 2008 class’s 3.45 and the 2005 class’s 3.63 averages. It is possible that the lower evaluations of 2013 may in part be explained by the lower grades.

In this context, we should probably have been more explicit as to how many hours per week we expected our students to spend on their reading. According to John Bean, as we have seen, one of the challenges students face in doing deep

reading is “failure to commit time on task”. As suggested by the above-cited student recommendation to “take time to digest”, entering first-year students often do not realize that they are expected to put in, at a minimum, two hours outside of class for every hour spent in class, or that, as affirmed by Young and Potter (2013), re-reading is a normal and expected part of college-level work.

## Conclusion

It is clear from our analysis that interdisciplinary pedagogy can provide effective tools to improve undergraduate student reading, as long as the problems inherent in such disciplinary combinations are clearly understood. On a broader level, interdisciplinary insights can be of help in any undergraduate reading context, particularly in light of efforts to promote what Horning (2007) calls reading across the curriculum. As a result of our research, we have the following suggestions for instructors who want to capitalize on interdisciplinary methods to build college-reading skills:

- Select readings that satisfy specific purposes, and clearly organize those readings so that students recognize these purposes. This does not mean that you have to reduce your course reading load. Simply ask yourself: How will the students use this reading to achieve course goals? If you cannot answer the question, perhaps the reading does not belong in the course.
- Assign a variety of readings (different genres, authors etc.) so that students with diverse backgrounds and interests can find authors and ideas that engage them. Some enjoy a “rip roaring good yarn” like Tai Pan; others prefer writers that speak in “plain English”; still others enjoy thumbing through a reader, looking for short and interesting articles.
- If you include readings whose primary purpose is illustrative, follow Alice Horning’s (2007) method and allow students to choose different readings from a list and write reviews of them (Strategies for reading, number 3). Such flexibility improves “intrinsic” motivation, which comes from interest in the subject itself.
- Select those readings for topical and thematic coordination. Instructors struggle with this selection process in all the courses they teach, but tight coordination of class materials is even more important for interdisciplinary courses, both because of their topical variety and because of the varying interests of the students.
- Model the kinds of work that must be done while reading (creating graphic organizers, for example) but also make clear to students that they should use these same techniques as they are reading. If students do not understand that they should use the same strategies that you use to unpack a difficult text, you miss an opportunity to help them build their own skills.

- Apropos of the above point, conduct in-class reading exercises that require students to summarize, apply, or diagram specific readings. Have students debate specific issues, using the course readings. Explaining a reading is clearly not the same as discussing it.
- Be as transparent as possible in explaining why the reading is important and how it will be useful in helping students to achieve course goals. Is it, as Alice Horning asks, “being read for content, as part of a process, or to illustrate a structure?” (Rhodes, p. 7). The why and the how might seem obvious to you, but students may need help making the kinds of connections between readings and assignments that are important to success.

When all is said and done, our experience illustrates that at the very heart of our students’ positive reading experiences is the “ah-ha” moment of connective discovery. However, while we should try to create such moments in class as well as outside of it, such moments come only from the hard work involved in integrating ideas from complex texts. Although instructors can try to make it “easy for students to work hard,” they must also motivate them to work hard. Students must recognize the meaningful payoff they experience when they do deep reading.

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