

Teaching With(out) a Net: A Process for Course Development for Teaching without a Text

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Abstract

This paper makes a case for teaching without a text. It covers problems commonly associated with the use of texts, outlines a process for developing courses without textbooks, uses the author's E-Commerce course as an example of applying the process to a course, and reports the preliminary results of using this process in terms of both student performance and student reaction to working without a text. Suggestions are made regarding how others may proceed to employ this strategy in their own courses.

Keywords: Textbooks, Course Design, Situational Factors, Student Learning Goals, Feedback and Assessment, Teaching and Learning Activities, Integration.

1. INTRODUCTION

The students in my E-Commerce class never open their textbook. The reason: I have found that the less I use the book, the more they learn – so, in the spring of 2009, we gave up the safety net for both the teacher and the students and did not use a textbook.

I didn't set out to banish the book from my classroom. During my first year of teaching E-Commerce, a period in which I was new to the subject matter and struggling to stay ahead of the students, I based much of my course content on the textbook. In my middle years, after acquiring subject-matter expertise through industry projects and considering my exposure to the Scholarship of Teaching and Learning (SoTL), I continued to use a text but found that I assigned very little reading from it. In class I focused more on using active learning activities rather than lecture on the content of the text. More recently, I scrapped the use of the text altogether and really have not missed using one. I realized the deficiencies common to most textbooks and substituted alternate curriculum for topics that my students needed help

in mastering. As I added more extra resources, I found that students learned far more in terms of their ability to *do* e-commerce when I didn't assign the book.

2. THE PROBLEM WITH TEXTBOOKS

Most of us assign textbooks for what we always assumed were very good pedagogical reasons: We wanted students to be able to fill in gaps we don't get to in class, engage in fact-checking, hear other perspectives, have easy access to data, find a framework for some of our more esoteric departures, and provide students with a specialized reference guide rather than having them reach for a general topics encyclopedia. Great ideas -- except that given our students exposure to technology, most of them don't use books for those purposes anymore! In fact, recent cross-disciplinary research (Clump, et al., 2004) has indicated that only a small minority of our students (27.4%) actually read the book before class, and on average only 70% of our students (between 60% and 90%) even read the material before a test, with a significant difference existing between courses. Another recent

study (Pryor et al., 2009) indicated that 99% of our current students use the Internet for research or homework.

While some textbooks are truly excellent, most tend to bore my students and therefore frustrate me. Since textbooks are marketed nationally, most attempt to comply with publisher's standards for both minimal length and universal content, frequently resulting in heavy tomes that at their very best cover all topics superficially. Some textbooks do a fabulous job of making their content relevant, but others insult students' intelligence by oversimplifying and fragmenting the subject matter so much that it becomes virtually incomprehensible. Still others explore only a few topics instead of a standard content set. Many texts promulgate misconceptions or even outright errors. They present ideas didactically as discrete facts to be accepted and memorized, rather than as clues of principles to be discovered and explored. And consistent with Steven Colbert's concept of "truthiness" (Colbert, 2005), our students believe that if it is in the text, then it must be true.

Many of today's professors feel that most of today's texts are simply too expensive, usually too long, and frequently too dense to be of much practical use. I freely admit that it was the first of these reasons that first led me to eschew a text in my course. I decided to stop using a text when the \$75 paperback I was using shot up to closer to \$150 and I simply couldn't justify the price, given how little I teach from a text. I have found that very little generates more student complaints than a professor assigning a book that's not used.

Without a textbook, one can create a curriculum that engages students by relating E-Commerce to their everyday lives. Lessons become clearer when the topic is linked to an issue that affects them personally. For example, most if not all of my students are daily Facebook users, and I can use Facebook as a teaching tool to explore topics/concepts such as privacy and security of customer information, the influence of social networking on purchasing decisions, and how social software is transforming typical business models to sustain a competitive advantage in a particular industry. A little creativity is all that is needed to apply Face-

book to practically any discipline. Other student-related examples common to most university environments include all of the typical "hot"-button student issues such as on-campus housing, food service, prices and availability of texts in the bookstore, campus parking and transportation, and course registration.

Teaching without a textbook means more preparation time, especially in the first few times through a course. It means amassing and adapting curriculum from a wide variety of sources, including journals, lab books, Web sites, packaged curricula, and other teachers. It means mapping this collection of resources to the course content standards and student/course learning objectives of your discipline.

Additionally, from a more practical standpoint, teaching without a text can mean proactively engaging and persuading the university administration, the department faculty, and the students that suspending the use of the textbook is in the students' best interests. But this effort can be well worth the time. My students are now more engaged in the course than they were with a text, they understand more of the content because they actively immerse themselves both in and out of the classroom, and due to this active engagement they develop a deeper comprehension of the subject matter.

3. DESIGNING THE COURSE

Teaching without a text forces me to adopt a much more academically sound approach to course development. I confess that in the past I reviewed various texts for courses, selected one with which I was most comfortable or (if it were a course I was teaching for the first time) I thought from which I might learn the most, and constructed my course syllabus and outline around the structure of the text. Student learning objectives were an afterthought, usually written at the time of creating the syllabus and constructed primarily from the viewpoint of the text or national model curricula.

L. Dee Fink (2003) has proposed a five-step process for designing learner-centered courses that he purports will result in significant learning for our students. While many such design paradigms exist, and indeed

those of us in Information Systems education can fall back on the Systems Development Life Cycle (SDLC) as a familiar problem-solving tool, to simply fall back on the familiar can prevent us from taking full advantage of those researchers who have gone before us in developing and using sound educational procedures that have withstood the test of time. Indeed, Fink's paradigm builds on the work of those who have gone before, most significantly the seminal works of Chickering and Gamson (1985), Barr and Tagg (1995), and Weimer (2002). Subsequent to Fink's work several studies have served to enhance the effective use of learner-centered course development both in general {Bain (2004), Brookfield (2006), Richlin (2006), Doyle (2008)} and to the field of information systems in particular {Landry et. al. (2008), Saulnier et. al (2008), Wagner et. al (2008), Saulnier (2009)}.

Fink's process asks us to consider, in sequence, the following five course-design factors:

Situational Factors

Give careful consideration to a variety of *Situational Factors*. Focus on the special institutional challenges associated with this course. For example, how many students are in the course, what kind of prior knowledge do the students bring to the course about this subject, and how does this course fit into the larger curricular context? Additionally, give special consideration to what is expected of the course by students, the department, the institution, the profession, and society at large.

Student Learning Goals

What are the *Student Learning Goals*? Focus on what we want our students to be able to do upon completion of the course. The focus here should be on both (1) the short-term learning goals they can do immediately upon completing the course and (2) longer term goals such as what we believe to be important for students to have learned 2-3 years after the course is over. We should be thinking expansively, beyond just "understand and remember" kinds of learning. Particular areas of consideration at this stage include what types of thinking or application abilities

we want students to develop, and how do we want them to keep learning after the course is over.

Feedback and Assessment

Next, we focus on the issues of *Feedback and Assessment*. The basic question here is: What will students have to do to demonstrate they have achieved the Learning Goals we set for the course? This will usually involve some paper/pencil tests to demonstrate the knowledge comprehension, but we will probably need to include other activities as well. The advantage of working on the Feedback and Assessment at this early stage of course development is that when we become clear about what constitutes successful student performance, it is much easier to develop effective teaching/learning activities. Our thinking should not be limited to just summative assessments, but also formative assessment activities during which we can provide students feedback on low-stakes items such that they can improve their performance prior to summative assessment activities taking place. Thinking of assessment at this stage allows us to not just develop activities that will help students learn, but also provides a basis for developing rubrics as a framework for issuing a course grade.

Teaching and Learning Activities

This stage answers the question – what would have to happen during the course, both in and out of the classroom, for our students to do well on the Feedback & Assessment activities. During this stage we engage in a process of thinking creatively for ways of involving students that will support our more expansive learning goals. If we have developed significant higher-ordered learning goals in the prior stage, then it is most likely that we will need to incorporate some kind of active learning into our course classroom activities. Typically we (1) develop what are usually termed "rich learning experiences" in which students achieve several kinds of learning simultaneously, (2) assemble these activities into an effective "instructional strategy" (that is, an interdependent sequence of learning activities), (3) provide students the opportunity to engage in an "in-depth reflective dialogue" (opportunities for students to reflect on *what* they

are learning, *how* they are learning, and the *significance* of what they are learning), and (4) ultimately let the results of (1)-(3) determine our course structure.

Integration

Integration refers to making sure all the components are in alignment and support each other. Are the learning activities consistent with all the learning goals? Are the feedback and assessment activities consistent with the learning goals and the learning activities?

Employing Fink's 5-step process pushes us to employ what Fink refers to as the "Backward Design" process; that is, this approach starts at the "end" of the learning process and works "back" toward the beginning. Thus, classroom activities evolve naturally from the student learning objectives.

4. THE E-BUSINESS COURSE

In the spring 2009 semester this approach was used with the E-Commerce course. The following discussion summarizes the results (course design) of employing this approach to the E-Commerce course development:

Situational Factors

An analysis of the class composition, course placement, and curricular content yielded the following situational factors which directly impact course delivery:

- Class Size = 33 (given team project as a target, the class size implies eight 4-5 person teams).
- Course Placement = 2nd Semester Sophomore for majors; 2nd course for minors
- Prerequisite = just ISM 101 - Introduction to Information Systems (minimal web development background, just superficial treatment of databases)
- Enrollment Mix = 2nd semester freshmen (just 101) through 2nd semester senior majors (need to distribute student expertise across teams; therefore cannot let students form their own teams)

- Curricular = Conformance to IS 2002 {IS2002.2}(provides Learning Unit guidance and assessment criteria)
- Course Location = Business School (business driven, not technology driven; therefore, focus on the use of e-commerce for competitive advantage as opposed to emphasis on web-site development).

Student Learning Goals

In addition to the content learning goals provided by IS2002.2, the following student learning goals were developed consistent with the situational factors developed in the first step:

- Students are to assume responsibility for their own learning and the learning of fellow students
- Team-Based activities/projects are the deliverables, but individual accountability is an assessment necessity (address "free rider" problem)
- Continuous practice/development of presentation skills is a course goal along with formative assignment feedback from their peers.
- Peer assessment of project team members (both formative during the semester and summative at end of the semester) is included to provide for individual accountability.
- Each team should produce a Business Model/Plan
- Each team should produce the "Front End" of Web Site to Support Their Business Model (no back end requirement due to lack of database knowledge as a course prerequisite)

Feedback and Assessments

In the feedback and assessment development the following guidelines were developed:

- The course will employ "Authentic" assessments; that is, course assessments will focus primarily on "real world" project development as opposed to a testing emphasis
- Project teams will produce a Preliminary Business Model for an E-Commerce Business of their own development.

- Teams will present their Preliminary Business Models to the class as a whole serving as a Steering Committee.
- The Steering Committee will provide feedback (formative) on the Preliminary Business Model Presentations
- Project teams will produce Revised Business Models based on feedback from the Steering Committee
- Project Teams will conduct "Interim" Peer/Team Evaluations (formative)
- Project Teams will produce Web Site Design Plans to support their business models
- Project teams will present their Web Site Design Plans to the Steering Committee
- The Steering Committee will provide formative feedback on the Web Site Design Plans
- Project teams will produce "Front-End" Web Sites to support their E-Commerce Business
- Peer/Team Evaluations (summative) will be conducted at the end of the course.

Teaching and Learning Activities

The following guiding principles were derived to support both in-class and out-of-class individual and team student learning activities:

- Employ Active Learning Strategies – in-class activities in support of both learning goals and project development
- In-Class "Rich" Learning Activities (group work in both the content and process domains)
- Out-of-Class Team Learning and Presentations (employ very structured out-of-class activities to prepare for in-class activities)
- Students Produce ongoing In-Depth Reflective Dialogue regarding both Content and Learning Experiences (highly structured)

Integration

The integration step was used to test and insure consistency of the situational factors, the learning goals, the feedback and assessment mechanisms, and the class activi-

ties (both in and out of the class). Preliminary examination revealed no obvious contradictions or logical conflicts, although subsequent course sections will undergo rigorous improvements to "tighten up" the individual class sessions.

5. PRELIMINARY RESULTS

Using informal measures (observation of student performance on individual and team assignments together with assignment grades employing standard rubrics and final course grades) student learning without the use of a text was comparable to student learning in prior semesters in which a text was used according to the criteria established in the student learning goals. From a process standpoint: (1) the lack of a text forced students to assume much more responsibility for both their own learning and the learning of other members of their project team, (2) all students provided formative assessment to the students in other project teams using a student-developed assessment form during in class discussions at the end of team presentations, and (3) the student teams provided both formative assessment to the team members in their group, and summative assessment to their team members at the end of the semester-long projects. From a content standpoint: (1) Student business models were of high quality, comparable to those developed in prior semesters, and (2) the front-end web sites to support their business models were comparable to web sites developed in prior semesters.

Not surprisingly, overall student reaction to learning without a text was very positive. Though students were not informed of the rationale for not using a textbook, on an end-of-semester student feedback form they were asked whether they would prefer to use a text. More than 95 percent said no. Although some complained that textbooks were either too heavy or too expensive, many students derided them as boring or difficult to read. As one student put it, "Textbooks are filled with incomprehensible words that just make learning more difficult." Several responses indicated that textbooks are useful only for certain kinds of learning. "You don't learn stuff from textbooks," one student wrote. "You just memorize for a test, and then forget it." Perso-

nally, I won't settle for that in my classroom; without a textbook, I don't have to.

6. CONCLUSIONS & RECOMMENDATIONS

The transition to a text-free teaching and learning environment was a gradual weaning. I wouldn't recommend that any teacher -- particularly a new teacher with multiple classes to prepare for -- try to create a year's curriculum alone or over a single summer. Beginners new to working without textbooks should take careful note of which of their current activities are working and why, and then make adjustments suited to their students' individual abilities and needs. For example, students at my university typically have stronger reading and writing skills than mathematics skills, so I integrate a review of basic mathematics and algebra into my work with Excel spreadsheets. The use of Excel recurs throughout my course, but the needed algebra review is not covered in typical textbooks.

Whenever possible, curricular/learning activities were developed that encourage students to draw their own conclusions. My curriculum is also peppered with activities that allow me to gauge the students' understanding and adapt quickly to their needs; such unscripted activities are an anathema to most textbook publishers.

What about all those good reasons that we assigned texts? Most of those reasons are no longer applicable given today's technology. Students tell me that if they need a fact, it's a mouse click away. They also know about online data bases the likes of which no textbook can replicate, can locate images to illustrate their papers through a simple Google search, and most have access to every one of their library's specialized reference guides from their laptop. In fact, quite a few of the students get so excited by thoughts stimulated by online searches that they actually get reference books on particular topics off the library shelves.

Are there some students who can benefit from a text? Yes, but why make them shell out \$100 or more for a text? Most fields now have online texts that students can read for free, as well as outlines that are much more coherent than most texts. One can also, as I

do, simply place a current text on library reserve. Not surprisingly, students don't seem to resent texts nearly as much when they can consult them when needed and for free. My advice to newcomers is to seriously consider teaching without a text and don't worry too much about covering every topic in the prescribed curriculum. In the end, don't be surprised if you receive a hearty "thank you" from your students.

7. REFERENCES

- Bain, Ken (2004). *What the Best College Teachers Do*. Cambridge, MA: Harvard University Press.
- Barr, R.B. & Tagg, J. (1995). "From Teaching to Learning: A New Paradigm for Undergraduate Education." *Change*: 27:12-15.
- Brookfield, Stephen (2006). *The Skillful Teacher: On Technique, Trust, and Responsiveness in the Classroom*. San Francisco: Jossey-Bass.
- Chickering, A.W. & Gamson, Z.F. (1987). "Seven Principles for Good Practice in Undergraduate Education." *AAHE Bulletin*: 39(7): 3-7.
- Clump, M.A., Bauer, H. & Bradley, C. (2004). "The Extent to Which Psychology Students Read Textbooks," *Journal of Instructional Psychology*.
- Colbert, S. (2005). *The Colbert Report*.
- Doyle, Terry (2008). *Helping Students Learn in a Learner-Centered Environment*. Sterling, VA: Stylus Publishing.
- Fink, L. Dee (2003). *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses*. San Francisco: Jossey-Bass.
- Landry, J.P., Saulnier, B.M., Wagner, T.A., & Longenecker, H.E. (2008). "Why is the Learner-Centered Paradigm so Profoundly Important for Information Systems Education?" *Journal of Information Systems Education*: 19(2): 175-179.
- Pryor, J. H., Hurtado, S., DeAngelo, L., Sharkness, J., Romero, L. C., Korn, W. S., & Tran, S. (2009). *The American*

- freshman: National norms for fall 2008.*
Los Angeles: Higher Education Research
Institute, UCLA.
- Richlin, L (2006). *Blueprint for Learning: Constructing College Courses to Facilitate, Assess, and Document Learning.* Sterling, VA.: Stylus Press.
- Saulnier, B.M. (2009). "From 'Sage on the Stage' to 'Guide on the Side' Revisited: (Un)covering the Content in the Learner-Centered Information Systems Course." *Information Systems Education Journal*, 7(60).
- Saulnier, B.M., Landry, J.P., Longenecker, H.E., & Wagner, T.A. (2008). "From Teaching to Learning: Learner-Centered Teaching and Assessment in Information Systems Education." *Journal of Information Systems Education*: 19(2): 169-174.
- Wagner, T.A., Longenecker, H.E., Landry, J.P., Saulnier, B.M., & Lusk, S. (2008). "A Methodology to Assist Faculty in Developing Successful Approaches for Achieving Learner Centered Information Systems Curriculum Outcomes: Team Based Methods." *Journal of Information Systems Education*: 19(2): 181-196.
- Weimer, M. (2002). *Learner-Centered Teaching.* San Francisco: Jossey-Bass.