

Utilizing Student-Generated Materials in the Classroom

Chip Baumgardner

Pennsylvania College of Technology

One College Avenue

Williamsport, PA 17701

(570)-326-3761

Abstract

With the heightened use of technology in most industries, disruptors serve to create extensive and (sometimes) permanent change to current models of operation. The textbook industry is no exception where factors such as digital technology, consolidation, open sourcing, and economics have resulted in, among other things, student-generated classroom materials. Discussing the strategies for implementing student-generated materials into the class will be an essential part of looking at how to harness new material in a fast-paced digital age.

Keywords: OER, course materials, student-generated materials, free textbooks

Introduction

As disruptors impact industries, changes are apt to take place. In many cases, such changes may be unwanted by various participants of the industry. For example, Uber has created a significant change in how people pay to ride from point A to point B. This entails no tipping, an exact pickup time and place, GPS tracking, and the ability to rate the driver. In the meantime, the taxi industry has been turned upside down as the common driver can partake in offering driving services as a way to make extra money. Similarly, higher education has been levied with a number of transitional factors that are making huge changes in the industry. Among such factors are technology, free access to information, cost structures, and the questioning of the value of the product offered by the industry.

When one industry is disrupted, it tends to influence other industries. For example, the disruption that has occurred in higher education is showing a similar impact on textbook publishing. At one point in time, it was assumed that practically every course required a textbook that students would purchase from the campus bookstore. This led to a substantial layout of money by students, thus increasing the overall cost of education. Relatedly, publishers, authors, and colleges profited by the transactions. As economists can attest, it was quite easy to earn monopolistic profits from students. Think of it from the standpoint that, once a textbook is selected for a course, it becomes the course material required of the students. With the advent of numerous disruptors (technology, free access to information, and cost structures), we've come to a point where the easy cash stream of book sales has been changed in a way not seen twenty years ago. Along with just saying "no" to buying the required textbook, students are seeing other options such as used books, free access to materials, Open Educational Resources (OER), and the ability to create materials.

In order to evaluate the effectiveness of using alternatives to textbooks, several methods were implemented into different courses. Along with the sharing of such findings, additional insight will be provided by an extensive research of information. Although the textbook hasn't been altogether eliminated from higher education, many options are proliferating the decision tree. Of the many alternatives, the main focus will look at how students are using technology as a way to create their own materials. Such an idea wasn't at the forefront of higher education in previous decades but will be shown as an extremely beneficial substitute to purchasing textbooks.

Literature Review

Given the newness of disruptors, recent literature focuses on the cost of textbooks, alternatives to textbooks, and how to replace them with other materials. Textbook expenses came to the forefront when stakeholders began to question the cost of education. Numerous studies note the excessive costs associated with purchasing materials for class. The U.S. Public Interest Research Group surveyed more than 2,000 college students and found many conclusions relating to textbook costs (Senack, 2014). The findings includes 65% of students who said they decided against purchasing textbooks because of the cost and that 94% of such student are concerned about course grades because they didn't make a textbook purchase. Similarly, Shin (2013) notes the Daily Clog (blog by The Daily Californian) conducted a survey and found freshmen buy just 69% of required books.

As one would expect, textbook expenses impact higher education in more than just cost. Morris-Babb and Henderson (2012) report that over 23% of students say they occasionally don't register for a specific course or section simply because of the high textbook costs associated with the registration. It is important to realize that making course selections based on the cost of the materials (and not tuition) should be an attention grabber for all individuals associated with higher education. This decision is important because numerous entities post varying average costs for textbooks. The College Board's *Trends in College Pricing 2017* states that cost of materials for the typical student exceeds \$1,200 per year. Such costs vary by major, type of institution, and other factors. The main point being that textbooks and materials are impacting students' decisions in higher education. One should be willing to question textbook expenses when it impacts course selection as well as the willingness to forgo buying the materials needed for the course.

When students do buy textbooks, it doesn't guarantee the use of the materials. A survey conducted by Hattenberg and Steffy (2013) resulted in finding that students are more likely to read material if it is tied to a graded item. Worse yet, Connor-Greene (2000) found that 72% of students rarely or never completed required reading assignments. Similarly, Howard (2004) noted an alarming rate of reading as only 40% of students reported that they usually or always complete required assignments. Thus, even in cases where students have access to materials, it appears they must be prodded into reading the contents. Generally, tying a grade to the assignment is the true inducement for the decision to read the material.

If students aren't purchasing textbooks, what are the alternatives for educators? One logical choice is the Open Educational Resources (OER) movement. This idea has existed since July 2002 when a UNESCO (United Nations Education, Scientific, and Cultural Organization) forum resulted in coining the term "open

educational resources” and has been in use since that time (Commonwealth of Learning, 2015). As the title suggests, the resources are those that are free to use and reuse. Primarily, the intellectual property license is such that individuals are permitted to use the materials without cost. This relates to the disruptors of technology and access to information and has transformed many levels of education into cost-saving mode. OER is impactful as it sets the cost of the material at zero.

As some of the previous information notes, another alternative is to avoid making the textbook purchase. In what was previously unthinkable, some students realize the cost is greater than the benefit, hence they refuse to buy required materials. Additionally, a negative trend in higher education has been the requirement of a textbook that is seldom or never used in class. The logic of the student veers to the side of not buying something that isn't needed or used in class. Given the alternative, a student would much rather utilize free materials as opposed to buying items for class. Senack (2014) notes students could save hundreds of dollars per course with OER materials. It would provide huge savings over the time it takes to earn a degree at any type of institution. Getting the material cost to zero would be a significant milestone for any course.

Another thoughtful alternative is to have students generate their own materials for the course. Why not as technology, access to information, and the ability to share documents can be imperative factors in creating materials for the class. This would be a significant challenge to the textbook industry. Publishers are taking notice as, similar to the pharmaceutical industry, they started to market textbooks, digital products, and supplementary materials directly to students (Straumsheim, 2015). However, getting the cost to zero outweighs other options as students can create their own materials. It would match a blog from *The Teaching Professor* with the topic “Do you think colleges and universities should do away with textbooks?” Such changes are appreciated as students see similarities to the digital changes brought about in the music industry (Young, 2010).

It appears that numerous benefits occur when students are responsible for generating material for the class. This includes taking pride in the material, making changes on the fly, allowing class members to edit materials, eliminating the complaints of textbook costs and lack of use, and engaging students in course materials. Such materials can take the form of textbooks, homework problems, quiz questions, case studies, class notes, apps, and other learning tools as designed by students and used in class (Kelly, 2013). Additionally, it appears that providing a level of structure by using a template and instructions are quite beneficial in allowing students to provide materials needed for class.

All of the mentioned ideas are important and a significant challenge to the \$13.7 billion textbook industry as such is being impacted by many factors including education nonprofits, governments, professors, tech startups, publishers, and established firms like Apple (Lee, 2013). In fact, before his death in 2011, Steve Jobs was looking at the textbook industry as one where technology could serve as a disruptor (Watters, 2011). Steve seemed to be visionary as rapid changes are occurring in the once unyielding industry.

Methodology

The process of evaluating student-generated materials entailed utilizing alternatives to textbooks in two separate classes and comparing results of the classes to outcomes assessment. Using the student-generated materials would be deemed successful if students could maintain a consistent meeting of the outcomes required for the courses. A threshold of 75% average attainment was selected as a basis of being at least average (a “C” grade) for the specific course. Otherwise, anything below average would denote not meeting the standard for utilizing student-generated materials. Two separate subject areas, levels of courses, and types of students were utilized as part of the experiment.

The first experiment required students to write a specific chapter of material for strategic management, a course that consists of senior undergraduate business students. A total of 30 chapter topics were available as was a template that would serve as a level of standardization for material. Each student had to deliver the material by an established deadline (hence, no unfair time advantage for some students). Each student would upload the chapter to a local drive (could easily use Google docs, college drive, or an LMS). By doing such, material would be readily available for all students. Once all chapters were uploaded, there was an acceptable block of chapters to use for the course. The final product would be shared and available to all students.

Results were easy to evaluate in that treating each chapter as a research paper on the specific topic could be graded via a rubric used for other research assignments in the course. The final results showed students exceeding the 75% average, attaining an average of 88%. This grade was higher than the final course average of 84.5%. Along with exceeding the average threshold, student responses were quite positive as they enjoyed the ability to select their own material, developed items based on a standard template, shared work with other students, and accessed material via electronic format. Most importantly, students took pride in self-generated material that saved approximately \$300 over the cost of a new textbook.

The second experiment involved an undergraduate level issues in sports management class. With a textbook of case studies costing \$350 (new textbook with no used copies available), it was decided that students would forgo such purchase. Instead, they would define, research, and present selected issues to the class. In order to do this, students were assigned to different groups each week, submitted an issue that would be covered once during the semester, and were given a standard rubric and PPT instructions. The PPT would be uploaded via a deadline set long before class (i.e. no late submissions). At that point, each group would present findings to the class. Like wash, rinse, and repeat, this process occurred each week so that the semester offered an evaluation of over 60 issues in sports management. The number of topics was much greater than that offered by the textbook. Also, material could be updated in somewhat of a real-time format.

Utilizing the 75% average like that of the first experiment, students were able to exceed the standard. The 89% average was slightly above that of the first experiment and exceeded the final average of 86.3%. The material remained available in electronic format for permanent download. As with the first experiment, students appreciated the ability to create their own work, liked the chance to select many differing topics, followed a standard PPT that offered continuity during the course, and shared information with other

students. And, as with the first experiment, students took pride in self-generated material while saving \$350 over the cost of a new textbook.

Results/Findings

It appears that student-generated materials can be an effective alternative to textbooks. While working through the various experiments, many benefits were found for students, educators, and higher education. For students, this includes: saving hundreds of dollars by not purchasing textbooks, taking a sense of ownership in generating materials, being able to change material on the fly and update it throughout a course, offering a chance for the entire class to edit materials, downloading electronic copies to smartphones and other devices, utilizing access to the growing volume of OER materials, enhancing written and verbal skills, garnering feedback from peers, gaining empowering by becoming somewhat of an expert in a topic area, and feeling free from the monopoly of the publishers.

Educators, like the students, stand to gain much by the same endeavor. By researching and working through experiments, it is obvious that educators benefit in areas such as: being free from the tyranny of book publishers, requiring students to come prepared for class activity, creating motivation to read other materials, earning praise by saving money for students, avoiding having students inquire of the need to purchase a specific book, not worrying about the failure associated with selecting a wrong book, eliminating the complaints of not using a book that cost so much money, avoiding outdated material, eliminating the hassle of book orders, and creating a link between materials and course outcomes.

On a macro level, higher education benefits from seeing zero cost materials, nurturing a move to student-centered education, offering students input in materials covered in class, catering to specific subject areas, creating real-time information, utilizing document sharing and technology to create efficiencies, offering a direct link to the process of outcomes assessment, and seeing a high level of freedom from the monopolistic publishing industry.

As these benefits were derived for students, educators, and higher education, one soon realizes that it is possible to maintain a standard of assessment while allowing students to create materials that would be used for the class. In the meantime, no textbook purchase would be expected for students. The link among student-generated materials, maintenance of quality, and outcomes assessment offers a great accumulation of efficiency for all realms of higher education.

Discussion

Can we allow students to generate materials in lieu of the standard textbook? Are we beyond the days of needing a textbook for each course? Can we utilize vast technology and access to information in order to depend on students for materials? “Yes” is the resounding answer to each question. In fact, a number of benefits can be gleaned for students, professors, and those in higher education. It is about deciding among textbook purchases as one extreme, no materials as the other extreme, and something that could fit in between these choices. That something in between could be something like OER, reduced price books, or student-generated materials.

Based on findings from the experiments, it seems that student-generated materials are an effective choice. Most importantly, it offers zero cost to students and allows students to feel ownership, generate skill sets, and build upon what is learned in class. Additionally, faculty members are free from textbook decisions, see that material can be updated on a continuous basis, and can assess results. Finally, higher education sees a reduced cost, gains in skills for students, and can connect to the vast system of outcomes assessment.

Overall, student-generated materials are a great choice for the future of an industry that is pressured from many disruptors attempting to feed upon the weakness of the industry. Where do educators go from here? It is purely speculative but one would think higher education realizes that dependence on textbook publishers isn't an effective approach to materials required for class. Students want to utilize items that are cost-free, can be changed with technology, are dependent upon the skills of the students, are available in electronic formats, and allow individuals to gain in communication and other skills. Overall, student-generated materials are critical to the future of higher education and will be utilized more and more as part of the learning process. Otherwise, students pay the high cost of textbooks and fail to capitalize on the disruptors of higher education.

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