Student Reading Strategies and Textbook Use: An Inquiry into Economics and Accounting Courses

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Abstract

Faculty members take great care in selecting textbooks that present material in a meaningful way that promotes student learning. However, faculty members often express frustrations that students don't use the textbooks to their full potential, and that some students rely solely on faculty lectures or presentations. After providing an extensive literature review into why textbook selection is important, how students use textbooks, what types of reading strategies are used by students in various disciplines, and instructor strategies for increasing textbook reading, the authors used reading journals to investigate how students were utilizing assigned textbooks in their own courses. The resulting investigation revealed insights into how students are currently reading and using textbooks, allows for the development of focused strategies to improve student textbook use, and provides suggestions for further research and potential research designs that will move the body of literature forward.

Keywords: Reading strategies, textbook use, expository text, reading journals

Introduction

Faculty members take great care in selecting textbooks that present useful material in a meaningful way that will promote student learning. However, faculty members often express frustration that students don't use the textbooks to their full potential, and that some students rely solely on faculty lectures or presentations. Upon encountering a statistic indicating that only 17% of students in introductory macroeconomics courses completed all assigned readings (Schneider 2001, p.A12), the authors designed an investigation about reading strategies and textbook use in their courses. It follows to reason that if students are not reading the text, or are not utilizing the text in a way that promotes learning of the content, then significant learning gaps can emerge.

The authors present extensive research into why textbook selection is important, how students use textbooks, what types of reading strategies are used by students in various disciplines, and instructor strategies for increasing textbook reading. The authors then used reading journals to study how students were utilizing assigned textbooks in their courses. The resulting investigation revealed insights into how students are currently reading and using textbooks, allows for the development of strategies to improve student textbook use, and generates specific research questions to move the body of literature forward.

Research on Textbook Selection and Use

Faculty members place great emphasis on selection of the text for each of their courses because of the important role preparatory reading can play in the learning process. The text represents an important tool to be used to explore content directly relevant to class discussions and lectures. The text also represents an alternative delivery vehicle for content, and students can use it to clarify points that they did not clearly follow from lecture, or from content areas intentionally not covered by lecture. The text is also a source of examples, problems, discussion questions, and cases used for both in-class and out-of-class assignments. As such, the text serves a foundational purpose.

In an extensive reflection on textbooks and their use as a source of research, Issitt notes that although there is often great disdain for texts in academic fields, texts are nevertheless pervasive. "As a teaching aid and as part of the learning experience, they are practically ubiquitous."(Issitt, 2004, p.683) Besser et al. (1999) and Robinson (1994) also note how texts can serve as a guide for students in learning and instructors in development of courses, but texts go beyond that to "provide uniform content for individual college students to study according to their own ability, [and] motivate greater involvement…" (Besser et al.1999, p. 5) This can result because "students find textbooks easier to read than primary source material, which leads to higher "self-efficacy perceptions for understanding the course" and more "motivated behavior" for students. (Clines as cited in Besser et al. 1999, p.5) Regardless of whether instructors utilize texts for one or all of the above reasons, little doubt remains that given the extensive use of texts in university level courses, instructors consistently rely on texts as a key part of the knowledge delivery/acquisition system.

In terms of text selection, the instructor also plays an important role in potentially fostering reading – and hence one hopes learning – through the text. Hidi and Anderson (1992) note that generating interest is key in fostering learning because "research on individual interest

has shown that…adults who are interested in a topic or an activity pay more attention, persist for longer periods of time, and acquire more knowledge than subjects without interest." (Hidi and Anderson, 1992, p. 217) So instructors necessarily need to select text which will interest their student audience. However, there is a very fine line to walk in such textbook selection. Wade (1992) cautions that "some popular strategies for creating interest may not facilitate, indeed may even interfere with the important learning information." (Wade, 1992, p.256) This results because readers spend proportionately more time on interesting, yet unimportant details. Garner et al. (1992) are concerned with text selection for similar reasons, which they term the 'inconsiderateness' of texts, or that texts do not clearly signal important as opposed to unimportant information. They found that the more unimportant information in a text (what they term 'seductive detail'), the lower was retention of important information. This is a huge potential problem because "when importance and interestingness diverged, interestingness was the better predictor of which information would be recalled." (Garner et al.1992, p. 244) In addition, they found that greater overall retention resulted from generally interesting texts rather than generally uninteresting texts. The fine line mentioned above for instructors then becomes one where texts selected are generally interesting, yet derive the interest not from Garner et al.'s 'seductive details,' but rather from generating interest within the important textual information.

Research by Besser et al. shows that students have what they term 'strong student opinions' about their texts. "Students will be most concerned about a textbook's writing, then the cues [organizational cues] that help interpret the writing, and lastly all other aspects of the book."(Besser et al. 1999 p.10) This means specifically that,

> "students believe that the quality of writing in a textbook is paramount, and that writing aspects account for half of the helpful learning and 60 percent of the non-helpful learning….In regard to writing quality, the two most helpful aspects to students are relevant examples that review or reinforce the lecture material, and easy to read, clear writing. The three least helpful writing aspects, all receiving equal mentions, were: (a) long sentences/wordy, (b) writing is confusing; doesn't make sense, and (c) writing is boring/not interesting…Directives and signals, or the organizational elements are next in importance. Students like: (a) key words in boldface or italic, (b) end–of-chapter summaries, (c) glossaries, (d) introductions to chapters that overview the content, and student questions; They don't like long blocks of text without a break….Although graphics is the third area of concern, students like charts, tables, diagrams and pictures; they don't like small print, and they aren't particularly impressed by sidebars." (Besser et al. 1999 p.15)

Considering how important textbooks are to both instructors and students, the query then becomes, how *effective* is student use of texts?

Results on Textbook Reading

A number of researchers have tried to evaluate both the quantity and quality of student text use. These include examinations of how much students use the text, when they read the text, the intensity with which students read the text, as well as how different subsets of students vary

in their text use. Generally, the results are not encouraging to instructors who view the text as an integral tool in the learning process.

Sikorski et al. (2002) find that student time spent reading texts falls short of the rule of thumb for study time at the university level (2 hours study for each credit hour per week). Smith and Jacobs, in examining textbook use by general and organic chemistry students, found "students reported spending an average of 4.1 $\pm$ 0.1 hours per week using the following textbook resources: textbook, study guide, solutions manual, textbook's website, and accompanying CD. By comparison, organic chemistry students reported spending an average of 5.8 $\pm$ 0.2 hours per week." (Smith and Jacobs, p.100) Of these hours reported, the general chemistry students spent only 2.6 hours using the text itself, and organic chemistry students spent 3.3 hours. (Smith and Jacobs, p.100) Phillips and Phillips' results in introductory accounting show that students averaged 100 minutes per chapter. (Phillips and Phillips, 2007, p. 32) Murden and Gillespie (1997) are concerned that insufficient time spent reading the text will lead students to discount the text as a primary information source and instead rely predominantly on the lecture.

The timing of text use has also been examined. Phillips and Phillips found 17% of students read before content was first discussed, 55% after all lectures on the chapter, and 28% read the material concurrent with content discussions. Students in top quartile are most likely to read before material was addressed in class while those in the lowest quartile will most likely to wait until after. Further, Phillips and Phillips found that 2/3 of chapters read by students in the top quartile were completed in a single setting opposed to only ½ of those in lowest quartile. (Phillips and Phillips, 2007, p. 32, 34) In also examining when students read the text, Clump et al found that in their study of psychology courses "students read on average 27.46% of the assigned readings before class and 69.98% before an exam". (Clump et al. 2004, p 227) Clump et al. conclude that "with such low levels of readings before class, it is not surprising that many students were not involved in class." (Clump et al. 2004, p.231)

Researchers have also examined the quality of student text use primarily in terms of whether the student reads material intensely or superficially. Biggs (1987) sees the two approaches as different insofar as the former is linked to developing competence in the subject examined, while the later relates more toward minimal required knowledge acquisition geared primarily to rote memorization. Elias (2005) examined these two types of study approaches (termed deep and surface) with particular focus on accounting students. "The results indicated a significant positive correlation between the deep approach and [overall] GPA… and a negative correlation between the surface approach and [overall] GPA." (Elias, 2005, p.196) Further, "results showed a positive correlation between the deep-study approach and expected class grade…and a negative correlation between the surface approach and expected class grade." (Elias, 2005, p.197) Variation in intensity of reading also emerged based on gender, type of students, and major.

> In general, female and nontraditional students used the deep approach more often compared with men and traditional students. Also freshman students used the deep approach more often than did sophomores and juniors, but use of the deep approach increased again among seniors. There were significant differences based on selected major. Accounting and nonbusiness majors used the deep approach the most, whereas economics and general business majors used it the least. (Elias, 2005, p.197)

Phillips and Phillips, in addition to looking at time spent with the text and timing of text use, also addressed whether the students they examined were using different reading strategies similar to those examined by Biggs and Elias. Phillips and Phillips' terminology is sinking in versus skimming. Like other researchers, they found that students do combine their reading strategies. They also found a correlation between intensity of reading and the quality of the student. They found that the number of students reporting confusion did not vary according to performance, but that higher performing students attended to their confusion by deeper examination of the text, whereas poorer students reduced anxiety and confusion by refusing to read or by resorting to memorization. (Phillips and Phillips, 2007, p.31)

Results for Principles of Microeconomics and Financial Accounting

Phillips and Phillips used learning journals to gather the information already noted above as well as more situational information regarding how students were reading the textbook. This information included the mood of the student, location, distractions, and barriers to effective reading. This information opens a window on the context within which students use their assigned text.

To determine how students in introductory economics and intermediate accounting were using textbooks, the authors provided students in Principles of Microeconomics and Financial Accounting with tables in which they recorded their reading times, number of pages read, locations, mood, and reading strategies for each chapter of the course text. Students completed the tables and turned the relevant chapter information in when they sat for the exam covering the corresponding chapters. At the beginning of the research project, a graduate assistant facilitated the completion of student release forms, and each student was assigned a participant number to be used on their reading journals in lieu of their names. The authors motivated student participation by offering extra credit for completion of the reading journals. At the end of the semester, a graduate assistant calculated the number of extra credit points for each student and points were added to the ending student point totals. Results were not summarized until the semester was completed and grades were submitted. Approximately 68% of the introductory economics students and 80% of the accounting students consistently completed the reading journals during the semester.

The purpose of this study is not to statistically compare reading results between courses or to compare reading results to student performance. The course instructors, disciplines, and student populations all varied too greatly for comparative research questions. Principles of Microeconomics is a sophomore level required business core course with an enrollment of approximately 90% non-economics majors. The instructor uses a lecture/discussion format with course grades based on multiple choice exams, economics essays, and applied group projects. Financial Accounting is also a sophomore-level required business course, however the enrollment is approximately 65% non-majors. The instructor uses a lecture/problem review format and an electronic textbook homework management system. The course grades are based on multiple choice and other objective format exams, problem exams, and homework scores. Again, although the intent was not to statistically compare reading results between courses or to compare reading results to student performance, the authors were interested in deeply investigating student textbook use in their courses so they could compare their results with existing research, consider possible instructional interventions, and obtain a baseline for further research in this area. The results from the reading journals are summarized in Table 1 below,

and general observations made and specific research questions generated from the results are discussed following the table.

Table 1: Results of Reading Journals		
	Principles of Microeconomics	**Financial Accounting**
Average time spent per chapter	82 minutes	111 minutes
Textbook material was read …		
• Before the chapter was initially discussed in class	13%	46%
• Partially before and partially after the chapter was initially discussed in class	7%	14%
• After all class lectures or discussions	71%	36%
• Students did not read the chapter	9%	4%
How many times was the textbook used per chapter?		
1	63%	33%
2	32%	41%
3	3%	21%
4	2%	2%
5	0%	3%
Settings and Distractions		
• No distractions (generally quiet location and environment)	50%	58%
• Mild Distractions (music or television in background, group study, occasional interruptions)	33%	33%
• Major Distractions (lots of people around, online or texting conversations, video games, reading only during television commercials)	17%	9%
Mood during reading		
• Positive (upbeat, energized, relaxed, eager to prepare, calm, alert …)	26%	44%
• Negative (obligated, tired, nervous, bored, overwhelmed, frustrated …)	68%	44%
• Indifferent (Hungry, normal, ok …)	6%	12%

General Observations:

1. It appears that the average time per chapter, the timing of the reading, and the times the textbook was used varied greatly between the courses. Possible explanations could be based on differences in how textbooks are used in disciplines, instructor expectations and communications, and course design. The accounting course specifically uses an electronic homework manager system that could have resulted in increased textbook use, although the use of the textbook is not required as part of the homework manager assignments.
2. The settings and distractions appeared to be similar between courses.
3. The results from the sophomore introductory economics course are similar to the Phillips and Phillips results from introductory accounting as to the timing of textbook reading. The results from the Financial Accounting course are similar to the Phillips and Phillips results as to the average time spent per chapter.
4. The results from both courses studied show markedly higher percentage of students completing the reading (91% and 96% in economics and accounting respectively) than in the Schneider report of only 17% of students completing the reading in an introductory economics course.
5. The mood during reading varied between courses, and it is unclear what may have caused the difference. One potential difference is the number of non-majors was higher in the economics courses.

Based on the literature review and the results from the reading journals, specific research questions can be generated as follows:

1. How does reading vary across disciplines? A research study could be designed using introductory accounting and introductory economics courses that have similar level students and similar instructor use of textbooks, course design, and course assessments.
2. How do reading behaviors change throughout an academic program? A research study could be designed to investigate student use of textbooks using the same instructor, but different courses and course levels. For example, one could investigate a sophomore level Financial Accounting course and a junior level Intermediate Accounting course taught by the same instructor who uses similar teaching methodologies for both courses. This would also investigate whether reading behaviors are significantly different in required core courses with substantial students who are non-majors, and courses required within a major.
3. Do instructional interventions make a significant difference in how students use the textbook? Using the information in this study as a baseline, instructional interventions could be designed to attempt to increase positive textbook use, and the results could be compared with the original study results.
4. Does the use of an electronic homework management system increase the use of textbooks in a way that enhances student learning? A research study could be designed using the same instructor with multiple class sections with the only variable being the use of an electronic homework management system in one course with the other course section being a control group.

Strategies for Promotion of Text Reading

Once an understanding is developed as to how students are using textbooks in a particular course, attention can be turned to incorporating strategies into courses that can promote and encourage positive textbook use. Instructors have a key role to play in the promotion of text reading. Phillip and Phillips' findings show that students are not motivated by anxiety to read the text, and cautions instructors from raising anxiety levels. "Students already fear the textbook and expect the topic to be confusing; in our study, students were not motivated by their anxiety to adopt better reading strategies. This finding suggests an alternative approach for engaging students in good reading habits: instructors should play to students' optimism and good intentions regarding the textbook, especially in the first days of the course." (Phillips and Phillips, 2007 p.38)

Instructors can also suggest the most effective ways for students to read the text. "Early on, instructors can explicitly mention the sinking in versus skimming reading strategies and remind students that they may not have time to return to the text if they adopt a skimming approach." (Phillips and Phillips, 2007 p.38) They further suggest that instructors promote desired behavior by using deeper analysis of the text to confront confusion and anxiety. Students need active instructor advice on effective reading strategies. Research on reading comprehension shows that, "proficient readers are likely to use summarizing, connecting related information across sentences and paragraphs, assessing information completeness, and formulating questions and hypotheses." (Crain-Thoreson et al. 1997)

McConnell and Hoover (2008, p. 6) present several strategies that can encourage student interaction with text and monitor student understanding of what they have read:

1. Use in-class questioning where the instructors choose the student to respond as opposed to allowing students to volunteer answers. This method is particularly appropriate for lecture or discussion pedagogies. Student preparation is expected and instructors can incorporate lack of preparedness into their grading system if they so desire.
2. Assign exercises or problems and have students publicly share responses. This method again reveals student preparation and helps the faculty members identify common student misunderstandings.
3. Use electronic quick response systems. Quick response systems indicate on the screen how many students have responded to the question and the percentage correct. In addition, the systems can track each student's score.
4. Give quizzes over the reading assignment, either with or without notes. Most textbook publishers have electronic homework systems available that can shift the quiz time from in-class to outside of class. This could be particularly appealing to faculty members who want to assure the students have completed pre-readings before an in-class discussion of the more difficult chapter issues.
5. Use multiple condition grading. Rather than assigning points to an element an instructor believes to be essential to learning, the faculty member requires completion of the additional element as an additional condition to achieve a desired grade. An example of a multiple condition grading strategy is shown below in Table 2.

Table 2: Example of Multiple Condition Grading System		
Grade	**Requirements for Grade**	
	Scores on Traditional Graded Course Elements (exams, problems, projects)	**Chapter Reading Questions & Answer Assignments (assignments must be complete and well-prepared to receive credit)**
A	90-100%	Complete at least 9 of the 10 chapter Q&A assignments
B	80-90%	Complete 8 of the 10 chapter Q&A assignments
C	70-80%	Complete 7 of the 10 chapter Q&A assignments
D	60-70%	Complete 6 of the 10 chapter Q&A assignments
F	Below 60%	Complete less than 5 chapter Q&A

Instructional strategies to increase appropriate student use of textbooks should be designed to match course learning objectives, course content constraints, disciplinary styles of learning, and instructional approaches.

Conclusion

Textbook use is an important, but under-investigated element of student learning. The authors have presented extensive research into why textbook selection is important, how students use textbooks, what types of reading strategies are used by students in various disciplines, and instructor strategies for increasing textbook reading. The study of textbook use in their own courses supports the related research and offers interesting insights into the potential differences between textbook use and disciplines, instructor strategies, and course design. The study therefore provides a method other faculty members can use to investigate student use of textbooks at their local institutions so that instructional strategies can be tailored to the needs and reading habits of their discipline. It also provides suggestions for further research and potential research designs that will move the body of literature forward.

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