
USE OF POWERPOINT SLIDES AND QUIZZES BY ECONOMICS FACULTY

Tammy Parker, University of Louisiana at Monroe
Kenneth E. Clow, University of Louisiana at Monroe

ABSTRACT

This study examines faculty usage of two types of textbook supplements: PowerPoint slides and quizzes. Results suggest that the majority of faculty made Powerpoint slides available to students; however, there were mixed results regarding faculty perception of the actual importance of the slides. Economics faculty used the slides as a resource for reviewing a chapter or lecture. The use of chapter quizzes is highly mixed, but approximately thirty percent of those that do incorporate chapter quizzes in their courses used the publisher provided test bank.

INTRODUCTION

Major components of instructional supplements of higher education textbooks are PowerPoint slides and a test bank. The purpose of this study is to examine faculty use of these two supplements. Several studies have examined the use of ancillary materials, such as PowerPoint, but few have been in Colleges of Business and even fewer from the perspective of the faculty member (James, Burke and Hutchins 2006; D'Angelo and Wooley 2007; Debevec, Shih, and Kashyap 2006). The use and perceived usefulness of supplements is important in determining their importance in textbook adoption and course design.

Clarke, Flaherty, and Mottner (2001) found PowerPoint lecture outlines to positively influence students' perceived outcomes. Another study examined instructional technologies and found that PowerPoint presentations were significantly related to pedagogical method but not to perceived learning performance or course grade among marketing students (Young, Klemz, and Murphy, 2003).

The evidence of the usefulness of PowerPoint slides is mixed. While some studies have found that it is a positive influence and enhances learning, other studies have found just the opposite (Cyphert 2004; Harris 2004; Jones and Bowen 2004; Wineberg 2005, James, Burke and Hutchins 2006). In terms of student perceptions of PowerPoint, Atkins-Sayre, Hopkins, and Mohundro (1998) found that students believe PPT slides maintain their interest and enhances their understanding and recall of information. In comparing the effectiveness of PowerPoint to plain overheads, a study by Bartsch and Cobern (2003) indicated students perceived they learned more with lectures enhanced by PowerPoint. The same study also found that students scored better on exams with the use of the basic PPT rather than the enhanced version of PPT with additional visual and video materials embedded.

Because of Blackboard, Web CT, Moodle and other Internet-based course management options, many instructors now post their PowerPoint slides online and as a result there has been fear that posting the PPT reduces the need for class attendance. Frey and Birnbaum (2002) found that attendance in classes that posted the PPT slides was down by 15%. Szabo and Hastings (2000), however, found just the opposite.

The study by James, Burke, and Hutchins (2006) was one of the few that examined students within a College of Business. The findings of their research were the following: students have a significantly less favorable perception of the benefit of using PowerPoint slides on cognitive learning than do professors; students believe posting slides on the Internet will decrease class attendance, while professors believe it does not have a negative impact on class attendance; and both students and professors believe PowerPoint slides has a positive impact on taking of notes and studying for exams and quizzes.

Previous research on the use of chapter quizzes found some positive results from quizzes; however, taking chapter quizzes did not improve exam performance (Ryan 2006; Gurung 2003, Brothen and Wambach 2001). In the Gurung (2003) study, students reported practice test questions and online quizzes as most helpful in learning textbook material and in preparing for exams. Empirical examination of the test scores, however, did not find any verification that it increased test performance (Gurung 2003). Brothen and Wambach (2001) found the same. Taking quizzes and looking up quiz answers did not help exam performance. The conclusion of their research was that students were using computerized quizzes to learn the material in lieu of reading and studying the textbook. In Ryan's (2006) study chapter quizzes were given at the beginning of class. The impact was increased attendance and punctuality, but it did not result in better grades on the exams.

Because PowerPoint slides and quizzes are provided by textbook publishers on a routine basis, many professors use them and post them online. While previous studies have examined the impact of these aids in exam performance, this study proposes to examine their usage by economics faculty.

THE STUDY

Data were collected through an e-mail survey process. E-mail addresses were collected from university websites of economics faculty. A total of 3,290 e-mails were sent, 770 were returned for various reasons such as incorrect e-mail address or SPAM filter rejection, resulting in 2,520 delivered e-mails. Usable responses totaled 100 for a response rate of 4.0%. Each respondent was asked to identify one particular class for which they would answer the survey questions. The courses considered for this study were all economics courses.

Table 1 provides a breakdown of the course level. The majority of courses were taught at the sophomore level, 34.0%. At the sophomore level, most universities offer introductory macroeconomics and microeconomics courses that are typically required for all business majors

and are comparatively large courses. Junior level courses accounted for 30.0% of the sample. At the junior level, courses, such as intermediate microeconomics, managerial economics, and money and banking, would be courses required by various business majors beyond just economics majors. Graduate level courses accounted for 14.0% of respondents, senior level accounted for 12%, and freshman level courses only 10.0%.

Level	Frequency	Percentage
Freshman	10	10.0%
Sophomore	34	34.0%
Junior	30	30.0%
Senior	12	12.0%
Graduate	14	14.0%

Table 2 provides the demographic profile of the faculty respondents. Males made up 71.4% of the sample. Full professors accounted for 34% of respondents, while other ranks accounted for approximately twenty percent each. Nearly half of respondents have more than twenty years of teaching experience.

Demographic Variable	Classification	Percentage
Gender	Female	28.6%
	Male	71.4%
Current Rank	Lecturer or Instructor	20.0%
	Assistant Professor	22.0%
	Associate Professor	24.0%
	Full Professor	34.0%
Years Teaching	5 years or less	16.0%
	6-10 years	18.0%
	11-15 years	10.0%
	16-20 years	8.0%
	More than 20 years	48.0%
Institution Enrollment	Less than 5,000	16.0%
	5,000-9,999	26.0%
	10,000-14,999	16.0%
	15,000-19,999	22.0%
	20,000+	20.0%

The survey consisted of a variety of questions about Powerpoint slides, quizzes and testbanks. The survey asked faculty as to whether they made Powerpoint slides available to students and if so in what manner. Additionally, respondents were asked how much they valued Powerpoint slides, and in what way did they encourage students to use them. Respondents were

asked if they assigned chapter quizzes and if so, how the quizzes were administered and the source of quiz questions.

RESULTS

Faculty were asked if PowerPoint slides are utilized or made available in the course. Approximately 68.1 percent said slides are made available or are used. The next question asked how students accessed to the PowerPoint slides if they were used or made available. Results are shown in Table 3. Note the percentages do not add up to 100% because some instructors make the slides available in more than one way. Not quite half (44.0%) of the professors posted the slides on Blackboard or Web CT. The second most frequent method of access was the use of the PowerPoint slides from the Instructor websites, 18.0%. Only 6% of professors provided handouts of the slides and the same 6% and others provided access to the slides through the publisher's website (8.0%).

Faculty were asked how important the PowerPoint slides were to them. The results are mixed. Approximately thirty-seven percent said it was very important and another 17.6% indicated it was important (See Table 4). However, nearly thirty percent indicated it was not very unimportant and another 6.8% said it was unimportant.

Access	Frequency	Percentages
Blackboard/WebCT	44	44.0%
Instructors website	18	18.0%
E-mailed to students	4	4.0%
Class lecture only	6	6.0%
Provided as handouts	6	6.0%
From another student	0	0%
Publisher's website	8	8.0%

Level of Importance	Frequency	Percentages
Very unimportant	22	29.7%
Unimportant	5	6.8%
Neutral	7	9.5%
Important	13	17.6%
Very important	27	36.5%

Faculty were asked if they had a choice in how PowerPoint slides were designed, which option they would prefer? Five choices were given and they could select more than one answer. Table 5 shows the results. The vast majority, 49.0%, said they would choose PowerPoint slides that could be modified by the instructor in class. The next highest option, present an outline of

the material from the textbook, was selected by 32.0%. Third choice was slides with material added by the publisher that was not in the textbook, 30.0%. PowerPoint presentations with videos and interviews with professionals were chosen by 20.0%. The least chosen option was slides enhanced with photos, advertisements, and other visuals, 13.0%.

Design	Frequency	Percentages
Modified by instructor to fit material professor presents	49	49.0%
Present an outline of material from textbook	32	32.0%
Photos, advertisements, visuals	13	13.0%
Videos, such as television ads or interviews with professionals	20	20.0%
Material added by publisher not included in textbook	30	30.0%

If slides were available, faculty were asked how they encouraged students to use the slides for studying and reviewing material. Five options were provided and faculty were asked to rate each one on a five-point scale from 'not at all' to 'all of the time.' Results are shown in Table 6. The most frequent use was to review chapter material, with a mean of 4.04. The second most frequent use was to review a lecture, with a mean of 3.97. Study for exams had a mean of 3.65, study for quizzes had a mean of 3.48, and prepare for a lecture had a mean of 3.35.

Use	N	Mean
Study for exams	49	3.65
Study for quizzes	48	3.48
Review chapter material	48	4.04
Review a lecture	68	3.97
Prepare for a lecture	49	3.35

The next two questions dealt with chapter quizzes over the textbook material. Faculty was asked approximately how many chapter quizzes they gave. The results are in Table 7. The highest percentage of responses was for no quizzes on textbook material, 27.1%. The second highest was only a few quizzes are given on textbook material, 22.9%. Approximately twenty percent of faculty gave quizzes on most of the chapters and another near twenty percent gave quizzes on all the chapters.

Quizzes	Frequency	Percentages
There are no quizzes on textbook material	26	27.1%
Quizzes are given on all the chapters	18	18.8%
Only a few quizzes are given on textbook material	22	22.9%
Quizzes are given on most of the chapters	20	20.8%
Quizzes are given over about half of the chapters	10	10.4%

Table 8 identifies the sources of the quizzes. The top source was the test bank supplied by publisher with 27.8%. Using materials from the text and from class material and using questions from the textbook and questions created by professor each accounted for twenty-five percent. The fewest responses were for the material not from the textbook but presented in class, with 2.8%, and modifying questions in test bank supplied by publisher with no responses.

Table 8		
Source	Frequency	Percentages
Test bank supplied by publisher	20	27.8%
Textbook material	14	19.4%
Material not in textbook but presented in class	2	2.8%
Material from text and material presented in class	18	25.0%
Modifying questions in test bank supplied by publisher	0	0%
Questions from textbook and ones created by professor	18	25.0%

DISCUSSION

It is clear that most economics faculty (68.1%) utilized or made PowerPoint slides available to students and that the primary method of access is online. However, the perceived importance of Powerpoint slides by economics faculty was found to be mixed. Additionally, faculty perceived reviewing a chapter or lecture as the best function for student use, as opposed to using them to study for a quiz or exam. Faculty did prefer publisher slides that they could edit to best fit their course.

The use of chapter quizzes in economics courses was pretty evenly mixed within the spectrum of no quizzes given to every chapter having an associated quiz. Although, almost thirty percent of the faculty that included quizzes with their course utilized the test bank provided by the publisher.

The questions remain as to what is the optimal amount and type of text supplements as well as optimal course assessment design. However, for economists, this research shows that the majority of faculty make the Powerpoint slides available to students and about a third use the test banks for quizzes.

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