

A SUCCESSFUL STAND ALONE “BRIDGE” COURSE

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This paper provides an overview of Tegrity® WebLearner and explains an application used in an introductory accounting course. Tegrity® WebLearner is a platform that transforms classroom teaching into effective multimedia e-learning by recording audio, video, and instructor’s writing, drawing, pointing, and highlighting of content that a student sees in the classroom. The system provides an integrated software solution for the creation and delivery of online content¹. Educators can easily create course videos within the Tegrity® platform and its flexible distribution options that provide content to students.

A student accesses these lectures on CDs or a website and can review the key concepts and problems at their own pace. E-learning lectures can provide procedural steps for problem solving for the student’s preparation of homework assignments and mastery of materials.

An example of the output is provided in Figure 1. The instructor audio encoder records the instructor’s “talking head” and movements. The screen differential encoder records the powerpoint slides.

(Insert Figure 1 here)

AN APPLICATION IN INTRODUCTORY ACCOUNTING

We developed classroom-like “lectures” on managerial accounting concepts and explained procedures for solving accounting problems taught in the first accounting principles course at our university. These lectures were designed for a self-study bridge course for transfer students who had completed the first introductory accounting course containing only financial accounting concepts in two-year programs and at other universities.²

Our University purchased one-piece video creation units called Tegrity®. The units consist of a CPU, a whiteboard annotation camera, an instructor camera, and a document camera. (See Figure 2.) With minimal training and effort, we were able to create videos in which we could speak to the online students, point to bulleted information on a PowerPoint presentation, write on the whiteboard to explain new concepts, and illustrate computations using Excel spreadsheets. These lectures were easily uploaded to a WebLearner server or they can be licensed to distribute via CD ROM. We posted these lectures on our course management system which enables online viewing on a PC or Mac by the students who need no special plug-ins to view the lectures.

(Insert Figure 2 here)

¹ Additional information about the product can be obtained at: <http://www.tegrity.com>

² In 1998, our accounting faculty adopted an accounting textbook that integrates the financial and managerial topics in both introductory courses. Our institution is the only university in our state system that utilizes this approach. Thus, transfer students need the one credit bridge course to learn the managerial topics taught in our first accounting course before enrolling in the second accounting course in our accounting program.

CREATING AND USING TEGRITY® LECTURES

This technology can bring the instructor's lectures to each individual student. This is important because some students need specific instruction and guidance to understand managerial accounting concepts and to successfully perform calculations. The use of Tegrity® provides an innovative instructional format to deliver this material and assists students' learning. The audio and visual materials effectively present materials to students with auditory and visual learning styles.

Instructors who teach on-line courses or desire to create supporting study materials for their students will find this technology a useful pedagogical approach. Some of the system's unique features that significantly increase the online learner's attention span are: (1) a moving pointer created automatically from the instructor's laser pointing on projected slides, (2) instructor writing and drawing synchronized with voice audio, (3) recordings of real time application demonstrations integrated with the rest of the presentation, and (4) students can view lectures and demonstrations multiple times and at their own pace.

The effectiveness of students' studying in "traditional courses" can also improve. When the recordings are made available as supplemental materials for traditional courses, students can view and replay recordings to revise their in-class notes as needed.

ASSESSMENT OF STUDENT OUTCOMES

Sixteen students completed the online accounting course in the first year of its implementation. Several outcomes and assessments were noted.

Students mastered the managerial concepts. The overall average performance on the 1-credit course final exam was 72%. Performance on fourteen selected exam questions of students enrolled in the 1-credit course was compared with the performance of students enrolled in the traditional Accounting 230 class. Students in the 1-credit course answered 76% of the questions correctly compared to 69% accuracy in the Accounting 230 class. Students in the 1-credit course matched or scored higher than the Accounting 230 students on 12 of 14 exam questions.

Students with high usage of the Tegrity® lectures had higher exam scores than students with low usage. Student usage of supporting materials through WebCT ranged from a high of 219 WebCT hits to a low of 4 WebCT hits. The average number of hits was 81. The final test performance of students with high WebCT usage (average of 109 hits) had an average score of 85% where as the performance of students with low WebCT usage (average of 54 hits) had an average final exam scores of 59%.

Students evaluated the Tegrity® materials using a survey and responded that the online format was appropriate for the course and they agreed (more than they disagreed) that the course provided a strong foundation for Principles of Accounting II. Of the course materials available, they most often used and found to be helpful the syllabus, the recommended assignments, the power point slides, and multiple-choice quizzes. They rated the overall quality and effectiveness of the course to be above average.

(Insert Table 1 here)

Students enrolled in the 1-credit course were successful in the second accounting course. The average grade point for the students who had enrolled in the 1-credit course was 2.23 (for 13 students). These same students had an average grade point of 2.30 in the second course and this is comparable to the overall grade point average for all other students in three different Accounting 231 classes (1.80, 2.20, and 2.00).

CONCLUSION

The implementation of an online WebCT bridge course for transfer students from institutions who have taken the first traditional introductory accounting course was enhanced with the use of a series of recorded lectures using the Tegrity® Web Learner Platform. The ten lectures were accessed more frequently by the more successful students as measured by the final exam scores. These students also performed better on the same test questions than the students in the “traditional” in class setting who did not have access to the Tegrity® sessions.

The Tegrity® system was easy to use and successfully captured the instructors’ lectures. These lectures provided a classroom-like environment for the students to view and master the managerial concepts and procedural steps for solving accounting problems. The course fulfilled the department’s objective to provide transfer students a stand-alone course that requires minimal instructor involvement. The current delivery of the course does not require significant instructor time or staffing of an additional “traditional” course.

Table 1
Student Survey Results
(16 students responding)

Question	Mean Response		Likert Scale
The online format was appropriate for this one credit course.	2.9		Very appropriate = 1; not appropriate = 7
I would prefer a traditional course with regular class meetings for this one credit course.	3.7		Definitely no=1; definitely yes = 7
I was motivated to study for this course.	5.0		High motivation = 1; No motivation = 7
Instructors were available for help if I needed them. (ONLY 6 of 16 students sought help)	3.5		Available = 1; Not available = 7
Organization and planning of the course was:	4.9		Poor = 1; Excellent =7
The course schedule was:	5.9		Rigid = 1; Flexible =7
I feel this course provided a strong foundation for Principles of Accounting II.	4.4		Strongly disagree = 1; strongly agree = 7
The overall quality of the course was:	3.7		Poor = 1; Excellent = 5
The overall effectiveness of the course was	3.6		Poor = 1; Excellent = 5
The overall quality of the text was:	4.1		Poor = 1; Excellent = 5
Indicate to what extent you used the following course materials:			Did not use = 1; Used extensively = 7
1. Syllabus	4.6		
2. Recommended assignments	5.2		
3. Video demonstrations	2.5		
4. Flashcards	2.7		
5. Chapter outlines	4.2		
6. Powerpoint slides of chapters	4.6		
7. Multiple choice quizzes	4.5		
8. Matching quizzes	2.7		
Indicate how helpful you found the following materials to be:	(N)	Mean	Not helpful = 1; Very helpful = 7
1. Syllabus	14	5.2	
2. Recommended assignments	15	5.2	
3. Video demonstrations	7	4.2	
4. Flashcards	7	4.8	
5. Chapter outlines	13	4.6	
6. Powerpoint slides of chapters	13	5.4	
7. Multiple choice quizzes	11	5.8	
8. Matching quizzes	11	5.8	

Figure 1
Tegrity® Video Session
(NOTE: Upper black box would contain instructor's "talking head")

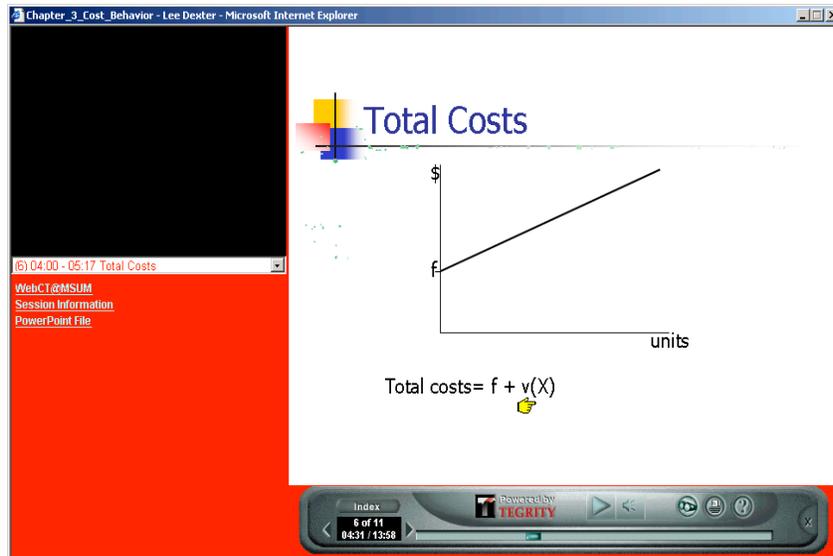


Figure 2
Tegrity® System
http://www.tegrity.com/product_pdfs/tegrity_cart.pdf

