Teaching Digital-Minded Students

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Disclaimer

• This presentation was prepared by Carlos Asarta in his personal capacity. The views and opinions expressed in this presentation are the author's own and do not reflect the views of
Impact 2016

**programs**

**ELEMENTARY SCHOOL**
- Bank At School
- Economics for Kids
- Mini-Society
- Never Too Young: Personal Finance After-School Program
- Parent/family nights
- Personal Finance Academy
- Professional development for in-service teachers

**SECONDARY SCHOOL**
- EntrePrep Summer Institute
- Keys to Financial Success
- Professional development and topical seminars for in-service teachers

**student competitions**
- 2,321 Students participated
- InvestWrite Essay Contest
- Meaningful Economics Competition (ME*)
- National Economics Challenge
- Personal Finance Challenge
- Personal Finance Essay Contest
- The Stock Market Game
- Teach Children to Save Day Poster Contest

**praise**
- 93% Rated quality of workshops good to excellent
- 94% Reported workshops improved their content knowledge
- 94% Agreed workshops provided methods and tools to teach lessons effectively

**professional development**
- 143 Sessions held
- 2,090 Teachers taught
- 153,626 Students reached

**events**
- 2016 ECONOMIC FORECAST
- 356 Attendees
- TEACH CHILDREN TO SAVE DAY
- 6,450 Students participated

**awards**
- Bonnie Meszaros
  - James B. O’Neill Multiplier Award
  - National Association of Economic Educators
- Susan Sherry
  - Siocon Professional Excellence Award
  - Alfred Lerner College of Business & Economics
- Barbara Emery
  - Bessie B. Moore Service Award
  - National Association of Economic Educators and Council for Economic Education
- Scott Bacon
  - Community Uplift Award, Early College High School at Delaware State University

**thanks for partnering!**
- Adopt-A-Family
- Alfred Lerner College of Business & Economics
- American Spirit Federal Credit Union
- Artisans’ Bank
- Bank of America
- Barclays Bank Delaware
- Brown Brothers Harriman Trust
- Bryn Mawr Trust Company
- CNB Bank
- Citi
- Capital One
- Council for Economic Education
- County Bank Delaware
- DEGA Federal Credit Union
- Delaware Bank
- Commissioner’s Office
- The Delaware Bankers Association
- Delaware Council on Economic Education
- Delaware Dept. of Education
- Delaware Financial Literacy Institute
- Delaware Geographic Alliance
- The Democracy Project at UD
- Discover Economic Ventures
- Federal Reserve Bank of Philadelphia
- Federal Reserve Bank of St. Louis
- Foundation for Teaching Economics
- Fulton Bank
- Guidewell Financial Solutions
- HSBC
- Horn Program in Entrepreneurship
- Investor Protection Unit of the Delaware Dept. of Justice
- JPMorgan Chase
- Lourdes Federal Credit Union
- Lyons Companies
- M&T Bank
- MidCoast Community Bank
- New Castle County School Employees Federal Credit Union
- Northern Trust Company
- PNC Bank
- SIFMA
- Social Studies Coalition of Delaware
- Sussex County Council
- Community Development TD Bank
- UD Department of Economics
- UD Professional Development Center for Educators
- WSFS Bank
- Wells Fargo
- Wilmington Trust Co.
#1
Some Students Don’t Like Economics

Though I walk to the valley of death, I fear no evil
#economicsfinal #gunnafailthis
He's very strict, attendance is required and there's a seating chart even though it's like a class of 400. He's nice though, and can be very helpful if you need the help. His class is extremely hard though and so are the tests. I think I would have really enjoyed the class if it would have been a different subject.
Some Students Are Not Prepared for Class
"List all the resources you use for school, be as detailed as possible"

"Of the resources you just listed, which one provides the greatest value in your educational success? Why?"

"Of the resources you just listed, which one provides the least value in your educational success? Why?"
"List **all** the resources you use for school, be as detailed as possible"

"Of the resources you just listed, which one provides the **greatest value** in your educational success? Why?"

"Of the resources you just listed, which one provides the **least value** in your educational success? Why?"
"List all the resources you use for school, be as detailed as possible"

"Of the resources you just listed, which one provides the greatest value in your educational success? Why?"

"Of the resources you just listed, which one provides the least value in your educational success? Why?"
Potential SOLUTION?

Blended (Hybrid) Learning

Blended courses combine online and in-class instruction with reduced in-class seat time

(National Center for Education Statistics; Parsad, Lewis, & Tice, 2008)
The choice of reduced seat time in a blended course

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A R T I C L E   I N F O

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Seat time
Online materials
Attendance

A B S T R A C T

Two instructional features are available to students in blended courses that are not present in traditional courses. First, online content is available with the intent that it substitutes for a portion of face-to-face lectures or other in-class types of material delivery. Second, in-class seat time in a blended course is reduced as compared to a traditional version of a course. In this study, we explore student choices of reduced seat time in a blended course that does not have a punitive attendance policy, uses online lectures rather than in-class lectures, and conducts alternative, but optional, in-class activities. After taking into account the skip rate that occurs in the traditional version of the course, we find an interval estimate of 49% to 63% for the mean reduction in seat time chosen by students in the blended version of the course. Also, using empirical models of attendance, we find that student use of online materials contributes in a positive way to class attendance.
<table>
<thead>
<tr>
<th>Study</th>
<th>Course subject</th>
<th>Traditional seat time</th>
<th>Blended seat time</th>
<th>Percent reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashby et al. (2011)</td>
<td>Mathematics</td>
<td>3 hours/week</td>
<td>1.5 hours/week</td>
<td>50%</td>
</tr>
<tr>
<td>Bergstrom (2011)</td>
<td>Cell Biology</td>
<td>5 hours/week</td>
<td>2.5 hours/week</td>
<td>50%</td>
</tr>
<tr>
<td>Cybinski and Selvanathan (2005)</td>
<td>Statistics</td>
<td>4 hours/week</td>
<td>3 hours/week</td>
<td>25%</td>
</tr>
<tr>
<td>Dowling et al. (2003)</td>
<td>Accounting</td>
<td>3 hours/week</td>
<td>1.5 hours/week</td>
<td>50%</td>
</tr>
<tr>
<td>Keller et al. (2009)</td>
<td>Accounting</td>
<td>2 meetings/week</td>
<td>1 meeting/week</td>
<td>50%</td>
</tr>
<tr>
<td>Klein et al. (2006)</td>
<td>Business</td>
<td>2 meetings/week</td>
<td>1 meeting/week</td>
<td>50%</td>
</tr>
<tr>
<td>Larson and Sung (2009)</td>
<td>MIS$^a$</td>
<td>13 meetings/term</td>
<td>8 meetings/term</td>
<td>38%</td>
</tr>
<tr>
<td>Lin (2008)</td>
<td>Technology</td>
<td>3 meetings/week</td>
<td>2 meetings/week</td>
<td>33%</td>
</tr>
<tr>
<td>Lovett et al. (2008)</td>
<td>Statistics</td>
<td>60 meetings/term</td>
<td>16 meetings/term</td>
<td>73%</td>
</tr>
<tr>
<td>McFarlin (2008)</td>
<td>Physiology</td>
<td>3 hours/week</td>
<td>1.5 hours/week</td>
<td>50%</td>
</tr>
<tr>
<td>McKenzie et al. (2013)</td>
<td>Psychology</td>
<td>3 hours/week</td>
<td>2 hours/week</td>
<td>33%</td>
</tr>
<tr>
<td>Melton et al. (2009)</td>
<td>Health</td>
<td>2 meetings/week</td>
<td>1 meeting/week</td>
<td>50%</td>
</tr>
<tr>
<td>Moore and Gilmartin (2010)</td>
<td>Geography</td>
<td>2 hours/week</td>
<td>1 hour/week</td>
<td>50%</td>
</tr>
<tr>
<td>Napier et al. (2011)</td>
<td>Computing</td>
<td>3 meetings/week</td>
<td>2 meetings/week</td>
<td>33%</td>
</tr>
<tr>
<td>Pereira et al. (2007)</td>
<td>Anatomy</td>
<td>45 hours/term</td>
<td>33 hours/term</td>
<td>27%</td>
</tr>
<tr>
<td>Riffell and Sibley (2005)</td>
<td>Biology</td>
<td>2.5 hours/week</td>
<td>50 minutes/week</td>
<td>67%</td>
</tr>
<tr>
<td>Scida and Saury (2006)</td>
<td>Spanish</td>
<td>5 hours/week</td>
<td>3 hours/week</td>
<td>40%</td>
</tr>
<tr>
<td>Senn (2008)</td>
<td>Technology</td>
<td>15 meetings/term</td>
<td>5 meetings/term</td>
<td>67%</td>
</tr>
<tr>
<td>Utts et al. (2003)</td>
<td>Statistics</td>
<td>200 minutes/week</td>
<td>80 minutes/week</td>
<td>60%</td>
</tr>
<tr>
<td>Ward (2004)</td>
<td>Statistics</td>
<td>2.5 hours/week</td>
<td>1.25 hours/week</td>
<td>50%</td>
</tr>
</tbody>
</table>

$^a$ MIS — Management Information Systems.
Mean Reduction in Seat Time

49% - 63%

<table>
<thead>
<tr>
<th>Monday (Tuesday)</th>
<th>Wednesday (Thursday)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Green</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monday</th>
<th>Wednesday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Red</td>
<td>Green</td>
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<tbody>
<tr>
<td>Red</td>
<td>Green</td>
<td>Red</td>
</tr>
</tbody>
</table>
Student Hits in an Internet-Supported Course: How Can Instructors Use Them and What Do They Mean?

Dan Baugher, Andrew Varanelli, and Ellen Weisbrod
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ABSTRACT

The world of education is changing as Web-based technology and courseware are increasingly used for delivery of course material. In this environment, instructors may need new measures for determining student involvement, and ultimately student performance. This study examines whether hits to a Web site have any value for predicting student performance in a traditional course supported by Web activities. Total hits at the end of the semester was used as one measure. Hit Consistency, determined by assigning a 0 when no hits occurred between class meetings and by assigning a 1 when one or more hits occurred between class meetings, was another. Hit Consistency was significantly correlated with course average ($r = .37, p < .001$) for 108 students in two course sections. Hit Consistency started to show a significant relationship with course average by the third week of the course. Total hits was not found to significantly correlate with course average ($r = .08, p > .05$) at the end of the semester or during any week. These results suggest that students who consistently access a Web site will perform better than those who do not. When Hit Consistency and Total Hits were entered as independent variables into a stepwise regression with course average as the dependent variable, the model was enhanced by the addition of Total Hits after Hit Consistency was entered ($R^2 = .43, p < .001$). Hierarchical regression analysis in which cumulative grade point average was entered as the first controlling variable suggested that online access may go beyond the predictive value of achievement alone for predicting course performance with Hit Consistency appearing to be the dominant causal variable.

Subject Areas: Academic Achievement, Courseware, Distance Education, Hierarchical Regression, Hit Consistency, Student Involvement, Student Performance, Total Hits, and Web-Based Technology.

INTRODUCTION

Throughout the 1990s and into the new millennium, thousands of college teachers have taken advantage of a new generation of software tools that are designed for courses for instructors. In fact, the report of the Web-Based Education Commission (2000) to the president and the Congress of the United States indicated that nearly 49% of all college classes used Internet resources as part of the syllabus in 1999, compared with 15% in 1996. Similarly, two-fifths (42.7%) of college courses now use Web resources as a course component, up from 10.9% in 1995, 33.1% in 1998, and 38.9% in 1999 (Web-Based Education Commission, 2000). Much of this growth is due to...

EMPIRICAL RESEARCH

Access Patterns of Online Materials in a Blended Course

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ABSTRACT

Patterns in student accesses of online materials and their effects upon student performance in a blended course are examined. Our blended course is an introductory business and economic statistics course where lectures are only available online while the traditional class period is used for complementary learning activities. Timing, volumes, intensity, and consistency of the student accesses of the online lectures are considered. Using theivariate and multivariate analyses, measures of timing and consistency are shown to be related to student performance but volumes and intensity of accesses are not.

Subject Areas: Blended Courses, Business Statistics, Online Accesses, Student Performance.

INTRODUCTION

The blended format of instruction has grown rapidly in popularity within higher education. A report from the National Center for Education Statistics defines blended courses as combining online and in-class instruction with reduced in-class seat time (Parad, Lewis, & Tice, 2008). According to the report, 35% of the estimated 4,160 2- and 4-year post-secondary institutions in the nation offered blended courses at either the undergraduate or post-graduate level. Among institutions with more than 10,000 students, 64% of them offered blended courses. The spread of the blended format is not surprising given its many attractive characteristics. For example, Garrison and Kanuka (2004) and Klein, Noc, and Wang (2006) describe the format as having transformative potential by providing learners with a greater sense of independence, responsibility, and control, and by enhancing their levels of critical and reflective thinking. Despite the many positive attractions of the blended format, the transition to it is not necessarily smooth. Garrison and Kanuka (2004) outline some of the challenges that accompany the development...
**how online engagement works**
Connect looks for patterns of online student activity to determine the engagement level of the student, including such events as the frequency of logins and assignment submission. Other factors that may affect prediction include special events or manual grading.

**how to improve student performance**
The more you use Connect in your course, the more opportunities Connect has to measure online engagement. By the second or third week of the term, Connect should have enough data to track students that have low online engagement. Click the "send message to student" button to convey your concern to the affected student(s).
Comparing student performance in blended and traditional courses: Does prior academic achievement matter?

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Zones
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ABSTRACT

The performance of students in blended and traditional versions of a collegiate course is compared within the context of students’ prior academic achievement. The blended version of the course used flipped and flexible instructional modes, in which only online lectures were available, class periods were used for complementary learning activities, and there was no punitive attendance policy. Significant differences in student performance between the blended and traditional versions were found within two of three zones of grade point averages. At low grade point averages, performance was higher in the traditional version of the course. At high grade point averages, performance was higher in the blended version. No significant difference was detected in the middle zone of grade point averages. Predictive models of student performance were also prepared for the two versions of the course. Partial effects from measures of prior academic achievement upon performance in the blended version were significantly different from partial effects provided by the same measures in the traditional version of the course.

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<table>
<thead>
<tr>
<th>Study</th>
<th>Course type with significantly higher performance</th>
<th>Course subject</th>
<th>Performance measure</th>
<th>Basis of comparison</th>
<th>Controls or covariates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albert and Beatty (2014)</td>
<td>Blended (in two of three exams)</td>
<td>Management</td>
<td>Exam scores</td>
<td>Means</td>
<td>None</td>
</tr>
<tr>
<td>Alonso et al. (2011)</td>
<td>Blended</td>
<td>Computing</td>
<td>Course grade</td>
<td>Means</td>
<td>None</td>
</tr>
<tr>
<td>Al-Qahtani and Higgins (2013)</td>
<td>Blended</td>
<td>Culture</td>
<td>Course grade</td>
<td>Means</td>
<td>None</td>
</tr>
<tr>
<td>Baepler et al. (2014)</td>
<td>Blended (in one of two sections)</td>
<td>Chemistry</td>
<td>Exam score</td>
<td>Means indicator</td>
<td>ACT, GPA, age, gender, science major, ethnicity</td>
</tr>
<tr>
<td>Dowling, Godfrey, and Cyles (2003)</td>
<td>Blended</td>
<td>Accounting</td>
<td>Course grade</td>
<td>Indicator variable in regression</td>
<td>Age, gender, full time student, grade in prerequisites</td>
</tr>
<tr>
<td>Lewis and Harrison (2012)</td>
<td>Blended</td>
<td>Social Science</td>
<td>Course point total</td>
<td>Means</td>
<td>None</td>
</tr>
<tr>
<td>McFarlin (2008)</td>
<td>Blended</td>
<td>Physiology</td>
<td>Course point total</td>
<td>Means</td>
<td>None</td>
</tr>
<tr>
<td>Melton, Graf, and Chopak-Foss (2009)</td>
<td>Blended</td>
<td>Health</td>
<td>Course grade</td>
<td>Means</td>
<td>None</td>
</tr>
<tr>
<td>Pereira et al. (2007)</td>
<td>Blended</td>
<td>Anatomy</td>
<td>Exam scores</td>
<td>Means</td>
<td>None</td>
</tr>
<tr>
<td>Riffell and Sibley (2005)</td>
<td>Blended</td>
<td>Biology</td>
<td>Post-test score</td>
<td>Indicator variables in regression</td>
<td>Pre-test score, gender, attendance, class standing, online experience, commuter student</td>
</tr>
<tr>
<td>Ashby, Sadera, and McNary (2011)</td>
<td>Neither</td>
<td>Mathematics</td>
<td>Course average</td>
<td>Means</td>
<td>Age, gender</td>
</tr>
<tr>
<td>Bergstrom (2011)</td>
<td>Neither</td>
<td>Cell Biology</td>
<td>Exam average</td>
<td>Means</td>
<td>None</td>
</tr>
<tr>
<td>Cybinski and Selvanathan (2005)</td>
<td>Neither</td>
<td>Statistics</td>
<td>Final exam</td>
<td>Means</td>
<td>None</td>
</tr>
<tr>
<td>Delialiloglu and Yildirim (2008)</td>
<td>Neither</td>
<td>Computing</td>
<td>Post-test score</td>
<td>Means (in ANCOVA)</td>
<td>GPA, pre-test score</td>
</tr>
<tr>
<td>Keller, Jassell, Webber, and Johnson (2009)</td>
<td>Neither</td>
<td>Accounting</td>
<td>Course grade</td>
<td>Indicator variable in regression</td>
<td>Grade in prerequisite course, gender, transfer student, SAT</td>
</tr>
<tr>
<td>Larson and Sung (2009)</td>
<td>Neither</td>
<td>MIS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Course grade</td>
<td>Means</td>
<td>None</td>
</tr>
<tr>
<td>Utts et al. (2003)</td>
<td>Neither</td>
<td>Statistics</td>
<td>Pre-test, post-test, final exam</td>
<td>Means (in ANCOVA)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>GPA, class standing</td>
</tr>
<tr>
<td>McDonough et al. (2014)</td>
<td>Traditional</td>
<td>Psychology</td>
<td>Exam average</td>
<td>Means</td>
<td>None</td>
</tr>
<tr>
<td>Senn (2008)</td>
<td>Traditional</td>
<td>Technology</td>
<td>Course grade</td>
<td>Means</td>
<td>None</td>
</tr>
</tbody>
</table>

<sup>a</sup> MIS – management information systems.

<sup>b</sup> ANCOVA – analysis of covariance.
Table 2
Student characteristics, means.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Blended&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Traditional&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Difference</th>
<th>t-statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>20.01</td>
<td>20.02</td>
<td>-0.01</td>
<td>-0.07</td>
<td>0.94</td>
</tr>
<tr>
<td>Total credit hours</td>
<td>39.86</td>
<td>40.22</td>
<td>-0.36</td>
<td>-0.28</td>
<td>0.78</td>
</tr>
<tr>
<td>Semester credit hours</td>
<td>13.57</td>
<td>13.74</td>
<td>-0.17</td>
<td>-0.90</td>
<td>0.37</td>
</tr>
<tr>
<td>Transfer credit hours</td>
<td>19.41</td>
<td>21.84</td>
<td>-2.43</td>
<td>-1.36</td>
<td>0.17</td>
</tr>
<tr>
<td>Grade point average</td>
<td>3.28</td>
<td>3.28</td>
<td>0.00</td>
<td>0.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Math quiz score (of 16)</td>
<td>11.78</td>
<td>11.54</td>
<td>0.24</td>
<td>1.08</td>
<td>0.28</td>
</tr>
<tr>
<td>Calculus grade&lt;sup&gt;b&lt;/sup&gt;</td>
<td>9.10</td>
<td>8.93</td>
<td>0.17</td>
<td>0.80</td>
<td>0.43</td>
</tr>
<tr>
<td>ACT math score</td>
<td>25.38</td>
<td>25.33</td>
<td>0.05</td>
<td>0.15</td>
<td>0.88</td>
</tr>
<tr>
<td>ACT composite score</td>
<td>25.27</td>
<td>24.95</td>
<td>0.32</td>
<td>1.00</td>
<td>0.32</td>
</tr>
<tr>
<td>Course points (of 160)</td>
<td><strong>118.86</strong></td>
<td><strong>117.81</strong></td>
<td><strong>1.05</strong></td>
<td><strong>0.63</strong></td>
<td>0.53</td>
</tr>
<tr>
<td>Attendance percent</td>
<td>46.2</td>
<td>87.9</td>
<td>-41.7</td>
<td>-22.55&lt;sup&gt;c&lt;/sup&gt;</td>
<td>≈ 0.00</td>
</tr>
</tbody>
</table>

<sup>a</sup> Sample sizes: blended 347; traditional 257.

<sup>b</sup> To calculate means, letter grades were converted to numeric values: F = 1; D− = 2; D = 3; D+ = 4; ...; A+ = 13.

<sup>c</sup> Significance level - 0.01.
how online engagement works
Connect looks for patterns of online student activity to determine the engagement level of the student, including such events as the frequency of logins and assignment submission. Other factors that may affect prediction include special events or manual grading.

how to improve student performance
The more you use Connect in your course, the more opportunities Connect has to measure online engagement. By the second or third week of the term, Connect should have enough data to track students that have low online engagement. Click the "send message to student" button to convey your concern to the affected student(s).
What Can We Do?

• Offering a “peer-learning” program
  • Broadbent and Poon (2015) – Lit. Review
  • Matching with previous students (mentors)
    Physical or virtual environments

• Encouraging students to read and post messages (Zacharis, 2015)
  • Increase student engagement
  • Allows for peer mentoring
  • Creates a sense of community (Bower, 2015)

• Offering low/no stakes online assignments
  • Safe environment to increase student engagement (Zacharis, 2015)
Prior Online and Blended Experience: Does it Affect Outcomes in a Blended Course

Carlos J. Asarta, Ph.D., University of Delaware
James R. Schmidt, Ph.D., University of Nebraska-Lincoln
<table>
<thead>
<tr>
<th>Monday (Tuesday)</th>
<th>Wednesday (Thursday)</th>
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<td></td>
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</tbody>
</table>
Introductory Videos

Module 1 Fundamentals, due 09/07

Module 2 Demand & Supply, due 09/14

Module 3 Market Equilibrium and Policy, due 09/21

Market Equilibrium and Policy Videos - No Grade
8/29/2016-12/31/2016

Module 3 - Market Equilibrium and Policy
9/14/2016-9/21/2016

Module 4 Market Efficiency, due 09/28
Show how the supply curve changes in response to nonprice determinants.

Definitions

An increase in the quantity of a good, service, or resource supplied at every price. Graphically, an increase in supply is represented by a rightward shift of the supply curve.
The videos for production & the module were very helpful for learning production. They taught me everything I needed to know about production in about 1 hour that my high school Micro teacher took weeks to teach. It simplified the main topics and was very easy to understand.
The One-Minute Paper: Some Empirical Findings

John F. Chizmar and Anthony L. Ostrosky

A major finding of the Harvard Assessment Seminars is that "modest, relatively simple and low-tech innovations can improve students' learning and active participation in class" (Light 1990, 6). One such innovation is the so-called one-minute paper (Cross and Angelo 1988; Bateman and Roberts 1992a, 1992b; Wilson 1986).

The one-minute paper has become rather ubiquitous in higher education. According to Cross and Angelo (1993, 148), "No other Classroom Assessment Technique has been used more often or by more college teachers than the [One] Minute Paper." When asked by college teachers to identify the single pedagogical innovation that would most improve their teaching, Light (1990, 35) always responds with the one-minute paper, an idea that "swamped all others."

In this article, we describe the one-minute paper and report on a pilot implementation of this technique to manage instruction in the micro portion of the introductory economics course at a large public university. We conclude with a discussion of issues and questions revealed by the pilot implementation that may affect the efficacy of the one-minute paper.

THE ONE-MINUTE PAPER—WHAT IS IT?

The one-minute paper is a "modest, relatively simple and low-tech" innovation designed to obtain regular feedback from students. In the final minute or two of class, the teacher asks students to respond to the following two questions:

John F. Chizmar and Anthony L. Ostrosky are professors of economics at Illinois State University, Normal, Ill. The authors wish to thank Lon Carlson, Mark S. Wilbert, Peter Kennedy, and two anonymous referees for particularly helpful criticisms of earlier drafts of this article.

Winter 1998
3 Questions

1. What did you learn today?

2. What is still unclear?

3. Questions, concerns, issues, problems, & other feedback
In the second episode of the Economic Lowdown Video Series, economic education specialist Scott Wolla explains the concept of demand. Viewers will learn how a change in the price of a good affects the quantity of the good consumers will buy and how changes in market conditions affect the demand for a good.

To provide students with online questions following this video, register your class through the Instructor Management Panel.

More about the Video Q & A for Teachers and Students.
Overview By Assignment
View individual student progress for each assignment. Send .csv by email.

Performance Summary
Identify at risk and on track students by monitoring their current progress and tracking time spent in their assignments. Send .csv by email.

Student Progress by Topic
View individual student details and completion level breakdown for each topic. Send .csv by email.

Section Averages by Topic
View information on how your class performed on each of the assigned topics. Send .csv by email.

Metacognitive Skills
View statistics on how knowledgeable your students are about their own comprehension and learning. Send .csv by email.

Student Progress by Unit
View individual student progress for each unit. Send .csv by email.

Most Challenging Learning Objectives

History is being made in more ways than one.

We knew going in that this year’s World Series would be historic. The series features the Chicago Cubs and the Cleveland Indians, two championship-deprived franchises that haven’t won Major League Baseball titles since 1908 and 1948, respectively.

Based on how long fans have waited for their teams to win it all, we also had a pretty good idea that World Series ticket prices would be insane. And sure enough, they’ve been insane on a historic level. Ticket prices on the secondary market for the games in Cubs-crazed Chicago have been listed at an average of over $6,000 in the lead up to the series.
AT&T Agrees to Buy Time Warner for $85.4 Billion

By MICHAEL J. de la MERCED  OCT. 22, 2016

The headquarters of Time Warner in New York. Today’s Time Warner is the byproduct of many rounds of spinoffs and acquisitions. Adrees Latif/Reuters
Venezuelans Give Up on Counting Piles of Cash and Start Weighing Them
Download, graph, and track 418,000 US and International time series from 79 sources.

Search FRED data e.g., gdp, inflation, unemployment

Browse data by Tag, Category, Release, Source, Release Calendar or Get Help

FRED News
State Street Inflation Data To Be Removed from FRED
FRED-MD Has Been Updated
FRED Blog
The problem with U-U
Research News
Inflation

Embedded FRED
Include FRED's 6 most popular series on your web site or blog.
The author discusses a pedagogical strategy based on data visualization and analysis in the teaching of intermediate macroeconomics and financial economics. In these short projects, students collect and manipulate economic data from the online Federal Reserve Economic Database (FRED) in order to illustrate theoretical relationships discussed in class. All the data collection and manipulation tasks are conducted through the FRED Web site. The author argues that as students locate and effectively use the quantitative information that they need to evaluate abstract concepts, they are in effect developing the connection between theories and empirical evidence that underpins the discipline of economics.

**Keywords**  data analysis, data manipulation, financial economics, intermediate macroeconomics

**JEL codes**  A22, C82, G12, G14, G15
Teaching Introductory Economics with FRED
Elasticity

Activity Title
Price Elasticity of Demand

Summary
This activity plots two series of economic data related to the concept of price elasticity of demand and downloads the data to compute the price elasticity of demand according to both the simple formula and the midpoint formula.

This activity plots an index of personal quantity expenditure on fuel in the U.S. and compares its evolution to that of gasoline prices.

This activity is suitable for addressing each of the following questions:

1. How are fuel expenditures related to changes in gasoline prices?

2. How has the price elasticity of demand for fuel changed after the 2008-2009 recession?

Difficulty
Moderate to High
MARKET EQUILIBRIUM & POLICY
IN-CLASS WORKSHEET 3

This question examines the market for smartphones. You will use the quantity demanded and the quantity supplied at different prices to identify the equilibrium price and to examine what happens when the market price does not equal the market price.

Below, you are provided with the quantity of smartphones demanded and supplied. This data is obtained from points on the demand and supply curves in the market for smartphones.

<table>
<thead>
<tr>
<th>Price (per smartphone)</th>
<th>Quantity of Smartphones Demanded</th>
<th>Quantity of Smartphones Supplied</th>
</tr>
</thead>
<tbody>
<tr>
<td>$150</td>
<td>1,100</td>
<td>200</td>
</tr>
<tr>
<td>200</td>
<td>1,000</td>
<td>400</td>
</tr>
<tr>
<td>250</td>
<td>900</td>
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<tr>
<td>300</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>350</td>
<td>700</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Task 1: When the price of a smartphone is $200, what is the quantity of smartphones demanded, and what is the quantity supplied? Should you expect the price of smartphones to rise or fall?

Task 2: When the price of a smartphone is $350, what is the quantity of smartphones demanded, and what is the quantity supplied? Should you expect the price of smartphones to rise or fall?

Task 3: What is the equilibrium price of a smartphone? At this price, what is the quantity of smartphones demanded, and what is the quantity supplied?
MARKET EQUILIBRIUM & POLICY
IN-CLASS WORKSHEET 2

This question examines the market for bananas. You will use the formulas for a demand and supply curve to identify the quantity of bananas demanded and the quantity of bananas supplied at different prices.

Below, you have the formulas for the demand curve and the supply curve for pounds of bananas. If you plug any price into the formula for the demand function, you get the quantity demanded at that price. If you plug any price into the supply function, you get the quantity supplied at that price.

The Demand Function for bananas:

\[ Q = 25 - 2P \]

The Supply Function for bananas:

\[ Q = 3P \]

Task 1: Use the table below to find the quantity demanded and the quantity supplied of pounds of bananas at each price.

<table>
<thead>
<tr>
<th>Price (per pound of bananas)</th>
<th>Quantity of Bananas Demanded (pounds)</th>
<th>Quantity of Bananas Supplied (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
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<tr>
<td>8</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Task 2: At a price of $4, is there a shortage or surplus of bananas? How many pounds?

Task 3: At a price of $8, is there a shortage or surplus of bananas? How many pounds?
Lesson Plans

The Foundation for Teaching Economics is pleased to make available to teachers the content outlines, classroom activities, and teacher materials (demonstration videos and lecture presentations) for all of our residential, one-day, and online curricula. Each curriculum topic link on the left connects you to an overview and table of contents. From there, you may:

- browse the lessons as web pages;
- access download links for lessons as editable word documents;
- use live source links to update statistical data;
- print instructions and student handouts for classroom activities; and
- review and prepare for your classroom by reviewing activity videos and powerpoint lectures.

All FTE curriculum materials are copyright released for classroom use, and are freely editable.

The FTE encourages you to explore and adapt the lessons to fit the demands of your curriculum and standards and the unique needs of your students.
# Trading Game

<table>
<thead>
<tr>
<th>VALUE</th>
<th>INITIAL</th>
<th>COMPARE</th>
<th>A/B/C/D</th>
<th>AB/CD</th>
<th>ABCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>II</td>
<td>?</td>
<td>III</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>III</td>
<td>?</td>
<td>1111</td>
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<td>?</td>
<td>1111</td>
<td>III</td>
<td>I</td>
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<tr>
<td>TOTAL</td>
<td>Sum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
THE CONCLUSION
1. Some students don’t like econ or don’t come prepared to class
2. Chalk and talk
3. Digital-minded students
4. Blended Learning – Potential Solution
   - Flip-flex
   - 50% reduction seat time
   - Consistency + Timing (48-hour rule) are critical
   - Prior online experience not necessary
5. What to do in class?
   - Mini lecture
   - Current events
   - FRED applications
   - Worksheets
   - Activities/Experiments
   - Discussions
Thank You

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Twitter: @professorasarta