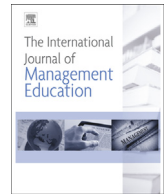


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## Research Notes

# Instruction of economics at higher education: A literature review of the unchanging method of “talk and chalk”



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## ABSTRACT

The purpose of this review was to examine what the existing literature says about the current teaching practices in economics, and what alternative ways might be available besides the predominant lecture method (“chalk and talk”). The findings of this review are, a) the lecture method continues being the preferred method of instruction in economics; b) a number of different teaching techniques have been tried, with mixed results; and c) a multiple-method teaching technique is recommended based on research findings.

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## 1. Introduction

Instruction of economics as a business foundational course has not been impressive. Recent research has found that the subject of economics and the quality of instruction has been consistently ranked among the lowest by undergraduate students in colleges and universities in the United States (Becker & Watts, 2001b; Cashin, 1990; Onger, 2009). Due to this poor ranking, there has been an increased effort to understand the reasons behind why students have such a negative perception of the subject of economics (Onger & Edward, 2006). Literature reviewed, reveal that several explanations have been explored. Among the main issues explored however, lecture (talk and chalk) method of instruction seems to be prominently addressed.

To date, the “chalk-and-talk” approach is predominantly used in teaching economics. For example, a 1996 (and repeated in 2000, 2005 and 2010) national survey of 628 economics instructors, found that instructors spent an average of 83% of their class time lecturing (Becker & Watts, 2001a). As in the liberal philosophy of education (Merriam & Simpson, 2000), where learners are assumed to come to class with little or no prior knowledge of the subject, and the instructor is for long seen as an expert equipped with textbook knowledge to deposit (bank) into students, learners' views are hardly considered in economics teaching, which gives a disturbing picture (Walstad & Watts, 1985). In response to this concern, there has been a growing body of research about finding ways to improve teaching in economics departments. As Becker & Watts argue, “changing teaching methods and increasing the importance of teaching within economics departments, in response to falling enrollments, is a plausible and endogenous response for faculty members and departments” (Becker & Watts, 2001a, p. 446). The purpose of this review therefore, is to explore what literature says about the teaching of economics. In the following sections of this paper, I will present, the method used in selecting literature, findings of the review, and a discussion.

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## 2. Selecting literature for review

To identify appropriate literature for review, there was an initial search of a variety of databases, including ERIC, Econlit, Proquest, and dissertation and abstracts databases, using a combination of three descriptors: “teaching economics, or learning in economics. Four criteria were then used in selecting relevant articles from a pool of studies. First, the articles had to be published no later than 1985, providing a definitive time frame of slightly over 30 years of review. Second, the studies reviewed had to have utilized data derived from teaching at a higher education level (post-high school). Third, the articles had to directly address teaching and/or learning in economics or a business related course. And fourth, the article had to have a definitive methodology and results/findings section. Using the above criteria, a total of 39 studies qualified for review.

Although the studies reviewed explored a wide range of issues that are related to the current concerns in the teaching of economics, four broad themes emerged. These themes are: the nature and characteristics of a typical introductory economics class, and identifying what is unique to an economics class (Becker & Watts, 2001a; 2001b; Boex, 2000; Allgood, Walstad, & Siegfrie, 2015; Guest & Duhs, 2002; Watts & Becker, 2008; Grimes, Millea, & Woodruff, 2004; Goffe, 2014); instructors' attributes as a factor in teaching economics (Becker & Watts, 2001a; Boex, 2000; Dynan & Rouse, 1997; Saunders, 2001; Velasco, Martinez, & Ferrero, 2012); the assessment, testing, and overall scholarship in the teaching of economics, dealing with who should determine the curriculum, what should be taught, and how should it be taught and assessed or tested (Alauddin & Butler, 2004; Anderson & Siegfried, 1997); and the current and potential teaching techniques in economics (Christoffersen, 2002; Hervani & Helms, 2004; Saunders & Christopher, 2003; Smith, 2002; Yamarik, S. 2007).

## 3. Findings

### 3.1. Nature and characteristics of a typical economics class

The first theme focuses on studies that identify the characteristic(s) that are unique to an introductory economics class. In other words, what is unique about teaching economics as opposed to other college level classes? Most of the characteristics identified pertain to subject content; student expected preparedness, and other teacher expectations (Johnston, James, Lye, & McDonald, 2000; Smith, 2002). Despite the institutional differences, the size of class, or even the instructor's teaching load, teaching in economics is usually structured around formal mathematical and/or statistical models. Conceptually, introductory economics is perceived as boring by students, because they do not know the discourse of these mathematical models (Colander, 2000; Lay, 1993). This is further compounded by the fact that there is a perception that to learn economics successfully, students need to have the ability for both abstract thinking and application of learned materials. Students in economics are expected, and sometimes assumed, to be capable of expressing complex ideas logically and eloquently. However, the development of these skills is not easily learned, and students often feel intimidated when they are unable to meet this expectation. For example, Lay (1993), in a study to identify personal and institutional characteristics that significantly contributed to the use of mathematics in teaching principles of economics, found that some instructors use mathematics as a tool for eliminating potentially unsuccessful students from the major. Arguably, this may be the reason why, consequently, students end up viewing economics as a difficult course, which should be left to persons who are gifted in math. Caropreso and Haggerty (2000) states, “because economics is an abstract, theoretical field of study, beginning students especially find it difficult to learn the fundamental content” (p.1).

A closely related factor is that most introductory economics classes use a standard textbook as the main resource for students' learning. The over-reliance on standard texts effectively places a restriction on instructors who may want to be innovative by soliciting ideas from other sources of learning, like the Internet, magazines, and/or movies, but feel obliged to follow the textbook contents as if it were a curriculum for the course. Because of the course content and textbook constraint, most economics professors prefer to lecture, instead of using other, more stimulating, techniques that are available and often used in other social science classes (Becker & Watts 2001a, b; Smith, 2002).

### 3.2. Instructor's attributes as a factor in teaching economics

Several studies have explored attributes or qualities of an effective economics instructor (Dynan & Rouse, 1997; Finegan & Siegfried, 1998, 2000; Saunders, 2001). The typical image of a U.S. undergraduate economics teacher continues to be a male, Caucasian, Ph.D. degree-holder, who has not written or edited a book within the past five years, who lectures to a class of students as he writes text, equations, or graphs on the chalkboard, and who assigns students readings from a standard textbook (Becker & Watts, 2001a). A number of scholars (Boex, 2000; Finegan & Siegfried, 1998; Saunders, 2001) have researched different attributes of effective economics instructor separately, and arrived at varied conclusions. For example, data from student evaluation of instructors (SEI) at Georgia State University showed that the most important attribute of an effective instructor is organization and clarity of material (Boex, 2000).

It has also been shown that a positive relationship exists between course grade and pre-course students' attitudes toward economics and instructors of economics. Furthermore, the incidences of taking additional economic courses were positively and significantly associated with various measures of student attitudes toward the course and the instructor's grading expectation and the expected grade. Studies have also been done to evaluate instructors' from the students/instructor perceptions and subject contents perspective (Boex, 2000; Bosshardt & Watts, 2001; Johnston, McDonald, & Williams, 2001). In

looking at the differences between instructors and students' perceptions of what constitutes good teaching, [Bosshardt and Watts \(2001\)](#) found that, although students' and instructors' perceptions of how well the instructor teaches are different, they are actually positively correlated, and thus not in contradiction.

Using responses from students' evaluation of instructor (SEI) to evaluate the characteristics/attributes that are associated with effective teaching, [Boex \(2000\)](#) reported that the most important attribute of an effective instructor was organization and clarity. This was found to increase in importance as one move to more advanced levels of learning. Presentation of materials and the ability to motivate students were found to be the second and third most important instructor characteristics, while grading and assignments were ranked fourth. If students expected a bad grade, it was indicative of a less effective assessment and, therefore, a poor evaluation for the instructor.

Another attribute of instructors that has received a substantial amount of attention is gender ([Anderson & Siegfried, 1997](#); [Dyan & Rouse, 1997](#)). Although no significant difference was found between the student ratings of male and female instructors of introductory economics, women received higher ratings than men on all instructor dimensions ([Anderson & Siegfried, 1997](#)). Being a male-dominated profession, it is encouraging to know that the few women who have ventured into the profession are viewed favorably. In addition to gender, research found that instructor ratings were not affected by their attributes of experience or rank ([Dyan & Rouse, 1997](#)). For example, a regression analysis found that, after controlling for other attributes of the instructor, school, and students, there was no significant difference in objective measures of learning between classes of economics taught by a Ph.D.-holder and similar classes taught by a master's degree-holder ([Finegan & Siegfried, 1998](#)).

Fluency of communication has also been reported to play a substantial role in student perceptions of the instructor ([Finegan & Siegfried, 2000](#); [Saunders, 2001](#)). Instructors who speak English as their native language, and who have good oratory skills, are generally rated as good teachers, while instructors for whom English is a second language are assessed as good teachers only on their grading rigor, and not on their overall teaching effectiveness ([Bosshardt & Watts, 2001](#)). Instructors of classes in introductory economics for whom English is a second language received significantly lower student rating, on average, than did other instructors ([Finegan & Siegfried, 2000](#)). This rating does not appear to depend on the quality of teaching ([Saunders, 2001](#)). Data collected from one unnamed university for six years covering classes taught by 97 instructors (62 native English speakers, and 35 non-English speakers) found no significant difference between introductory economics classes taught by instructors whose native language is English, and those taught by instructors for whom English is a second language. However, the same study found that students do give significantly better rating to instructors whose native language is English, than to those whose native language is not English.

### 3.3. Assessment, testing, and scholarship in teaching economics

Assessment and testing can be a powerful tool for both the students and the instructor in shaping the learning outcomes, and the learning approaches that students adopt in relation to a learning task. As covered in the literature, there are many forms of assessments used in economics courses ([Boex, 2000](#); [Hansen, 2001](#); [Smith, 2002](#); [Walstad, 2001](#)). The traditional standardized tests, like multiple-choice and true-false tests, which are predominantly used in economics, provide minimal direct feedback about instructor's teaching and course design. The advantage of this type of testing is that it gives the instructor the flexibility of setting more questions, potentially covering most of the material studied ([Hansen, 2001](#)). The counter-argument, as presented by Hansen, centers primarily on the fact that the multiple-choice and true-false assessments do not ensure the acquisition of knowledge to the same degree as the essays, short answers or direct clinical observations forms of assessments. This has led to advocacy for new standardized tests that allow learners to express themselves, such as essay type, as an alternative to multiple-choice/true-false tests ([Walstad, 2001](#)). Assessment, if effectively used, should be viewed from a multidimensional perspective ([Hansen, 2001](#)). However, in economics, studies have shown that assessment is rarely used for feedback purposes, but most often assessment here is used to gauge grade level attained by a learner ([Walstad, 2001](#)).

There are seven issues that are highly related to the assessment of undergraduate students of economics ([Walstad, 2001](#)). Included in these issues is the feeling that assessment is more than just testing or grading and when used appropriately, can inform the teaching practice through feedback. Instructors can use various forms of classroom assessment techniques to get feedback from students to find out whether they are effective.

### 3.4. Current and potential teaching techniques in economics

Currently, economics teaching is predominantly done by lecture method ([Becker & Watts, 2001a](#)). However, there have been increased efforts toward changing that pattern, through alternative teaching techniques. The essence of alternative teaching techniques is based on the fact that individuals perceive and process information in very many different ways. The learning styles theory has demonstrated that individuals learn differently under different environments.

Various teaching techniques that have great potential for teaching in economics that have been identified include, but are not limited to; collaborative problem-solving approach, service learning, lecture method, lecture plus, interactive role play, inverted classroom, technology based, case studies, and experiments, demonstrations and dramatizations ([Christoffersen, 2002](#); [Hervani & Helms, 2004](#); [Leeds, Stull, & Westbrook, 1998](#); [Loviscek & Cloutier, 1997](#); [Saunders & Christopher, 2003](#);

Smith, 2002; Wentland, 2004). For example, Bailey, Langdana, Rotonda, & Ryan's (1997) study found that the teaching method that incorporates multiple teaching techniques is the one that enhances long-term retention of course content.

For some time now, surveys have shown that lecture is the dominant method for teaching principles of economics (Watts and Schaur 2001a, b, 2011; Watts & Becker, 2008; Becker & Watts, 1996). In another study by William and Kauper (2014), this trend was confirmed; and lead to the authors asking an interesting question; "why do principles instructors teach the way they do"? To answer this question, they selected 340 respondents of principles instructors at the 2012 Allied Social Science Associations (ASSA) conference, and grouped them into thirds: one-third saying that students learn best from lecture; another third reporting that students do not learn best from lecture, but it is cost-effective; and the rest answering that students do not learn best from lecture, so alternatives are preferred. In that study, they discovered that lecture advocates often cite the inputs and costs of teaching while advocates of alternatives often cite student outcomes. The later, seems to have a comparing reason; since student outcome should supersede anything else. Other teaching techniques have since been tried with supporting evidence for mixed method teaching.

In an effort to identify methods of instruction that facilitate long-term retention of content, Bailey et al. (1997) surveyed 500 alumni of MBA programs from the 1990, 1991, and 1992 classes at Rutgers University. Using frequency and correlation analysis, they demonstrated that teaching methods that emphasize the four factors (traditional lectures and standard text, interactive discussions, rejuvenating interruptions as with story-telling, and use of relevant subject content) enhanced long-term retention of course material as well as the overall quality of the course. Interestingly, data from their study underscored the importance of basic methods of instruction such as lectures and standard textbook use. Although these methods appear to have fallen somewhat out of favor among education theorists, the study found that the alumni surveyed believed in the use of such basic modes of content delivery and retention of knowledge.

What is interesting is that, in spite of the attention given to alternative teaching methods in economics, there has been little or no change in the teaching of economics in college classrooms over the past several years (Becker & Watts, 2001b). A comparison of surveys of 1995 and 2000 found that, despite the attention given to cooperative learning methods, few professors of economics made adjustments in their teaching approach. Overall, there has been little effort to use alternative techniques, regardless of the type of institution or class size. It was further found that professors of economics rarely use press material like the Wall Street Journal, which gives the practical application of economics or American economic review for test questions.

This is a clear indication of lack of innovativeness in the teaching of economics. Although in their study, Leeds et al. (1998) found that active student-participation teaching techniques did not increase what students learned, neither did it improve student evaluation of their instructors. This study utilized data from three sources of an introductory economic class at Temple University, 1990–1994, including student evaluation of teaching (SET) economics department employment files and face-to-face or telephone interviews with instructors. Like Baumol (1988), who believes that there is "no magic formula for teaching economics," this study seemed to contradict Loviscek and Cloutier's (1997) study that evaluated the effectiveness of supplemental instruction in economics. Using a probit regression model and transcript data, Loviscek and Cloutier (1997) found that there is a significant difference between students who enrolled in the supplemental instruction (where other methods of instruction were employed) and those who did not enroll in the program. This would suggest that, unlike in Baumol's result; using active learning methods in economics education is preferred by students.

Similarly, Johnston's et al. (2000) research supports the use of innovation in teaching economics by evaluating a package of measures designed to introduce a collaborative problem-solving (CPS) approach to learning in economics. They also found that: a) the initiative was received positively, and that CPS led students to value more highly the performance of their tutors and to enjoy their tutorials more; b) the CPS package had a mixed effect on improving students' learning practices; and c) although there were no remarkable gains in examination marks for the local students, there was a significant improvement in the international students' examination performance. Overall, studies have demonstrated that there is a need for diverse teaching techniques to improve teaching economics.

#### 4. Discussion

From the review, one may conclude that instruction of economics needs to be changed. As instructors consider various techniques of instruction, they should also keep this in mind that learners will benefit from both what they do in and out of the classroom. Instead of the instructors deciding what learners should do in the learning process; they should also get help from learners even in selecting learning activities. Among the recommended teaching techniques is lecture plus (Wentland, 2004), where students are incorporated into the teaching/learning process through discussions and group activities; the collaborative problem-solving (CPS) approach, where students solve problems together in groups; service learning (McGoldrick, Battle, & Gallagher, 2000) which can also be seen as practical learning, interactive experiments, demonstrations, and dramatizations (Wentland, 2004). According to Becker and Watts (1996), "great orators should lecture, while the rest of us should consider using a variety of teaching methods to actively engage our students and reduce lecture time" (p.699).

Balaban, Gilleskie, and Tran (2016), conducted a quantitative evaluation of the flipped classroom in a large lecture principles of economics course, and found that the flipped classroom instructional format increases student final exam performance. Comparing the traditional instructional format, and the flipped classroom, for a large lecture principles of economics course, the flipped class does better. The authors also found that the flipped classroom directly improves performance by 0.2–0.7 standardized deviations, depending on the type of learning objective (i.e., knowledge, comprehension, application, or

analysis). They further found that the flipped classroom improves effort during the semester, measured by in-class polling participation. This further demonstrated some evidence of a heterogeneous, yet positive, effect of the flipped classroom by observable student characteristics and by level of performance. This therefore reinforces the position that enhanced method of teaching in economics is desirable.

In a follow-up of the national surveys conducted in 1995, 2000, and 2005, Watts, & Schaur in 2011 conducted another one and found no much change from the previous surveys. In their survey, they found that despite calls for economists and other post-secondary instructors to make greater use of active, learner-centered learning methods, “chalk and talk” has remained the dominant teaching method in all types of undergraduate economics courses. However, they found evidence of gradual growth in the use of some new teaching methods, including computer-generated displays (such as PowerPoint) and instructor-directed class discussions. They also found evidence that, more instructors provided students with a prepared set of class notes, computer lab assignments were increasingly common in econometrics and statistics courses, and Internet database searches were used by a growing number of instructors of economics. Classroom experiments are used by a small share of instructors in introductory courses, but almost never in other kinds of courses. Calculus is still not viewed as important by a majority of economics instructors in any of the four types of courses. What was interesting to note from the 2010 survey, content ratings were higher in econometrics, intermediate theory, and statistics courses than in the earlier surveys.

Based on the literature review, we can draw four main conclusions: a) lecture method continues being one of the dominant characteristics of a typical economics class; b) based on the analysis of teaching economics as a subject, instructors' attributes and assessment requirements in economics, a number of different teaching techniques have been tried, with mixed results; c) one of the most recommended teaching practices is the one that utilizes multiple-method teaching technique; and d) there is a need to undertake a detailed and comprehensive study to assess the effectiveness of the recommended multiple-method teaching technique in economics.

## References

- Alauddin, M., & Butler, J. E. (2004). Teaching economics in a changing university environment: Some Australian experiences. *International Journal of Social Economics*, 31(7/8), 706–720.
- Allgood, S., Walstad, W. B., & Siegfried, J. J. (2015). Research on teaching economics to undergraduates. *Journal of Economic Literature*, 53(2), 285–325.
- Anderson, H., & Siegfried, J. J. (1997). Gender differences in rating the teaching of economics. *Eastern Economic Journal*, 23(3), 347–357.
- Bailey, J., Langdana, F. K., Rotonda, P. D., & Ryan, J. C. (1997). A Factor analytic study of teaching method that influences retention among alumni. *Journal of Education for Business*, 75(5), 297–302.
- Balaban, R. A., Gilleskie, D. B., & Tran, U. (2016). A quantitative evaluation of the flipped classroom in a large lecture principles of economics course. *The Journal of Economic Education*, 47(4), 269–287.
- Baumol, W. (1988). Economic education and the critics of mainstream economics. *Journal of Economics Education*, 19(4), 323–330.
- Becker, W. E., & Watts, M. (1996). Chalk and talk: A national survey on teaching undergraduate economics. *American Economic Review*, 86(2), 448–453.
- Becker, E. W., & Watts, M. (2001a). Teaching economics at the start of the 21<sup>st</sup> century: Still chalk and talk. *The American Economic Review*, 91(2), 446–450.
- Becker, E. W., & Watts, M. (2001b). Teaching methods in U.S. undergraduate economics courses. *The American Economic Review*, 32(3), 269–279.
- Boex, J. F. L. (2000). Attributes of effective economics instructors: An analysis of student evaluation. *Journal of Economic Education*, 31(3), 211–227.
- Bosshardt, W., & Watts, M. (2001). Comparing student and instructor evaluations of teaching. *Journal of Economics Education*, 32(1), 3–17.
- Caropreso, E. J., & Haggerty, M. (2000). Teaching economics: A cooperative learning model. *College Teaching*, 48(2), 69–74.
- Cashin, W. (1990). Students do rate different academic fields differently. In M. Theall, & J. Franklin (Eds.), *Student rating of instruction: Issues of improving practice*. New Directions for teaching & learning. San Francisco: Jossey-Bass.
- Christoffersen, S. (2002). An active learning tool for the principles of economics: The allocation exercise. *American Economist*, 46(2), 65–68.
- Colander, D. (2000). Telling better stories in introduction macro. *American Economic Review*, 90(2), 76–80.
- Dynan, K. E., & Rouse, C. E. (1997). The under representation of women in economics: A study of undergraduate economics students. *Journal of Economic Education*, 28(4), 350–368.
- Finegan, A. T., & Siegfried, J. J. (1998). Do introductory economics students learn more? if their instructor has a Ph.D.? *American Economist*, 42(2), 34–46.
- Finegan, A. T., & Siegfried, J. J. (2000). Are student ratings of teaching effectiveness? Influenced by instructors' English language proficiency? *American Economist*, 42(2), 34–46.
- Goffe, W. (2014). A survey of principles Instructors” Why lecture prevails. *The Journal of Economic Education*, 45(4).
- Grimes, P. W., Millea, M. J., & Woodruff, T. W. (2004). Grades – who's to blame of teaching & locus of control? *Journal of Economic Education*, 35(2), 129–147.
- Guest, R., & Duhs, A. (2002). Economics teaching in Australian universities: Rewards and outcomes. *Economic Records*, 78(241), 147–160.
- Hansen, W. L. (2001). Expected proficiencies for undergraduate economics majors. *Journal of Economic Education*, 32(3), 231–242.
- Hervani, A., & Helms, M. M. (2004). Increasing creativity in economics: The service learning project. *Journal of Education for Business*, 79(5), 267–274.
- Johnston, C. G., James, R. H., Lye, J. N., & McDonald, I. M. (2000). An evaluation of collaborative problem solving for learning economics. *Journal of Economic Education*, 31(1), 13–29.
- Johnston, C., McDonald, I., & Williams, R. (2001). The scholarship of teaching economics. *Journal of Economic Education*, 32(3), 95–201.
- Lay, W. M. (1993). *The use of mathematics in teaching the principles of economics*. Unpublished DA Dissertation. Middle Tennessee State University.
- Leeds, M., Stull, W., & Westbrook, J. (1998). Do changes in classroom techniques matter? Teaching strategies and their effects on teaching evaluations. *Journal of Education for Business*, 74(2), 75–78.
- Loviscek, A. L., & Cloutier, N. R. (1997). Supplemental instruction & the enhancement of student performance in economics principles. *American Economist*, 41(2), 70–76.
- McGoldrick, K., Battle, A., & Gallagher, S. (2000). Service-learning and the economics course: Theory & practice. *American Economist*, 44(1), 43–51.
- Merriam, S. B., & Simpson, E. L. (2000). *A guide to research for educators and trainers of adults*. updated (2nd ed.). Malabar, FL: Krieger.
- Onger, Joseph D. (2009). Poor student evaluation of teaching in economics: A critical survey of the literature. *Australasian Journal of Economics Education*, 6(2), 1–24.
- Onger, Joseph D., & Edward, Taylor W. (September 6, 2006). *Teaching economics: A critical review of the literature*. Available at SSRN: <http://ssrn.com/abstract=932086>.
- Saunders, K. T. (2001). The influence of instructor native language on student learning and instructor ratings. *Eastern Economic Journal*, 27(3), 345–353.
- Saunders, G., & Christopher, J. E. R. (2003). Teaching outside the box: A look at the use of some nontraditional teaching models in accounting principles courses. *Journal of American Academy of business*, 3(½), 162–165.

- Smith, W. D. (2002). Applying Angelo's teacher's dozen to undergraduate introductory economics classes: A call for greater interactive learning. *Eastern Economic Journal*, 28(4), 539–549.
- Velasco, Martinez, & Ferrero. (2012). Developing generic competences in the European higher education area: A proposal for teaching the principles of economics. *European Journal of Education*, 47(3).
- Walstad, W. B. (2001). Improving assessment in University economics. *Journal of Economic Education*, 32(3), 281–294.
- Walstad, W., & Watts, M. (1985). Teaching economics in the schools: A review of survey findings. *Journal of Economic Education*, 16(2), 135–146.
- Watts, M., & Becker, W. (2008). A little more than chalk and talk: Results from a third national survey of teaching methods in undergraduate economics courses. *Journal of Economic Education*, 39, 273–286.
- Watts, M., & Schaur, G. (2011). Teaching and assessment methods in undergraduate economics: A fourth national quinquennial survey. *Journal of Economic Education*, 42(3), 294–309.
- Wentland, D. (2004). A guide for determining which teaching methodology to utilize in economic education: Trying to improve how economic information is Communicated to students. *Education*, 124(4), 640–648.
- William, L. G., & Kauper, D. (2014). A survey of principles instructors: Why lecture prevails. *The Journal of Economic Education*, 45(4), 360–375.
- Yamarik, S. (2007). Does cooperative learning improve student learning outcomes? *Journal of Economic Education*, 38, 259–277.