Department of Economics

Working Paper Series

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Working Paper No. 17-23

This paper can be found at the College of Business and Economics Working Paper Series homepage:

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The Relative Value of AER P&P Economic Education Papers

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July 27, 2017

Abstract

The CEE had been allocated one session in the AER Papers and Proceedings (P&P) since 1964. In 2008, the American Economic Association evaluated the allocation of AER Papers and Proceedings sessions to various AEA Committees. In response, the CEE was asked to prepare a one-page rationale for keeping that session. Their response (Committee on Economic Education, 2008) made several important defenses of the session, including that the quality of the papers published in these sessions must speak for itself. In this paper, we propose to evaluate the relative quality of AER P&P papers through citation analysis. Using the Social Science Citation Index, the citation counts of CEE AER P&P papers are compared to other papers included in the issue.

JEL Codes: A10; A20
Key Words: economic education; citation analysis

*Corresponding author. The authors would like to thank John Breeden and Clint Thompson for their research assistance. They would also like to thank Gail Hoyt, Bill Alpert, and other session participants at the 2015 meetings of the Southern Economic Association.

1 Introduction

Economic education has played an important role within the American Economic Association (AEA) since the association was formed in 1885. Hinshaw and Siegfried (1991) point out that two of the nine sessions in the 1890 meetings were on the topic of economic education. For the next half-century or so, papers on economic education regularly appeared at the annual meetings. The content of these sessions varied widely, but most focused on what economics was currently being taught in high schools and colleges and how it might be improved (Hinshaw and Siegfried, 1991). For example, Professor Folsom (1925) of Sweet Briar College suggested that rapid improvement in the teaching of economics will only occur if economics departments become more like industry and willing to invest in greater organization (sharing of materials, coordination on the basics of what should be taught, etc.) and equipment (standardized 'scientific' textbooks, permanent graphs, etc.). Sessions and correspondence on topics related to what was taught and what should be taught in the principles course were most common during this period.

The 1940s and 1950s would see the AEA take on a more formal role with respect to economic education. In 1944, the Executive Committee of the AEA created the Committee on Undergraduate Teaching in Economics and Training of Economists. Within the Committee, there were ten subcommittees working on various topics related to economic education such as economics in schools of business, economics and agricultural education, the undergraduate curriculum, etc. (Hinshaw and Siegfried, 1991). This was an enormous undertaking that demonstrates how important the issue was to its membership. Twenty-two consultants were employed on the project and fifty-six members of the AEA participated in this multi-year undertaking.[1]

[1]Further evidence of the importance of this project is given by the fact that two of those involved in the undertaking were prominent members of the profession who would eventually go on to earn

In 1955, this ad hoc committee was reorganized as a standing committee named the Committee on Economic Education (CEE). According to (Hinshaw and Siegfried, 1991, p.377), the CEE was created "to serve as a focal point for improving the status of economic education within the field of professional economists, to stimulate and encourage professional work on economic education, and to encourage the preparation of articles about and arrange sessions at the annual AEA meetings on economic education." The late 1950s saw the CEE undertaking many activities, including organizing sessions on economic education that were subsequently published in the *American Economic Review: Papers and Proceedings*. The CEE was dissolved and reorganized under the same name in 1963, with the charge of being more active in improving economic education at all levels (Hinshaw and Siegfried, 1991). The CEE has existed continuously within the AEA structure since that time and since 1964 (with the exception of 1965) has had at least one special session on economic education at the annual meetings.[2] *Papers and Proceedings* of the American Economic Association that appear every year in the *American Economic Review* have therefore contained the contents of at least one economic education session since 1964, with the exception of the 1966 volume since there was no economic education session during the 1965 meetings. The *AER Papers and Proceedings* session dedicated to the CEE was formally established by the AEA Executive Committee at its March 1964 meeting (Executive Committee of the American Economic Association, 1965).

In 2007, the Executive Committee of the AEA asked the President to create an ad hoc committee on the *Papers and Proceedings*. This decision emanated from a previous discussion on the allocation of annual meeting slots and standing 'property rights' to publish session papers in the *Papers and Proceedings* that occurred at the

Nobel Prizes in Economics, namely George Stigler and T.W. Schultz.

[2]Hinshaw and Siegfried (1991) does not mention what happened in 1965 and we have been unable to determine why there was no economic education session in that year.

January 2007 Executive Committee meeting in Chicago (Executive Committee of the American Economic Association, 2007). At the time, papers from 24 sessions were published in the *Papers and Proceedings*. In addition to the Richard Ely Lecture and the Committee on Economic Education, the National Economic Association had the right to publish one session in the *Papers and Proceedings* and the Committee on the Status of Women in the Economics Profession had the right to publish two sessions (Executive Committee of the American Economic Association, 2007). Given the scarcity of space within the *Papers and Proceedings* and anticipated requests for guaranteed slots by the Committee on Economic Statistics and the Committee on the Status of Minority Groups in the Economics Profession for guaranteed slots, the creation of an ad hoc committee to evaluate the distribution and allocation of existing rights seemed appropriate.

The decision to evaluate the practice of allocating *Papers and Proceedings* led to each AEA Committee being asked to prepare a one-page rationale for maintaining their property rights over an individual session (Committee on Economic Education, 2008). At the time, there was concern that any number of possible changes could be on the table. According to the minutes of the Committee on Economic Education (2008), the Ad Hoc Committee on Standing Sessions in the *Papers and Proceedings* could lead to the diminution or elimination of the right to publish the contents of one session in the proceedings. The CEE's one page report appeared in Committee on Economic Education (2008) and lists six reasons for the continued inclusion of a CEE session in the *Papers and Proceedings*. After assessing the evidence, the Executive Committee of the AEA voted that that the CEE would continue to have rights over one *Papers and Proceedings* session a year (Executive Committee of the American Economic Association, 2009).[3]

[3]The Executive Committee also voted to expand the number of sessions to 34 and to allocate

While the CEE still has property rights over one economic education session appearing annually in the *Papers and Proceedings* thanks to the arguments put forth in Committee on Economic Education (2008), this property right is limited. As part of the report of the Ad Hoc Committee on Standing Sessions in the *Papers and Proceedings* in 2008, the Executive Committee of the AEA voted to "set a fixed, renewable term for the inclusion of standing sessions not to exceed five years" (Executive Committee of the American Economic Association, 2008, p. 571). With the number of papers submitted to the American Economic Association annual meetings continuing to rise and the number of sessions appearing on the annual program, but excluded from the *Papers and Proceedings*, the relative value of economic education papers appearing in *Papers and Proceedings* will continue to be debated.

In this brief paper we seek to add a quantitative perspective to the question of the relative value of economic education papers appearing in the *American Economic Review: Papers and Proceedings*. Going back at least to the work of Fels (1969), there has been concern that research in economic education was not as "high quality" as in other areas of economic inquiry (Committee on Economic Education, 2008, p. 7). Alluding to concerns over quality when it states that "Ultimately, the quality of the papers published in these [CEE] sessions must speak for itself." While quality can be subjectively measured, economists have long used citation counts as a quantitative measure of the quality of a scholar's research (Hamermesh et al., 1982; Diamond Jr, 1986; Hamermesh and Pfann, 2012) as well as journals and departments (Laband and Sophocleus, 1985; Laband and Piette, 1994; Mixon Jr and Upadhyaya, 2016). While this "revealed preference" approach has limitations and cannot speak to the other benefits of the CEE *Papers and Proceedings* sessions laid out in Committee on

sessions to all current committees and to the Committee on Economic Statistics and the Committee on the Status of Minority Groups in the Economics Profession. For the entire discussion of the Ad Hoc Committee, see (Executive Committee of the American Economic Association, 2009, p. 650).

Economic Education (2008), our findings reflect favorably on the inclusion of these papers.

2 Empirical Approach, Data, and Results

The use of citations to assess the quality of a particular piece of research in economics, and consequently the author of the research and their academic home, has a long history, but took off in earnest with the publication of the Social Science Citation (SSCI) in 1973.[4] The SSCI is a database of scholarly literature that includes citation data to other journals that are catalogued within the SSCI. Citations reports produced using the index are used to evaluate research productivity and personnel decisions in a number of departments (Klein et al., 2004a). Researchers have used SSCI data in a variety of ways, from ranking journals and departments (Laband and Sophocleus, 1985; Coupé, 2003) to evaluating intellectual influence (Beaulier and Hall, 2009; Boettke et al., 2012).

Our purpose here is to evaluate the relative quality of the economic education papers published in the *Papers and Proceedings* issue of the *American Economic Review* using citation data from the SSCI. We employ the SSCI data instead of data from Scopus or Google Scholar. The limited amount of research comparing results across the three indices finds that Google Scholar is systematically different than Scopus or SSCI (Bar-Ilan, 2008). Google Scholar, for example, often picks up more citations by being less selective.[5] Google Scholar does not allow for the systematic exclusion of self-citations. Scopus, while having an extensive coverage and being

[4]The SSCI was first published in 1973 (Klein et al., 2004b). Its current publisher, Thompson Reuters, has subsequently back filled social science information to 1900. Gerrity and McKenzie (1978) provides an illuminating discussion of the use of citations to assess the quality of research.

[5]While this is not by itself problematic, Google Scholar sometimes double counts citations by citing both the working paper version of a paper and the published version. Also, non-research such as syllabi and magazine articles are sometimes automatically included.

similar to SSCI post-1996, has no reference data before 1996 (Bar-Ilan, 2010).[6]

Our sample period begins in 1964 to correspond with the AEA Executive Committee decision to allocate one *Papers and Proceedings* session to the CEE. Our measure of article quality is the average number of citations–excluding self-citations–an economic education article received per year from the time of publication until the time of data collection in April of 2015.[7] For each year of the *Papers and Proceedings*, we identified the CEE sponsored sessions and calculated the average citations per year for all research articles in the proceedings.[8] In order to give recent articles at least four years to garner citations, we stop our analysis with the 2011 *Papers and Proceedings*. We only measure citations to other journals in the SSCI. Over this time period there were 3,494 total research articles in the *Paper and Proceedings*, 130 of which were categorized as economic education.

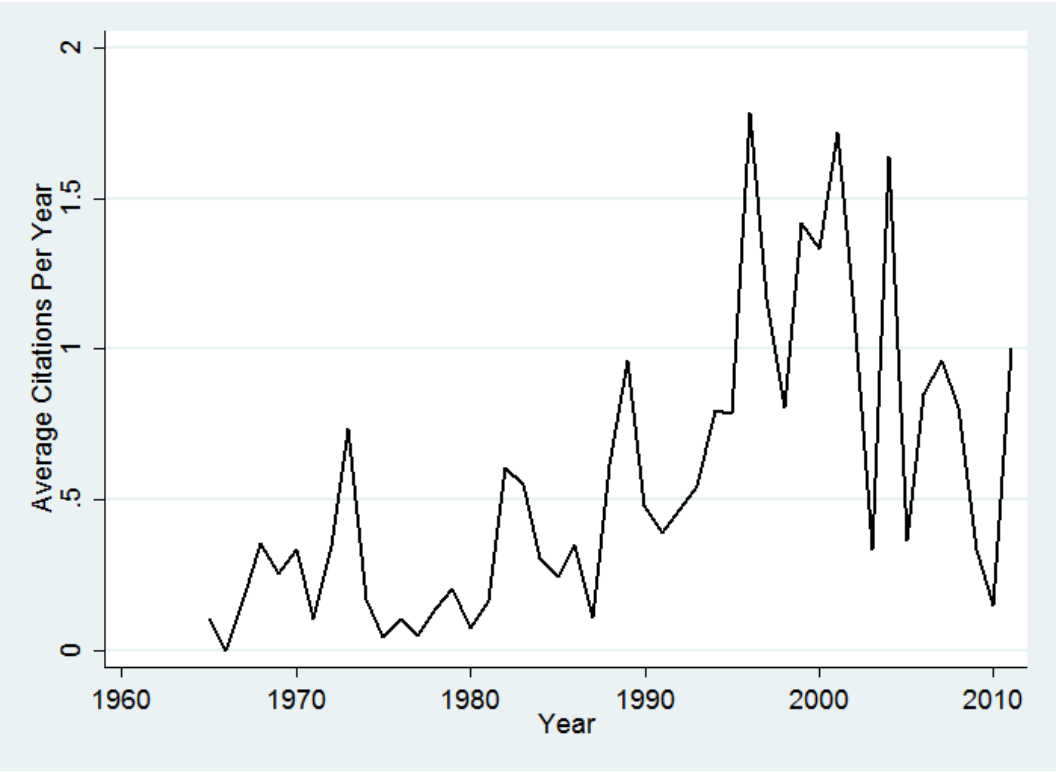
Figure 1 illustrates the evolution of citations of economic education articles in the *Papers and Proceedings* from 1965 to 2011. It is important to note that the citations for each session have been averaged within each year in this figure, obscuring that some articles receive more citations than others. The number of citations per year per article seems to be increasing. To the extent that citations are an accurate measure of quality, this upward trend in citations is a good thing. The data seem to reflect what others have observed about economic education since the criticism levied by Fels (1969), namely that the quality of economic education articles seems to be on the rise (Allgood et al., 2015).

[6]We did start out collecting data from Scopus for the post-1996 period. In our experience, however, we could not locate several *Papers and Proceedings* articles in Scopus. We had no such problem with the SSCI.

[7]From this point onward we use economic education articles synonymously with the CEE sponsored session as we observed zero economic education articles appearing the *Papers and Proceedings* which was not a part of a CEE session.

[8]In practice, this meant we excluded all proceedings material related to the business of the American Economic Association such as committee reports.

Figure 1: Average Yearly Citations for Economic Education Articles in AER P&P



Notes: Source of citation data is the Social Science Citation Index. Average citations per year are calculated from the time of publication through April 2015. The 1965 American Economic Association meetings did not have a economic education session. Therefore, the 1966 *Papers and Proceedings* contained zero economic education articles.

Some caveats are in order. First, while increasing, the average number of citations per year are relatively low. Without a comparison group, these numbers only tell us that the number of citations garnered per year per for CEE-sponsored session papers are rising. This could reflect that these articles are of increased quality, or merely reflect underlying trends in citation practices. For example, Laband and Tollison (2003) find that the number of references per paper, and thus citations, are increasing over time. These data could also reflect an expansion in the number of journals included in the SSCI over time.[9]. Finally, these data could reflect not an

[9]The number of journals in the SSCI has increased since 1973, but we were unable to find exact numbers

increase in quality over time, but a decay in the the citations to articles over time. If an article is less likely to garner more citations as time passes, then articles in the *Papers and Proceedings* during earlier periods will exhibit fewer citations per year than articles published more recently.

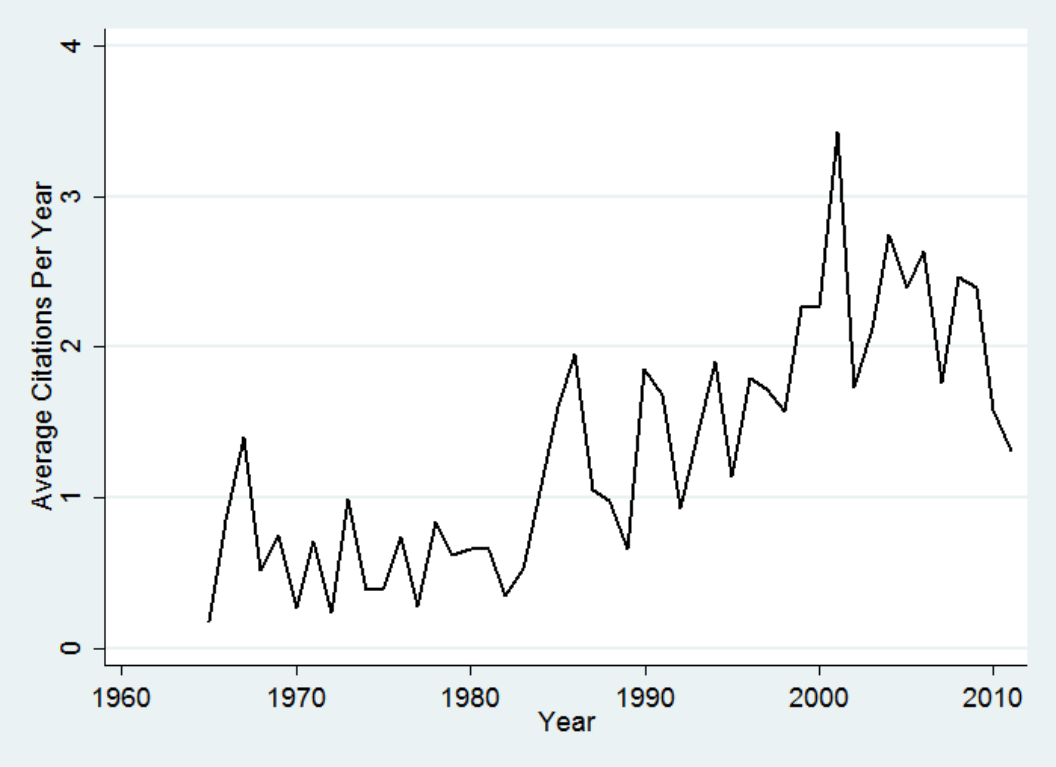
Figure 2 provides some insight into these caveats. It shows the average number of citations per non-economic education papers in the *Papers and Proceedings*. The figure shows a similar upward trend in the average number of citations per year. Even if there is citation decay, these numbers seems to suggest that average citations per article per year are rising over time, probably due to an increased number of references per article and the increased number of journals included in the SSCI. While the average number of citations are increasing over time for economic education articles and general research articles, the average number of citations for non-economic education articles are generally higher. This is not surprising given that most of the journals that are likely to cite an economic education article are not included within the SSCI. The only field journal included in the SSCI over this time period is *The Journal of Economic Education* and the only journals that even occasionally publish economic education articles are the *Southern Economic Journal*, *Economic Inquiry*, *Economics of Education Review*, and the occasional article in *Journal of Economic Perspectives* and *Journal of Economic Literature*.[10] Like Weintraub noted with *History of Political Economy*, it is difficult to have high citation numbers in the SSCI when the journals that cite you are not included in the SSCI.[11]

The mean number of annual citations per economic education article over the

[10]It should be noted that *Economic Inquiry* ended its economic education section "Teaching Tools" over a decade ago.

[11]Journals regularly publishing economic education content not included in the SSCI include: *Perspectives on Economic Education Research*, *Journal of Economics and Finance Education*, *International Review of Economic Education*, *Journal of Private Enterprise*, *Journal for Economic Educators*, *American Economist*, and *Journal of Economics and Economic Education Research*.

Figure 2: Average Yearly Citations for Non-Economic Education Articles in AER P&P



Notes: Source of citation data is the Social Science Citation Index. Average citations per year are calculated from the time of publication through April 2015.

period is 0.60, while the mean number of annual citations for non-economic education articles was 1.42. A t test for unequal variances between the two-groups is statistically significant from zero. Employing a two-sample t test with unequal variances, we find that there is a statistically significant difference at the one-percent level between the mean average citations per economic education article and non-economic education article in *Papers and Proceedings*. This is is not surprising given that many of the journals likely to cite the CEE articles in the *Papers and Proceedings* are not listed in the SSCI. In addition, some of the economic education articles, while effective in conveying lessons to economic educators, are unlikely to garner a large number of future citations as they are not "research" *per se*. A good example of an article

of this type is Hamermesh (2002). An overview of the author's tricks for teaching microeconomics well, the article has garnered zero SSCI citations in thirteen years.[12] These tips, however, could have helped numerous beginning economic educators over the years, highlight the difference between quality as an input into others' teaching and quality in terms of an input into others' research.

Even measured in terms of being an input into the research of others, it is unclear if comparing average citations rates over the sample period is the proper measure. After all, the non-economic education articles have a number of "superstar articles" that garner in excess of 20 citations annually. Table 1 lists the ten articles with the highest average annual citations rates over this period. Surprisingly, only one article is a Richard T. Ely Lecture (Stern, 2008).

Table 1: Ten Best Cited Non-Economic Education P&P Papers, 1965-2011

Article Title	Author(s)	Year	Avg. Citations Per Year
Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers	Jensen	1986	110.0
Clio and the Economics of QWERTY	David	1985	51.8
In Search of Homo Economicus: Behavioral Experiments in 15 Small-Scale Societies	Henrich et al.	2001	41.0
Tunneling	Johnson et al.	2000	31.2
Toward a Theory of Property Rights	Demsetz	1967	29.3
The Economics of Climate Change	Stern	2008	26.9
I Just Ran Two Million Regressions	Sala-i-Martin	1997	26.4
Inductive Reasoning and Bounded Rationality	Arthur	1994	26.4
Trust in Large Organizations	La Porta et al.	1997	25.3
The Technology of Skill Formation	Cunha and Heckman	2007	24.6

The top ten economic education articles are listed in Table 2. While influential, they are not going to influence scholarship in the same way that Demsetz (1967)

[12]The article received 10 Google Scholar citations over that period.

started an area of inquiry. The most well-cited CEE article is John Taylor's article on teaching modern macroeconomics (Taylor, 2000). Economic educators will certainly recognize the articles detailing the extent of "chalk and talk" by Becker and Watts (1996) and Becker and Watts (2001). These two articles by Becker and Watts are a great example of research that not only affects what goes on inside the classroom, but stimulates additional research into alternative teaching approaches (Hoyt and McGoldrick, 2012; Hall and Podemska-Mikluch, 2015).

Table 2: Ten Best Cited Economic Education P&P Papers, 1965-2011

Article Title	Author(s)	Year	Avg. Citations Per Year
Teaching Modern Macroeconomics at the Principles Level	Taylor	2000	4.7
Chalk and Talk: A National Survey on Teaching Undergraduate Economics	Becker and Watts	1996	4.3
Can Web Courses Replace the Classroom in Principles of Microeconomics?	Brown and Liedholm	2002	3.9
Teaching Economics at the Start of the 21st Century: Still Chalk-and-Talk	Becker and Watts	2001	3.4
The Effect of National Standards and Curriculum-Based Exams on Achievement	Bishop	1997	2.7
The Effects of Attendance on Student Learning in Principles of Economics	Durden and Ellis	1995	2.1
The Lake Wobegon Effect in Student Self-Reported Data	Maxwell and Lopus	1994	1.8
What Students Remember and Say about College Economics Years Later	Allgood et al.	2004	1.7
Efficiency in the Use of Technology in Economic Education: Some Preliminary Results	Sosin et al.	2004	1.6
How Departments of Economics Evaluate Teaching	Becker and Watts	1999	1.6

While it is easy to see how many non-economic education *Papers and Proceedings* articles could end up on graduate syllabi, the proportion of those papers that affect undergraduate instruction are most certainly less compared to the economic education

papers. These articles are better cited than 75 percent of all non-economic education articles in the *Papers and Proceedings*. Clearly the best economic education papers "hold their own" when compared to the average paper in the *Papers and Proceedings*.

In terms of advancing knowledge, perhaps the appropriate measure is not the citations garnered at the top, but the number of "dry holes." Laband and Tollison (2003) demonstrate that a surprising number of articles in top journals are "dry holes" in that they generate little to no additional citations. Looking at the non-economic education articles, 190 of them have garnered no citations. That is 5.6 percent of the entire sample of non-economic education *Papers and Proceedings* articles. For the economic education articles there were 9 articles that received zero citations per year, for a dry hole percentage of 7.6 percent. Using a two-sample test of proportions, we cannot reject the null that these proportions of dry holes are equal.

Table 3 lists the nine economic education articles without a citation. Looking at the economic education dry holes, it provides some evidence that economic education dry holes are different than non-economic education dry holes. There are several things to note from the table. First, the economic education dry holes seem to be concentrated in a handful of years (1971, 1976, 2010). The same is not true of the 190 non-economic education articles in the *Papers and Proceedings*, which are spread out from 1965-2011. Second, the articles garnering no citations are clearly written with the purpose of disseminating information, not spurring new research in economic education. The "dry holes" from the 1970s would seem to clearly fall into that category.[13] Third, this list includes a Nobel Laureate in economics (Stiglitz) and a well-known labor economist (Hamermesh), highlighting that it is the purpose behind economic education articles that seems to influence further citations. Stiglitz

[13]It should also be noted that these articles are unlikely to pick up citations in the future as they refer to technology and programs that are no longer in use.

and Hamermesh are writing as teachers of economics, not researchers studying the teaching of economics. It is no surprise then that their papers have garnered zero SSCI citations. Finally, the fourth column shows the Google Scholar citations for these articles as of November 2015. Looking at the most recent articles, it can be seen that these research-oriented articles are garnering citations, just not in journals in the SSCI. This further highlights the issue raised by Weintraub regarding citations to papers in fields not well-represented in the SSCI.

Table 3: Nine Economic Education Articles with Zero SSCI Citations

Article Title	Author(s)	Year	Total Google Scholar Citations
Teaching Economics to Black Students	Lloyd	1971	1
Videotaped Dialogues in Economics	Castro	1971	0
The Teacher Training Program for New Ph.D.s	Lewis and Becker	1976	4
On Teaching Teachers to Teach	Long	1976	1
One Participant's View of the Teacher Training Program	Hansen	1976	1
International Perspectives in Undergraduate Education	Stiglitz	1993	14
Microeconomic Principles Teaching Tricks	Hamermesh	2002	10
The Effectiveness of Peer Tutoring on Student Achievement at the University Level	Munley et al.	2010	8
The Efficacy of Collaborative Learning Recitation Sessions on Student Outcomes	Huynh et al.	2010	11

3 Concluding Thoughts

Overall, it seems that economic education papers in the *Papers and Proceedings* receive relatively fewer citations in the SSCI than non-economic education papers. Further work needs to be done to see the extent to which this is influenced by the fact that, with the exception of *The Journal of Economic Education*, no other economic education journal is in the SSCI. Regardless of the built-in bias against economic education articles inherent in our approach, we feel that the results reflect favorably on the CEE articles included in the *Papers and Proceedings*. While the average citations per year for economic education articles are lower than for non-economic education articles, the difference is not large and can be partly explained by the different missions of the CEE articles and the structure of the SSCI. When looking at the top cited articles in economic education, we find that they receive more citations per year than 75 percent of the non-economic education articles. Looking beyond the top articles, we find no statistically significant difference between the proportion of economic education articles and non-economic education articles garnering zero citations over the nearly forty-year period of our sample. Finally, we find that the citations to CEE articles in the *Papers and Proceedings* is increasing over time and the number of "dry holes" is declining.

Given the statistically significant difference in mean number of citations per year between economic education and non-economic education articles, we might be accused of being too optimistic regarding the relative value of CEE articles. However, our view reflects that economic education articles appearing in the *Papers and Proceedings* are chosen with several purposes in mind as pointed out in Committee on Economic Education (2008). For example, many of the papers are chosen as a service to the profession or to entice prominent economists to put forth their views on eco-

nomic education. Sacrificing these benefits in order to garner more citations would be, in our view, short-cited. Given the multiple margins upon which the CEE is optimizing, we view these results as being a confirmation that they are meeting their stated goal of "choosing papers for the *Proceedings* session that will be widely read and cited in the profession" (Committee on Economic Education, 2008, p. 7).

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