ADVANCES IN ACCOUNTING EDUCATION

Teaching and Curriculum Innovations

Edited by Timothy J. Rupert and Beth B. Kern

ADVANCES IN ACCOUNTING EDUCATION

VOLUME 21

ADVANCES IN ACCOUNTING EDUCATION: TEACHING AND CURRICULUM INNOVATIONS

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ADVANCES IN ACCOUNTING EDUCATION: TEACHING AND CURRICULUM INNOVATIONS VOLUME 21

ADVANCES IN ACCOUNTING EDUCATION: TEACHING AND CURRICULUM INNOVATIONS

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2. Each paper should include a cover sheet with names, addresses, telephone numbers, fax numbers, and e-mail address for all authors. The title page also should include an abbreviated title that you should use as a running head (see item 7 below). The running head should be no more than 70 characters, which includes all letters, punctuation, and spaces between words.
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Sample Book References

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Smith, P. L. (1982). Measures of variance accounted for: theory and practice. In Keren (Ed.), *Statistical and methodological issues in psychology and social science research* (pp. 101–129), Hillsdale, NJ: Erlbaum.

Sample Journal References

Abdolmohammadi, M. J., Menon, K., Oliver, T. W., & Umpathy, S. (1985). The role of the doctoral dissertation in accounting research careers. *Issues in Accounting Education*, *22*, 59–76.

Thompson, B. (1993). The use of statistical significance tests in research: Bootstrap and other methods. *Journal of Experimental Education*, *61*, 361–377.

Simon, H. A. (1980). The behavioral and social sciences. *Sciences*, (July), 72–78.

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American Institute of Certified Public Accountants (AICPA). (1999). *Core competency framework for the accounting profession.* Retrieved from http://www.aicpa.org/edu/corecomp.htm

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Advances in Accounting Education: Teaching and Curriculum Innovations is a refereed academic journal whose purpose is to meet the needs of individuals interested in the educational process. We publish thoughtful, well-developed articles that are readable, relevant, and reliable.

Articles may be nonempirical or empirical. Our emphasis is pedagogy, and articles MUST explain how instructors can improve teaching methods or accounting units can improve curricula/programs.

Nonempirical manuscripts should be academically rigorous. They can be theoretical syntheses, conceptual models, position papers, discussions of methodology, comprehensive literature reviews grounded in theory, or historical discussions with implications for current and future efforts. Reasonable assumptions and logical development are essential. All manuscripts should discuss implications for research and/or teaching.

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A CITATION ANALYSIS AND REVIEW OF RESEARCH ISSUES AND METHODOLOGIES IN *ADVANCES IN ACCOUNTING EDUCATION: TEACHING AND CURRICULUM INNOVATIONS*

Elsie C. Ameen and Daryl M. Guffey

ABSTRACT

This chapter includes a citation analysis of the first 16 volumes of Advances in Accounting Education: Teaching and Curriculum Innovations *(henceforth,* Advances in Accounting Education*). Using this analysis, we identified the top 20 articles of the 195 articles published. This analysis provides an understanding of the relative contribution and impact of the papers published in* Advances in Accounting Education*, and the information provides past authors with a measure of how their contributions compare with the contributions of other authors. Also, this analysis may be valuable for potential contributors who are developing a research topic in*

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that it will enable them to identify the types of articles that have traditionally had the greatest impact.

We also identify the top 30 authors of the 383 who have published in the journal. This analysis not only gives feedback to the authors listed, but also helps accounting education researchers identify authors whose work may be relevant to their interests.

We report the research categories (issues) and methodologies used for all articles published from 1998 to 2015 in Advances in Accounting Education. *We also compare the research issues and research methodologies used in* Advances in Accounting Education *to those in the* Journal of Accounting Education *and* Issues in Accounting Education *for the period 2006–2015. Authors considering submitting a manuscript to one of these journals can use this information to determine which journal might be the best fit for their work.*

Keywords: Citation analysis; accounting education; Google Scholar citations

"*Advances in Accounting Education: Teaching and Curriculum Innovations* is a refereed academic journal whose purpose is to meet the needs of individuals interested in the educational process." (Purpose Statement) The journal is well established having published Volume 16 in 2015. "It is not uncommon for journals to examine their content at various points in time, to look at trends in the topical content and research methods, and to recognize contributors (e.g., individuals, doctoral programs, or accounting departments) to the field of study." (Meyer & Rigsby, 2001, p. 254)

CITATION ANALYSIS

Previous studies have used citation analysis to measure the impact of journals, articles, authors, universities at which authors are or were employed at the time of publication, and the institutions from which authors earned their PhDs. "Analysis of a journal's citations is an objective measure of its impact and influence on the literature." (Lindquist & Smith, 2009, p. 269)

The information gained from citation analysis provides an understanding of the relative contribution and impact of the work published in a journal.

This information provides past authors with a measure of how their contributions compare with those of other authors. It also gives feedback about the articles and authors that had the most impact on the literature. This analysis may be valuable for potential contributors who are developing a research topic because it will help them identify the types of articles that have traditionally had the greatest impact. Authors considering submitting a manuscript to the journal can use the information about research issues and research methodology reported in many of these studies to determine whether the journal is a good fit for their work.

Citation analysis is widely used in the accounting literature. McRae (1974), the first citation analysis study in accounting, reviewed 17 journals. Many studies have evaluated a single journal. The accounting studies using citation analysis to evaluate a single journal include, but are not limited to, the following journals (authors, date of publication):

1. *Journal of Accounting Research* (Dyckman & Zeff, 1984)
2. *The Accounting Review* (Heck & Bremser, 1986)
3. *Accounting, Organizations and Society* (Brown, Gardner, & Vasarhelyi, 1987)
4. *Auditing: A Journal of Practice & Theory* (Smith & Krogstad, 1991)
5. *Behavioral Research in Accounting* (Meyer & Rigsby, 2001)
6. *Journal of Management Accounting Research* (Lindquist & Smith, 2009)
7. *Intelligent Systems in Accounting, Finance and Management* (O'Leary, 2009)
8. *Journal of Emerging Technologies in Accounting* (O'Leary, 2011)
9. *Journal of Information Systems* (Guffey & Harp, 2014)
10. *Global Perspectives on Accounting Education* (Guffey, 2015)

This chapter includes a citation analysis of the first 16 volumes of *Advances in Accounting Education*. We identified the top 20 articles of the 195 published and the top 30 authors of the 383 individual authors.

RESEARCH TOPIC AND METHODOLOGY OF ARTICLES

Authors of educational manuscripts must decide the most appropriate outlet for their work. Based on the topic examined and the research methodology used, authors must determine the journal most likely to publish their

work. This chapter reports the results of an analysis of the research topic and methodology for all articles published in the first 16 volumes of *Advances in Accounting Education*. In addition, this chapter includes an analysis of the research methodology and the research category for all articles published in 2006–2015 in three accounting education journals: *Advances in Accounting Education*, *Journal of Accounting Education* (*JAEd*), and *Issues in Accounting Education*.

METHODOLOGY AND RESULTS

We collected citations using Google Scholar. Google Scholar, released in 2004 as a free service, indexes virtually all materials available on the Internet including working papers. "The more contemporary nature of the citations returned by Google Scholar is likely to add precision to the estimation of impact, particularly for the most recently published articles" (Keloharju, 2008, p. 604). Google Scholar is especially useful in performing citation analysis of journals not indexed by ISI Web of Knowledge or Scopus. Google Scholar has been used extensively in the accounting literature (Guffey, 2015; Guffey & Harp, 2014; O'Leary, 2009, 2011; Rosenstreich & Wooliscroft, 2009). Researchers have used Google Scholar in finance (Keloharju, 2008), marketing (Shugan, 2008), and library science (Meho & Yang, 2007).

We collected citation information on 195 articles by 383 individual authors on May 5, 6, and 7, 2015. The number of publications per author varied from one to six. Over 85% (327/383 = 85.38%) of the authors published only once in *Advances in Accounting Education* and 95% (364/383 = 95.04%) published once or twice in the journal. Only 19 authors published more than twice. One author published six articles, three authors published four articles, and 15 authors published three articles. Table 1 provides the frequency of appearances in *Advances in Accounting Education*.

Two citation metrics determined the most influential articles: (1) citation count and (2) citation rate. Citation count is the number of citations since year of publication to May 2015. We compute citation rate as citation count divided by the number of years since publication to May 2015.

Table 2 lists the top 20 articles determined using both citation metrics. (Row numbers are included in the table for discussion purposes. These do not represent the rank of the articles.) We first identified the top 20 articles based on the citation count. We then added those articles ranked in the top 20

Table 1. Frequency of Author Appearances, Volumes 1–16.

Frequency of Appearances	Number of Authors	Percentage	Cumulative Percentage
1	327	85.38	85.38
2	37	9.66	95.04
3	15	3.92	98.96
4	3	0.78	99.74
6	1	0.26	100.00
Total	383	100.00	

using citation rate but not included using citation count. Rows 21–28 report the articles in the top 20 using citation rate not included in the top 20 using citation count.

Table 2 shows that Volumes 1–7 published 18 of the 28 most cited articles and Volumes 9–13 contained 10 of the 28 most cited articles. Volume 7 is the most influential volume with 6 of the 28 most cited articles. These 6 articles have been cited 85 times. Volume 1 contains 5 of the 28 most cited articles (80 total citations). Volumes 2, 9, and 10 each contained 3 of the articles listed in Table 2, while Volumes 5 and 11 each published 2 of the articles listed. Volumes 3, 6, 12, and 13 each published 1 of the 28 most cited articles.

Citation count favors older articles while citation rate should favor the more recent articles (Dunbar & Weber, 2014). Eighteen of the articles ranked in the top 20 based on citation count were published in Volumes 1 through 8, verifying that the citation count metric favors older articles. Table 2 does not support the proposition that citation rate favors more recent articles. Ten of the top 20 articles based on citation rate appear in the first eight volumes and 10 appear in the last eight volumes.

Categorizing articles by the primary research category and methodology may provide insights to potential authors. We classified each of the 195 articles published in *Advances in Accounting Education* by research category and methodology and by period (1998–2005 and 2006–2015). Table 2 reports this information for each of the 28 most often cited articles.

Research Topic Categories

The five research categories are faculty issues, student issues, accounting program issues, classroom pedagogical issues, and teaching cases. We describe these categories in the paragraphs that follow.

Faculty issues include myriad topics including peer collaboration for teaching improvement, student evaluations, accounting doctoral programs, career

Table 2. Top 20 Article Rankings[a], Volumes 1–16.

Row	Article	Primary Issue[b]	Research Method[c]	Citation Count[d] (Rank)	Citation Rate[e] (Rank)
1.	"Forensic accounting education: A survey of academicians and practitioners" by Zabihollah Rezaee, D. Larry Crumbley, and Robert C. Elmore (Volume 6, 2004).	Accounting program issues	Survey	42 (1)	3.82 (1)
2.	"A separate course in accounting ethics: An example" by Stephen E. Loeb (Volume 1, 1998).	Accounting program issues	Persuasive argument	23 (2)[f]	1.35 (11)[f]
3.	"Celebrating accounting heroes: An alternative approach to teaching ethics" by Michael C. Knapp, Timothy J. Louwers, and Catherine K. Webb (Volume 1, 1998).	Classroom pedagogical issues	Persuasive argument	23 (2)[f]	1.35 (11)[f]
4.	"Teaching environmental accounting: A four-part framework" by Julie A. Lockhart and Martin R. Matthews (Volume 3, 2000).	Accounting program issues	Persuasive argument	21 (4)	1.40 (9)[f]
5.	"Is PBL an improved delivery method for the accounting curriculum?" by Cynthia D. Heagy and Constance M. Lehmann (Volume 7, 2005).	Classroom pedagogical issues	Experiment	19 (5)	1.90 (4)
6.	"Raising students' ethical sensitivity with a value relevance approach" by Michael P. Coyne, Dawn W. Massey, and Jay C. Thibodeau (Volume 7, 2005).	Classroom pedagogical issues	Experiment	17 (6)	1.70 (5)
7.	"The dual role of critical thinking in accounting education" by Mohamed E. Bayou and Alan Reinstein (Volume 2, 2000).	Faculty issues	Persuasive argument	14 (7)[f]	0.93 (35)[f]
8.	"Integrating learning strategies in accounting courses" by Barbara J. Eide (Volume 2, 2000).	Classroom pedagogical issues	Persuasive argument	14 (7)[f]	0.93 (35)[f]
9.	"Motivating student interest in accounting: a business planning approach to the introductory management accounting course" by Noah P. Barsky and Anthony H. Catanach, Jr. (Volume 7, 2005).	Classroom pedagogical issues	Persuasive argument with statistical support	14 (7)[f]	1.40 (9)[f]
10.	"Estimating the ratings of journals omitted in prior quality ratings" by David F. Bean and Richard A. Bernardi (Volume 7, 2005).	Faculty issues	Archival	13 (10)[f]	1.30 (15)

11.	"Do online homework systems improve student performance?" by Mary Anne Gaffney, David Ryan, and Christian Wurst (Volume 11, 2010).	Classroom pedagogical issues	Persuasive argumentwith statistical support	13 (10)[f]	2.60 (3)
12.	"Online versus traditional accounting degrees: perceptions of public accounting professionals" by James M. Kohlmeyer III, Larry P. Seese, and Terry Sincich (Volume 12, 2011).	Faculty issues	Survey	12 (12)[f]	3.00 (2)
13.	"The 'games' accounting professors play: communicating with generation x" by gregory P. Cermignano, Joseph M. Hargadon, and Dorothy A. McMullen (Volume 1, 1998).	Faculty issues	Persuasive argument	12 (12)[f]	0.71 (54)
14.	"Students May Blossom Using Bloom's Taxonomy in the Accounting Curriculum" by Julia K. Brazelton (Volume 2, 2000).	Classroom pedagogical issues	Persuasive argument	12 (12)[f]	0.80 (46)[f]
15.	"The Use of Peer Tutors in Introductory Financial Accounting" by Jane Dillard-Eggers and Thomas C. Wooten (Volume 5, 2003).	Classroom pedagogical issues	Survey	11 (15)[f]	0.92 (37)[f]
16.	"Creating a custom-published textbook to facilitate curriculum change: an example from advanced accounting" by Dawn W. Massey and Joan Van Hise (Joan L. Lee) (Volume 5, 2003).	Accounting program issues	Persuasive argument	11 (15)[f]	0.92 (37)[f]
17.	"Assessing student learning and growth through audit risk simulations" by Brian Patrick Green and Thomas G. Calderon (Volume 7, 2005).	Classroom pedagogical issues	Experiment	11 (15)[f]	1.10 (19)[f]
18.	"A writing-improvement module for accounting education" by David E. Stout and Joseph J. DaCrema (Volume 7, 2005).	Classroom pedagogical issues	Persuasive argument with statistical support	11 (15)[f]	1.10 (19)[f]

Table 2. (*Continued*)

Row	Article	Primary Issue[b]	Research Method[c]	Citation Count[d] (Rank)	Citation Rate[e] (Rank)
19.	"Problems and considerations in implementing technology-based solutions to address changes in accounting curricula" by Mahendra R. Gujarathi and Ralph J. McQuade (Volume 1, 1998).	Accounting program issues	Survey	11 (15)[f]	0.65 (63)[f]
20.	"Leadership and technical ability: determinants of student project team performance" by Catherine A. Usoff and Mark R. Nixon (Volume 1, 1998).	Classroom pedagogical issues	Archival	11 (15)[f]	0.65 (63)[f]
21.	"Accounting department chairs' perceptions of the importance of communication skills" by Jacqueline J. Schmidt, Brian Patrick Green, and Roland Madison (Volume 10, 2009).	Faculty issues	Survey	10 (21)[f]	1.67 (6)
22.	"A new approach to improving and evaluating student workplace writing skills" by Susan A. Lynn and Thomas E. Vermeer (Volume 9, 2008).	Accounting program issues	Experiment	10 (21)[f]	1.43 (7)[f]
23.	"Groupthink in accounting education" by Michael P. Riordan, Diane A. Riordan, and E. Kent St. Pierre (Volume 9, 2008).	Faculty issues	Persuasive argument	10 (21)[f]	1.43 (7)[f]
24.	"Instilling student responsibility with team contracts and peer evaluations" by B. Douglas Clinton and Pamela A. Smith (Volume 10, 2009).	Classroom pedagogical issues	Persuasive argument with statistical support	8 (31)[f]	1.33 (13)[f]
25.	"The IFRS question: to adopt or not?" by Anna Alon (Volume 13, 2012).	Faculty issues	Persuasive argument with statistical support	4 (68)[f]	1.33 (13)[f]

26.	"Accounting doctoral programs: A multidimensional bescription" by Amelia A. Baldwin, Carol E. Brown, and Brad S. Trinkle (Volume 11, 2010).	Faculty issues	Archival	6 (46)[f]	1.20 (16)
27.	"The influence of motivation on cheating behavior among accounting majors" by Kenneth J. Smith, Jeanette A. Davy, and Donald L. Rosenburg (Volume 10, 2009).	Faculty issues	Survey	7 (39)[f]	1.16 (17)
28.	"Student turned consultant: Teaching the balanced scorecard using experiential learning" by Noah P. Barsky, Anthony A. Catanach, and C. Andrew Lafond (Volume 9, 2008).	Classroom pedagogical issues	Persuasive argument with statistical support	8 (31)[f]	1.14 (18)

Notes: [a]Rankings are based solely on citations to publications in *Advances in Accounting Education*. The table initially lists the top 20 articles based on citation count. Articles in rows 21–28 ranked in the top 20 based on citation rate but not on citation count.
[b]Articles were classified as addressing faculty issues, student issues, classroom pedagogical issues, or accounting program issues.
[c]Six categories for methodology include (1) persuasive arguments, (2) persuasive argument with statistical support, (3) questionnaire/survey, (4) archival, (5) multiple research methods, and (6) experiment.
[d]Citation count is the number of citations from year of publication to May 2015.
[e] Citation rate is the number of citations from year of publication divided by the number of years since publication to May 2015.
[f]Indicates a tie.

development, journal rankings, publication records, peer-teaching evaluations, and citations used for promotion and tenure decisions.

Student issues include study time gap, problem-solving style, oral communication apprehension, student involvement in accounting organizations, perceptions of the profession, impact of GMAT and undergraduate grade point average, and student attitudes.

Accounting program issues include designing an integrated accounting core curriculum, core competencies (mapping the vision-aligned academic framework into the vision project), financial information systems curriculum, fraud courses/curriculum, forensic accounting, accounting advisory boards, and integrating professionalism.

Classroom pedagogical issues include critical thinking, integrating learning strategies, using Bloom's taxonomy, integrating research into the classroom, cooperative learning techniques, interactive television instruction, service learning models, using personal computer movies in the classroom, hypermedia projects, peer tutors, and problem-based learning.

Teaching cases are derived from actual or simulated business activities. Teaching cases are designed for immediate use by faculty.

Research Methodology Categories

We then categorized the articles into eight research methodologies: (1) persuasive argument, (2) persuasive argument with statistical support, (3) questionnaire/survey, (4) archival methodology, (5) multiple research methods, (6) experiment, (7) teaching case, and (8) literature review. We describe each classification in the paragraphs that follow.

Persuasive argument articles are nonempirical. Usually, the emphasis is on pedagogy and the article explains how to improve teaching methods or curricula/programs. They are often "thought pieces" such as anecdotal experiences with various pedagogical tools, position papers on particular issues, or historical discussions with implications for current and future efforts.

Persuasive argument with statistical support articles use persuasive arguments and statistical support such as survey data, experiments, or archival data to support the arguments.

Questionnaire/survey articles gather data using questionnaires/surveys.

Archival methodology articles are based on analyses and conclusions on objective data collected from repositories. These include studies in which the researchers, or another third party, collected the data and the data has objective amounts such as GMAT scores, grade point averages, etc.

Multiple research methods include studies using a combination of methodologies such as both archival and survey/questionnaire methodologies or both experimental and survey/ questionnaire methodology.

Experimental studies use laboratory or field experiments to manipulate independent variables under controlled conditions. If different populations are selected in an attempt to "manipulate" a variable (e.g., participants of different experience levels were selected for participation), it is also considered an experiment.

Teaching cases use actual or simulated business activities. Some teaching cases use survey data such as student satisfaction to support the arguments for their effectiveness.

Literature reviews discuss published articles on a particular subject area and sometimes articles in a particular subject area within a certain period. A literature review can not only be a simple summary of the articles, but also usually has an organizational pattern and combines both summary and synthesis. A literature review may trace the intellectual progression, including major controversies. The literature review may evaluate the articles and suggest to the reader the most pertinent or relevant aspects of the literature.

Table 2 reports the primary research category and methodology for each of the 28 articles listed. Almost half of the 28 most cited articles listed in Table 2 focus on classroom pedagogical issues (13/28 = 46.43%), followed by faculty issues (9/28 = 32.14%), with the remaining articles focusing on accounting program issues (6/28 = 21.43%). It is interesting to note that three of the six most often cited articles dealt with ethics. Three of the top 22 articles dealt with communication skills including writing skills. Three articles dealt with online issues (online homework systems, online degrees, and technology-based solutions). The most influential articles also dealt with forensic accounting, environmental accounting, and international financial reporting standards.

Persuasive argument (9/28 = 32.14%) was the most often used research method in the 28 most cited *Advances in Accounting Education* articles. This was followed by persuasive argument with statistical support (6/28 = 21.43%), questionnaire/survey (6/28 = 21.43%), experimental studies (4/28 = 14.29%), and archival methodology articles (3/28 = 10.71%).

Influential Authors

We next determined the most influential authors in the first 16 volumes of *Advances in Accounting Education*. We used four citation metrics to determine

the most influential authors. The four citation metrics are citation count, scaled citation count, citation rate, and scaled citation rate. Citation count is the number of citations from year of publication to May 2015 (full credit). Scaled citation count is citation count divided by the number of authors (coauthor-adjusted credit). Citation rate is citation count divided by the number of years from publication to May 2015 (full credit), and scaled citation rate is citation rate divided by the number of authors (coauthor-adjusted credit).

Two citation metrics, citation rate and scaled citation rate, favor the more recent publications, while citation count and scaled citation count favor older articles. We used the two full-credit metrics, citation count and citation rate, to determine the most influential articles reported in Table 2.

Table 3 reports the top 30 authors based on the four citation metrics. We included authors ranked in the top 30 using any of these measures in Table 3. This resulted in a list of 50 authors. (Again, row numbers are included to support the discussion.) Rows 1–34 list the top 30 (34 due to ties) authors using citation count and rows 35–38 list authors in the top 30 based on scaled citation count not included based on citation count. Rows 39–47 add the authors who ranked in the top 30 based on citation rate but not citation count and scaled citation count. Finally, rows 48–50 include authors ranked in the top 30 based on scaled citation rate but not included in the first three metrics.

Table 3 identifies 50 authors and reports the four citation metrics and author rank based on each citation metric. The top six authors based on citation count rank in the top 10 using the other three citation metrics as well. Zabihollah Rezaee and Robert C. Elmore have 45 citations each, while D. Larry Crumbley has 42, Brian Patrick Green has 39, Dawn W. Massey has 33, and Noah P. Barsky has 27.

Trends in Research Issues and Methodologies

To identify potential trends in the research issues and methodologies of articles published in *Advances in Accounting Education* over the years, we categorized the 195 articles published from 1998 to 2015 by time period (1998–2005 and 2006–2015), research issue, and research methodology. Table 4 reports the results of our analysis of research issues published by the journal. As reported in this table, articles dealing with student issues increased in number and percentage (by more than double) between the two time periods. Student issues comprised 8.82% (9/102) of the articles in the first eight volumes, while

Table 3. Top 30 Author Rankings[a], Volumes 1–16.

Rows	Author	Citation Count[b] (Rank)	Scaled Citation Count[c] (Rank)	Citation Rate[d] (Rank)	Scaled Citation Rate[e] (Rank)
1.	Zabihollah Rezaee	45 (1)[f]	14.75 (3)[f]	4.82 (1)[f]	1.52 (2)[f]
2.	Robert C. Elmore	45 (1)[f]	14.75 (3)[f]	4.82 (1)[f]	1.52 (2)[f]
3.	D. Larry Crumbley	42 (3)	14 (5)[f]	3.82 (4)	1.27 (6)
4.	Brian Patrick Green	39 (4)	15.16 (2)	4.79 (3)	1.89 (1)
5.	Dawn W. Massey	33 (5)	12.84 (7)	3.04 (5)	1.17 (8)
6.	Noah P. Barsky	27 (6)	11.34 (10)	2.96 (9)	1.22 (7)
7.	Jay C. Thibodeau	26 (7)	8.42 (19)	2.83 (10)	0.91 (21)
8.	Mahendra J. Gujarathi	25 (8)	12.30 (8)	1.68 (25)	0.93 (19)[f]
9.	Michael C. Knapp	23 (9)[f]	7.67 (20)[f]	1.35 (41)[f]	0.45 (68)[f]
10.	Stephen E. Loeb	23 (9)[f]	23 (1)	1.35 (41)[f]	1.35 (4)
11.	Timothy J. Louwers	23 (9)[f]	7.67 (20)[f]	1.35 (41)[f]	0.45 (68)[f]
12.	Catherine K. Weber	23 (9)[f]	7.67 (20)[f]	1.35 (41)[f]	0.45 (68)[f]
13.	Anthony H. Catanach, Jr.	22 (13)[f]	9.67 (15)	2.54 (15)	1.08 (10)
14.	Alan Reinstein	22 (13)[f]	9.83 (14)	1.73 (22)	0.79 (26)
15.	Thomas G. Calderon	21 (15)[f]	8.83 (18)	2.31 (17)	0.96 (16)
16.	Julie A. Lockhart	21 (15)[f]	10.50 (11)[f]	1.40 (38)[f]	0.70 (30)[f]
17.	Martin R. Matthews	21 (15)[f]	10.50 (11)[f]	1.40 (38)[f]	0.70 (30)[f]
18.	Cynthia D. Heagy	19 (18)[f]	9.50 (16)[f]	1.90 (18)[f]	0.95 (17)[f]
19.	Constance M. Lehmann	19 (18)[f]	9.50 (16)[f]	1.90 (18)[f]	0.95 (17)[f]
20.	Curtis L. DeBerg	18 (20)	5.23 (40)	1.50 (31)	0.48 (58)
21.	Michael P. Coyne	17 (21)	5.67 (33)	1.70 (24)	0.57 (42)
22.	Thomas P. Edmonds	16 (22)[f]	5.83 (30)[f]	1.61 (29)	0.64 (37)
23.	Mary Anne Gaffney	16 (22)[f]	5.83 (30)[f]	2.80 (11)	0.97 (15)
24.	David E. Stout	16 (22)[f]	6.75 (24)	1.55 (30)	0.66 (34)
25.	Anne L. Christensen	15 (25)	6.17 (28)	2.60 (12)[f]	1.03 (11)
26.	Barbara J. Eide	14 (26)[f]	14.00 (5)[f]	0.93 (98)[f]	0.93 (20)
27.	Daryl M. Guffey	14 (26)[f]	4.66 (47)	1.34 (45)	0.45 (68)[f]
28.	Mohamed E. Bayou	14 (26)[f]	7.00 (23)	0.93 (98)[f]	0.47 (64)
29.	David F. Bean	13 (29)[f]	6.50 (26)[f]	1.30 (50)[f]	0.65 (35)[f]
30.	Richard A. Bernardi	13 (29)[f]	6.50 (26)[f]	1.30 (50)[f]	0.65 (35)[f]
31.	Cindy D. Edmonds	13 (29)[f]	4.33 (53)[f]	1.01 (65)	0.34 (104)[f]
32.	Cynthia M. Jackson	13 (29)[f]	4.08 (57)	0.94 (97)	0.29 (133)[f]
33.	David Ryan	13 (29)[f]	4.33 (53)[f]	2.60 (12)[f]	0.87 (22)[f]
34.	Christian Wurst	13 (29)[f]	4.33 (53)[f]	2.60 (12)[f]	0.87 (22)[f]
35.	Julia K. Brazelton	12 (35)[f]	12.00 (9)	0.80 (120)[f]	0.80 (25)
36.	Mary York Christ	10 (50)[f]	10.00 (13)	0.77 (125)	0.77 (27)
37.	Claire Kamm Latham	10 (50)[f]	6.67 (25)	1.83 (20)[f]	1.16 (9)
38.	Lourdes F. White	6 (113)[f]	6.00 (29)	0.50 (177)[f]	0.50 (48)[f]
39.	James M. Kohlmeyer III	12 (35)[f]	4.00 (58)[f]	3.00 (6)[f]	1.00 (12)[f]
40.	Larry P. Seese	12 (35)[f]	4.00 (58)[f]	3.00 (6)[f]	1.00 (12)[f]
41.	Terry Sincich	12 (35)[f]	4.00 (58)[f]	3.00 (6)[f]	1.00 (12)[f]
42.	Nancy L. Wilburn	10 (50)[f]	3.34 (82)	2.43 (16)	0.81 (24)
43.	Bob G. Kilpatrick	7 (95)[f]	2.34 (117)	1.83 (21)	0.61 (38)

Table 3. (*Continued*)

Rows	Author	Citation Count[b] (Rank)	Scaled Citation Count[c] (Rank)	Citation Rate[d] (Rank)	Scaled Citation Rate[e] (Rank)
44.	Karen K. Osterheld	5 (128)[f]	1.28 (195)	1.71 (23)	0.41 (82)[f]
45.	Roland Madison	10 (50)[f]	3.33 (83)[f]	1.67 (26)[f]	0.56 (43)[f]
46.	Jacqueline J. Schmidt	10 (50)[f]	3.33 (83)[f]	1.67 (26)[f]	0.56 (43)[f]
47.	Mark R. Nixon	12 (35)[f]	5.70 (32)	1.65 (28)	0.53 (46)[f]
48.	Anna Alon	4 (153)[f]	4.00 (58)[f]	1.33 (46)[f]	1.33 (5)
49.	Susan A. Lynn	10 (50)[f]	5.00 (41)[f]	1.43 (32)[f]	0.72 (28)[f]
50.	Thomas E. Vermeer	10 (50)[f]	5.00 (41)[f]	1.43 (32)[f]	0.72 (28)[f]

Notes: [a]Rankings are based solely on citations to publications in *Advances in Accounting Education*. The table initially lists the top 30 (34 due to ties) authors based on citation count. Next, if an author ranks in the top 30 based on scaled citation count and is not ranked based on citation count then he/she is added to the ranking (rows 35–38). We repeat this for citation rate (rows 39–47) and scaled citation rate (rows 48–50).
[b]Citation count is the number of citations since year of publication to May 2015.
[c]Scaled citation count is citation count divided by the number of authors.
[d]Citation rate is citation count divided by the number of years since publication to May 2015.
[e]Scaled citation rate is citation rate divided by the number of authors.
[f]Indicates a tie.

they comprised 21.51% (20/93) of the articles in the next eight volumes. All other categories of research issues declined with faculty issues declining the most (6/16 = 37.5%) followed by accounting program issues (5/18 = 27.78%) and pedagogical issues (9/59 = 15.25%).

Table 5 reports the results of our analysis of the research methods used for articles published in *Advances in Accounting Education*. This table reports a shift from persuasive argument as the most often used research methodology (51/102 = 50%) in the first eight volumes to the second most often used (26/93 = 27.96%) in the next eight volumes. For Volumes 9–16, persuasive argument with statistical support was the most often used methodology (33/93 = 35.48%). The use of experiments increased between the two time periods (8.83% to 15.05%) while the use of other methods declined.

Comparison with Other Accounting Education Journals

Based on the shifts in research issue and research methodology between the two time periods, we limited our comparison of *Advances in Accounting Education* to the *Journal of Accounting Education* (*JAEd*) and *Issues in*

Table 4. Frequency of Articles by Category and Volumes in *Advances in Accounting Education* from 1998 to 2015.

Category	1998–2005, Volumes 1–8		2006–2015, Volumes 9–16	
	Number of articles	Percentage	Number of articles	Percentage
Faculty issues[a]	16	15.69	10	10.75
Student issues[b]	9	8.82	20	21.51
Accounting program issues[c]	18	17.65	13	13.98
Classroom pedagogical issues[d]	59	57.84	50	53.76
Total	102	100.00	93	100.00

Notes: [a]Faculty issues include myriad topics including peer collaboration for teaching improvement, student evaluations, accounting doctoral programs, career development, journal rankings, publication records, peer-teaching evaluations, citations used for promotion and tenure decisions.
[b]Student issues include study time gap, problem-solving style, oral communication apprehension, student involvement in accounting organizations, perceptions of the profession, impact of GMAT and undergraduate grade point average, and student attitudes.
[c]Accounting program issues include designing an integrated accounting core curriculum, core competencies (mapping the vision-aligned academic framework into the vision project), financial information systems curriculum, fraud courses/curriculum, forensic accounting, accounting advisory boards, and integrating professionalism.
[d]Classroom pedagogical issues includes critical thinking, integrating learning strategies, using Bloom's taxonomy, integrating research into the classroom, cooperative learning techniques, interactive television instruction, service learning models, using personal computer movies in the classroom, hypermedia projects, peer tutors, and problem-based learning.

Accounting Education to the time period from 2006 to 2015. Tables 6 and 7 report the frequency of the issues covered in the three journals. Tables 8 and 9 report the frequency of research methodology used.

Frequency numbers and percentages reported in Tables 6 and 7 should be evaluated in light of the fact that *Advances in Accounting Education* publishes one to two issues per year, while both the *JAEd* and *Issues in Accounting Education* publish four issues a year. Both *JAEd* and *Issues in Accounting Education* have separate sections for teaching cases, while *Advances in Accounting Education* does not include teaching cases in the type of research areas included in the journal. An author of a teaching case would therefore need to choose one of the other journals. Table 6 includes teaching cases in the frequency analysis. Over 25% of all articles in *JAEd* and over 40% of all articles in *Issues in Accounting Education* were teaching cases.

Table 7 reports the number and percentage of articles in each journal excluding the teaching cases. Faculty issues were published most frequently in *Issues in*

Table 5. Frequency of Articles by Methodology and Volumes in *Advances in Accounting Education* from 1998 to 2015.

Methodology	1998–2005, Volumes 1–8		2006–2015, Volumes 9–16	
	Number of articles	Percentage	Number of articles	Percentage
Persuasive argument[a]	51	50.00	26	27.96
Persuasive argument with statistical support[b]	12	11.76	33	35.48
Questionnaire/survey[c]	21	20.59	14	15.05
Archival[d]	5	4.90	3	3.23
Multiple research methods[e]	4	3.92	3	3.23
Experiment[f]	9	8.83	14	15.05
Total	102	100.00	93	100.00

Notes: [a]Persuasive argument: Persuasive argument articles are nonempirical. Usually the emphasis is on pedagogy and the article explains how to improve teaching methods or curricula/programs. They are often "thought pieces" (e.g., anecdotal experiences with various pedagogical tools, position papers on particular issues, or historical discussions with implications for current and future efforts).

[b]Persuasive argument with statistical support: The article uses persuasive arguments and statistical support such as survey data, experiments, or archival data to support the arguments.

[c]Questionnaires/surveys: Questionnaires/surveys are used to gather data.

[d]Archival: Analyses and conclusions based on objective data collected from repositories. Includes studies in which the researchers, or another third party, collected the data and the data has objective amounts such as GMAT scores, grade point averages, etc.

[e]Multiple research methods: Three studies used both archival and survey/questionnaire methodologies. Two studies published in the first eight volumes and one study published in the last eight volumes used both archival and survey/questionnaire methodologies. Four studies used both experimental and survey/questionnaire methodologies. Two studies published in the first eight volumes and two studies published in the last eight volumes used both experimental and survey/questionnaire methodologies.

[f]Experiment: Laboratory or field experiments are used to manipulate independent variables under controlled conditions. If different populations are selected in an attempt to "manipulate" a variable (e.g., participants of different experience levels were selected for participation), it is also considered an experiment.

Accounting Education (99 articles) followed by the *JAEd* (51 articles). In terms of frequency and percentage, *Advances in Accounting Education* published much fewer articles dealing with faculty issues (10 articles). However, student issues were published much more frequently in *Advances in Accounting Education* (20 articles) than in *JAEd* (no articles) and *Issues in Accounting Education* (3 articles). *Issues in Accounting Education* published more articles on accounting program issues (32) than *Advances in Accounting Education* (13) and *JAEd* (12)

Table 6. Frequency of Articles by Category in *Advances in Accounting Education*, *Journal of Accounting Education*, and *Issues in Accounting Education* from 2006 to 2015.

Category	*Advances in Accounting Education*		*Journal of Accounting Education*		*Issues in Accounting Education*	
	Number of articles	Percentage	Number of articles	Percentage	Number of articles	Percentage
Faculty issues[a]	10	10.75	51	28.81	99	25.32
Student issues[b]	20	21.51	0	0.00	3	0.77
Accounting program issues[c]	13	13.98	12	6.78	32	8.18
Classroom pedagogical issues[d]	50	53.76	67	37.85	92	23.53
Teaching cases[e]	0	0.00	47	26.56	165	42.20
Total	93	100.00	177	100.00	391	100.00

Notes: [a]**Faculty issues** include myriad topics including peer collaboration for teaching improvement, student evaluations, accounting doctoral programs, career development, journal rankings, publication records, peer-teaching evaluations, and citations used for promotion and tenure decisions.

[b]**Student issues** include study time gap, problem-solving style, oral communication apprehension, student involvement in accounting organizations, perceptions of the profession, impact of GMAT and undergraduate grade point average, and student attitudes.

[c]**Accounting program issues** include designing an integrated accounting core curriculum, core competencies (mapping the vision-aligned academic framework into the vision project), financial information systems curriculum, fraud courses/curriculum, forensic accounting, accounting advisory boards, and integrating professionalism.

[d]**Classroom pedagogical issues** includes critical thinking, integrating learning strategies, using Bloom's taxonomy, integrating research into the classroom, cooperative learning techniques, interactive television instruction, service learning models, using personal computer movies in the classroom, hypermedia projects, peer tutors, and problem based learning.

[e]**Teaching cases** are derived from actual or simulated business activities.

combined. Pedagogical issues account for more than 50% of the articles published in *Advances in Accounting Education* and *JAEd* when we omit teaching cases from the analysis. For *Issues in Accounting Education*, classroom pedagogical issues account for more than 40% of articles when we omit teaching cases.

Tables 8 and 9 report the frequency of research methods used for *Advances in Accounting Education*, the *JAEd,* and *Issues in Accounting Education* for the period from 2006 to 2015. Once again, Table 8 includes all methodologies including teaching cases while Table 9 excludes teaching cases. For both *JAEd*

Table 7. Frequency of Articles by Category in *Advances in Accounting Education*, *Journal of Accounting Education*, and *Issues in Accounting Education* from 2006 to 2015 Excluding Teaching Cases.

Category	*Advances in Accounting Education*		*Journal of Accounting Education*		*Issues in Accounting Education*	
	Number of articles	Percentage	Number of articles	Percentage	Number of articles	Percentage
Faculty issues[a]	10	10.75	51	39.23	99	43.81
Student issues[b]	20	21.51	0	0.00	3	1.33
Accounting program issues[c]	13	13.98	12	9.23	32	14.16
Classroom pedagogical issues[d]	50	53.76	67	51.54	92	40.70
Total	93	100.00	130	100.00	226	100.00

Notes: [a]Faculty issues include myriad topics including peer collaboration for teaching improvement, student evaluations, accounting doctoral programs, career development, journal rankings, publication records, peer-teaching evaluations, and citations used for promotion and tenure decisions.

[b]Student issues include study time gap, problem-solving style, oral communication apprehension, student involvement in accounting organizations, perceptions of the profession, impact of GMAT and undergraduate grade point average, and student attitudes.

[c]Accounting program issues include designing an integrated accounting core curriculum, core competencies (mapping the vision-aligned academic framework into the vision project), financial information systems curriculum, fraud courses/curriculum, forensic accounting, accounting advisory boards, and integrating professionalism.

[d]Classroom pedagogical issues includes critical thinking, integrating learning strategies, using Bloom's taxonomy, integrating research into the classroom, cooperative learning techniques, interactive television instruction, service learning models, using personal computer movies in the classroom, hypermedia projects, peer tutors, and problem based learning.

Table 8. Frequency of Articles by Methodology in *Advances in Accounting Education*, *Journal of Accounting Education*, and *Issues in Accounting Education* from 2006 to 2015.

Methodology	*Advances in Accounting Education*		*Journal of Accounting Education*		*Issues in Accounting Education*	
	Number of articles	Percentage	Number of articles	Percentage	Number of articles	Percentage
Persuasive argument[a]	26	27.96	38	21.47	90	23.02
Persuasive argument with statistical support[b]	33	35.48	46	25.99	71	18.16
Questionnaire/survey[c]	14	15.05	16	9.04	23	5.88
Archival[d]	3	3.23	11	6.21	18	4.60
Multiple research methods[e]	3	3.23	10	5.66	8	2.05
Experiment[f]	14	15.05	4	2.26	16	4.09
Teaching case[g]	0	0.00	47	26.55	165	42.20
Literature review[h]	0	0.00	5	2.82	0	0.00
Total	93	100.00	177	100.00	391	100.00

Table 9. Frequency of Articles by Methodology in *Advances in Accounting Education*, *Journal of Accounting Education*, and *Issues in Accounting Education* from 2006 to 2015 Excluding Teaching Cases.

Methodology	*Advances in Accounting Education*		*Journal of Accounting Education*		*Issues in Accounting Education*	
	Number of articles	Percentage	Number of articles	Percentage	Number of articles	Percentage
Persuasive argument[a]	26	27.96	38	29.23	90	39.82
Persuasive argument with statistical support[b]	33	35.48	46	35.38	71	31.42
Questionnaire/survey[c]	14	15.05	16	12.31	23	10.18
Archival[d]	3	3.23	11	8.46	18	7.96
Multiple research methods[e]	3	3.23	10	7.69	8	3.54
Experiment[f]	14	15.05	4	3.08	16	7.08
Literature review[g]	0	0.00	5	3.85	0	0.00
Total	93	100.00	130	100.00	226	100.00

Notes: [a]Persuasive argument: Persuasive argument articles are nonempirical. Usually, the emphasis is on pedagogy and the article explains how to improve teaching methods or curricula/programs. They are often "thought pieces" (e.g., anecdotal experiences with various pedagogical tools, position papers on particular issues, or historical discussions with implications for current and future efforts).

[b]Persuasive argument with statistical support: The article uses persuasive arguments and statistical support such as survey data, experiments, or archival data to support the arguments.

[c]Questionnaire/survey: Questionnaires/surveys are used to gather data.

[d]Archival: Analyses and conclusions based on objective data collected from repositories. Includes studies in which the researchers, or another third party, collected the data and the data has objective amounts such as GMAT scores, grade point averages, etc.

[e]Multiple research methods: Three studies used both archival and survey/questionnaire methodologies. Two studies published in the first eight volumes and one study published in the last eight volumes used both archival and survey/questionnaire methodologies. Four studies used both experimental and survey/questionnaire methodologies. Two studies published in the first eight volumes and two studies published in the last eight volumes used both experimental and survey/questionnaire methodologies.

[f]Experiment: Lab or field experiments are used to manipulate independent variables under controlled conditions. If different populations are selected in an attempt to "manipulate" a variable (e.g., participants of different experience levels were selected for participation), it is also considered an experiment.

[g]Teaching cases: A teaching case is derived from actual or simulated business activities. Some teaching cases use survey data such as student satisfaction to support the arguments for their effectiveness.

[h]Literature review: Literature reviews discuss published articles on a particular subject area, and sometimes articles in a particular subject area within a certain time period. A literature review can be a simple summary of the articles, but usually has an organizational pattern and combines both summary and synthesis. A literature review may trace the intellectual progression, including major controversies. The literature review may evaluate the articles and suggest to the reader the most pertinent or relevant aspects of the literature.

(26.55%) and *Issues in Accounting Education* (42.20%), teaching case articles are the most frequently published methodology.

Table 9 reports that when we omit the teaching case methodology from the analysis, persuasive argument with statistical support is the most often used methodology for both *Advances in Accounting Education* (33/93 = 35.48%) and *JAEd* (46/130 = 35.38%). It is the second most often used for articles in *Issues in Accounting Education* (71/226 = 31.42%). The most often used methodology in *Issues in Accounting Education* is persuasive argument (90/226 = 39.82%) while this is the second most used for both *Advances in Accounting Education* (26/93 = 27.96%) and *JAEd* (46/130 = 29.23%). Persuasive argument (with and without statistical support) represents over 60% of nonteaching case articles for both *Advances in Accounting Education* (63%) and *JAEd* (64%) and over 70% of *Issues in Accounting Education* (71%). The questionnaire/survey methodology was the third most often used for nonteaching case articles in all three journals with the number of articles ranging from 14 (*Advances in Accounting Education*) to 23 (*Issues in Accounting Education*) and the percentage ranging from 10% (*Issues in Accounting Education*) to 15% (*Advances in Accounting Education*). The experimental method ranked third (tied with questionnaire/survey) in terms of frequency for *Advances in Accounting Education* (14/93 = 15.05%), fifth for *Issues in Accounting Education* (16/226 = 7.086%), and seventh for *JAEd* (4/130 = 3.08%). Multiple research methodologies were used more often in articles in *JAEd* (10/130 = 3.85%) than in *Advances in Accounting Education* (3/93 = 3.23%) and *Issues in Accounting Education* (8/226 = 3.54%). Archival methodologies were the fourth most often used for both *JAEd* (11/130 = 8.46%) and *Issues in Accounting Education* (18/226 = 7.96%) and tied for fifth in *Advances in Accounting Education* (3/93 = 3.23%). The only journal to publish literature reviews was the *JAEd* (5/130 = 3.85%).

CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH

We used Google Scholar to perform a citation analysis of the first 16 volumes of *Advances in Accounting Education: Teaching and Curriculum Innovations*. We identified the 20 most influential articles based on two citation metrics (citation count and citation rate). This resulted in a list of the 28 most cited articles published in the journal. We also identified the primary research issue and methodology used. Almost half of the 28 most cited articles in Table 2

focus on classroom pedagogical issues (13/28 = 46.43%), followed by faculty issues (9/28 = 32.14%), with the remaining articles focusing on accounting program issues (6/28 = 21.43%). Persuasive argument (9/28 = 32.14%) was the most often used research method in the 28 most cited *Advances in Accounting Education* articles. This was followed by persuasive argument with statistical support (6/28 = 21.43%), questionnaire/survey (6/28 = 21.43%), experimental studies (4/28 = 14.29%), and archival methodology articles (3/28 = 10.71%). These statistics provide useful information to both previous and future potential contributors. Past authors can see how their contributions to *Advances in Accounting Education* compare with those of other authors. Potential contributors can use this information to identify the types of articles that have had the greatest impact.

We identified the top authors using four citation measures (citation count, scaled citation count, citation rate, and scaled citation rate). We identified the top 30 authors for each of the four measures. This resulted in a list of 50 influential authors. This analysis provides feedback to the authors listed and provides information to researchers about authors whose work may be relevant to their research topic.

We next compared research issues and methodologies of the 195 articles published in *Advances in Accounting Education* by time period (1998–2005 and 2006–2015) by research category and research methodology to identify trends in the articles published. Student issues were much more frequent in the second time period (increasing from 8.82% to 21.51%) while all other categories declined in frequency. Articles published from 2006 to 2015 were more likely to use persuasive argument with statistical support than those published between 1998 and 2005. Experiments were also published more frequently in the period from 2006 to 2015.

We then compared *Advances in Accounting Education* with the *JAEd* and *Issues in Accounting Education* for the period 2006–2015. We categorized each article by research issue and research methodology. This analysis indicates that *Issues in Accounting Education* most often publishes teaching cases followed by the *JAEd. Advances in Accounting Education* published no teaching cases. We analyzed the research issues and research methodologies for the three journals without including teaching cases. The most frequent research issues in *Advances in Accounting Education* were classroom pedagogical issues (53.76%) and student issues (21.51%). The most frequent issues in the *JAEd* were classroom pedagogical issues (51.54%) and faculty issues (39.23%). The research categories most often covered in *Issues in Accounting Education* were faculty issues (43.81%) and classroom pedagogical issues (40.71%).

The two most often used research methodologies for all three journals were persuasive argument and persuasive argument with statistical support accounting for more than 60% of the articles published in *Advances in Accounting Education* and *JAEd* and more than 70% of articles published in *Issues in Accounting Education*. Only *JAEd* published literature review articles, and this represented a small percentage of the articles published (3.85%).

Authors may use the information about the research issues and methodologies most often published in these three journals to determine the best fit for their accounting education research.

Limitations

A potential limitation of this study is the use of a single source for the citation analysis information. Google Scholar is widely used in citation analysis research and has excellent coverage and stability (Guffey & Harp, 2014). Google Scholar captures citations not included in other databases (ISI Web of Knowledge and Scopus) but makes no distinction between high- and low-quality publications. Because of this, we performed an analysis comparing all citations to the top 20 articles and "quality" citations (those in journals and books) to the top 20 articles. Of the total citations to the top 20 articles, 78% are quality citations and the correlation between total citations and quality citations is 0.947. For the top 20 articles published in *Advances in Accounting Education*, most citations are quality citations alleviating concerns about low-quality citations.

Another potential limitation is that only three accounting education journals were included in the comparison. There are other well-known and reputable accounting education journals not included in this study.

Future Research

A number of accounting journals have been studied using citation analysis. Future research might benefit from extending citation analysis to journals not previously studied. Some of the studies are over 30 years old; it might be useful to update these studies. Finally, a number of citation analysis studies were performed prior to the release of Google Scholar. It might be interesting to compare results of earlier studies with an analysis using Google Scholar.

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