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## Main article

## Accounting education literature review (2016)

Barbara Apostolou<sup>a,\*</sup>, Jack W. Dorminey<sup>a</sup>, John M. Hassell<sup>b</sup>, James E. Rebele<sup>c</sup><sup>a</sup> West Virginia University, Department of Accounting, College of Business and Economics, Morgantown, WV 26506-6025, United States<sup>b</sup> Indiana University, Kelley School of Business Indianapolis, BS4012, 801 W. Michigan Street, Indianapolis, IN 46202-5151, United States<sup>c</sup> Robert Morris University, School of Business, 6001 University Boulevard, Moon Township, PA 15108, United States

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## ABSTRACT

This review of the accounting education literature includes 108 articles published during 2016 in six journals: (1) *Journal of Accounting Education*, (2) *Accounting Education*, (3) *Advances in Accounting Education*, (4) *Global Perspectives on Accounting Education*, (5) *Issues in Accounting Education*, and (6) *The Accounting Educators' Journal*. This article updates prior accounting education literature reviews by organizing and summarizing recent contributions to the accounting education literature. Articles are categorized into five sections corresponding to traditional lines of inquiry: (1) curriculum and instruction, (2) instruction by content area, (3) educational technology, (4) students, and (5) faculty. Suggestions for research in all areas are presented. Articles presenting instructional resources and cases published in the same six journals during 2016 are listed in appendices categorized by the appropriate content area.

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## 1. Introduction

This review of the accounting education literature includes 108 articles: 76 empirical or descriptive articles, 10 instructional resources, and 22 cases appearing in six journals during 2016. The journals included in this review are (1) *Journal of Accounting Education*, (2) *Accounting Education*, (3) *Advances in Accounting Education*, (4) *Global Perspectives on Accounting Education*, (5) *Issues in Accounting Education*, and (6) *The Accounting Educators' Journal*. As noted in [Table 1](#), this article is the 12th in a series of accounting education literature reviews first published in 1986. The journals reviewed since 1991 are presented in [Table 2](#) according to time period with reference to [Table 1](#).<sup>1</sup> For ease of presentation, [Table 3](#) summarizes commonly used abbreviations and corresponding definitions used throughout this article.

Eighteen issues of the six accounting education journals are reviewed for 2016. The following special topics were included in five of those issues:

1. Assessment.<sup>2</sup>
2. Academic misconduct in accounting education.<sup>3</sup>

\* Corresponding author.

E-mail addresses: [barbara.apostolou@mail.wvu.edu](mailto:barbara.apostolou@mail.wvu.edu) (B. Apostolou), [jack.dorminey@mail.wvu.edu](mailto:jack.dorminey@mail.wvu.edu) (J.W. Dorminey), [jhassell@iupui.edu](mailto:jhassell@iupui.edu) (J.M. Hassell), [rebele@rmu.edu](mailto:rebele@rmu.edu) (J.E. Rebele).

<sup>1</sup> We intentionally limit our analysis to those journals that have accounting education as a primary orientation. We acknowledge that accounting education articles may appear in journals not included in our review.

<sup>2</sup> *Issues in Accounting Education* (Vol. 31, No. 1).

<sup>3</sup> *The Accounting Educators' Journal* (Vol. 26).

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**Table 1**  
Accounting education literature review series.

Time period	Reference
Prior to 1985	1. Rebele and Tiller (1986)
1985–1991	2. Rebele, Stout, and Hassell (1991)
1991–1997	3. Rebele et al. (1998a)
	4. Rebele et al. (1998b)
1997–1999	5. Apostolou, Watson, Hassell, and Webber (2001)
2000–2002	6. Watson, Apostolou, Hassell, and Webber (2003)
2003–2005	7. Watson, Apostolou, Hassell, and Webber (2007)
2006–2009	8. Apostolou, Hassell, Rebele, and Watson (2010)
2010–2012	9. Apostolou, Dorminey, Hassell, and Watson (2013)
2013–2014	10. Apostolou et al. (2015)
2015	11. Apostolou et al. (2016)
2016	12. Apostolou, Dorminey, Hassell, and Rebele (2017)

**Table 2**  
Journals reviewed in the accounting education literature review series.

	Period covered by review									
	1991–1997 <sup>a</sup>	1997–1999	2000–2002	2003–2005	2006–2009	2010–2012	2013–2014	2015	2016	
<i>Journal of Accounting Education</i>	✓ <sup>b</sup>	✓	✓	✓	✓	✓	✓	✓	✓	
<i>Accounting Education</i>		✓	✓	✓	✓	✓	✓	✓	✓	
<i>Advances in Accounting Education</i>	c	✓	✓	✓	d	✓	✓	✓	✓	
<i>Global Perspectives on Accounting Education</i>	e	e	e	✓	✓	✓	✓	✓	✓	
<i>Issues in Accounting Education</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓	
<i>The Accounting Educators' Journal</i>	✓	f	f	g	✓	✓	✓	✓	✓	

<sup>a</sup> *Accounting Perspectives* is included in the 1991–1997 review, but is excluded thereafter because after 1997 its focus shifted away from education-related articles.

<sup>b</sup> Not reviewed prior to 1997.

<sup>c</sup> Known as *Accounting Education: A Journal of Theory, Practice, and Research* for the 1991–1997 review.

<sup>d</sup> No issue published in 2006.

<sup>e</sup> No issues published.

<sup>f</sup> Volumes 11, 12, 13, and 14 (1999–2002) not reviewed in this series.

<sup>g</sup> Included in the 2006–2009 review.

**Table 3**  
Summary of common abbreviations.

Abbreviation	Definition
AACSB	The Association to Advance Collegiate Schools of Business
AIS	Accounting information systems
CFE	Certified Fraud Examiner
CIA	Certified Internal Auditor
CMA	Certified Management Accountant
CPA	Certified Public Accountant
DGBL	Digital game-based learning
ERP	Enterprise resource planning
GMAT	Graduate Management Admission Test
GPA	Grade point average
GVV	“Giving Voice to Values” ethical model
IFRS	International Financial Reporting Standards
NASBA	National Association of State Boards of Accountancy (US)
NFP	Not-for-profit organizations
IFRS	International financial reporting standards
SAT	Scholastic Aptitude Test
VITA	Volunteer Income Tax Assistance program

3. Doctoral education and the academic job market.<sup>4</sup>

4. Papers from the 2014 World Congress of Accounting Educators and Researchers.<sup>5</sup>

<sup>4</sup> *Advances in Accounting Education* (Vol. 18) and *Issues in Accounting Education* (Vol. 31, No. 2).

<sup>5</sup> *Accounting Education* (Vol. 25, No. 4).

**Table 4**  
Article classification by journal.

Journal	Summarized articles			Appendices		
	Empirical <sup>a</sup>	Descriptive <sup>b</sup>	Total	Instructional resources <sup>c</sup>	Cases <sup>d</sup>	Total
<i>Journal of Accounting Education</i>	5	4	9	5	7	21
<i>Accounting Education</i>	18	10	28	2		30
<i>Advances in Accounting Education</i>	8	2	10	2		12
<i>Global Perspectives on Accounting Education</i>	2	1	3			3
<i>Issues in Accounting Education</i>	8	8	16		13	29
<i>The Accounting Educators' Journal</i>	7	3	10	1	2	13
Total	48	28	76	10	22	108
Percentage of total	44%	26%	70%	9%	21%	100%

<sup>a</sup> Empirical articles derive conclusions from an analysis of data.

<sup>b</sup> Descriptive articles discuss strategies, describe innovations, or report student perceptions without statistical analysis.

<sup>c</sup> Instructional resources are articles that provide guidance on how to implement teaching strategies or projects.

<sup>d</sup> Cases describe actual or hypothetical situations that require student analysis.

We classify a published article as empirical, descriptive, instructional resource, or case. Consistent with prior reviews, an empirical article is one in which conclusions are derived from an analysis of data. An article that discusses a strategy, describes an innovation, or reports student perceptions without statistical analysis generally is classified as descriptive.

Tables 4 and 5 provide data about each journal in our review with regard to type of articles and subject areas corresponding to the organization of this review. Table 4 presents a classification of the 108 articles as empirical and descriptive ( $n = 76$ , 70%), instructional resources ( $n = 10$ , 9%), and cases ( $n = 22$ , 21%) by each of the six journals reviewed. More empirical ( $n = 48$ ) than descriptive ( $n = 28$ ) articles were published in 2016. Table 5 provides an overview of the number of empirical and descriptive articles allocated to each subject area for each of the six journals. Two subject areas, curriculum and instruction ( $n = 20$ , 26%) and student issues ( $n = 25$ , 33%), account for over half of the articles summarized. The remaining articles address instruction by content area ( $n = 10$ , 13%), educational technology ( $n = 9$ , 12%), and faculty ( $n = 12$ , 16%).

Our reviews of empirical articles identify the data collection method, analysis approach, and geographic location of the sample studied. Three tables summarize the empirical articles along these dimensions. In Table 6 we report the frequency of data collection method by section reference and subject area for the empirical articles reviewed. Of the 48 empirical articles, half ( $n = 24$ , 50%) were based on data collected via survey, followed by published source ( $n = 11$ , 23%), and quasi-experimental ( $n = 7$ , 15%). The more rigorous experimental approach was not used in any empirical article published in 2016. We discuss and critique the research rigor of empirical accounting education articles in Section 7.2.

Table 7 reports the analysis approaches employed in the empirical articles.<sup>6</sup> The most common analysis approaches were regression ( $n = 21$ , 44%), differences-in-means ( $n = 11$ , 23%), and tabulation ( $n = 8$ , 17%). The geographic location of the sample is reported in Table 8. The majority of the studies occurred in the US and Canada ( $n = 37$ , 77%), Australia and New Zealand ( $n = 5$ , 11%), followed by Europe ( $n = 3$ , 6%), Asia and Africa ( $n = 2$ , 4%), and multinational ( $n = 1$ , 2%).

An instructional resource article describes a specific mode of delivery that can be implemented to facilitate both teaching and learning of content. We tabulate the 10 instructional resource articles published in 2016 by applicable content area(s) in Appendix A. As an example of an instructional resource, Diaz (2016) presented a strategy to engage auditing students in learning the different audit opinions.

A case presents an actual or hypothetical set of information followed by a set of questions or activities that encourage students to understand complexities of a topic or topics. The listing of 22 articles classified as cases appears in Appendix B, identified by content area or areas to which the case best relates. As an example of our classification scheme, Campbell and Helleloid (2016) used a Starbucks transaction to teach students about corporate social responsibility and taxation issues.

This review is organized by five major sections corresponding to traditional lines of inquiry in the accounting education literature. Section 2 summarizes articles on curricular issues, assurance of learning and assessment, core competencies, and instructional approaches. Section 3 includes articles on instruction by content area, and Section 4 summarizes articles about educational technology. Section 5 reviews articles related to student perspectives of accounting education, including academic major and career, student skills and characteristics, and approaches to learning and assessment. Section 6 summarizes articles on faculty research, teaching, and other faculty issues. Section 7 offers conclusions and reflections, along with suggestions for future accounting education scholarship.

## 2. Curriculum and instruction

This section summarizes 13 empirical and seven descriptive articles that address curricular issues, assurance of learning and assessment, core competencies, and instructional approaches. This section contains 26% of the articles reviewed, which

<sup>6</sup> For studies that used more than one analysis approach, we identify and describe the most rigorous.

**Table 5**  
Number of empirical (E) and descriptive (D) articles by section reference and subject area.

Journal	Section reference and subject area										Total summarized articles		
	2. Curriculum and instruction		3. Instruction by content area		4. Educational technology		5. Students		6. Faculty				
	E	D	E	D	E	D	E	D	E	D	E	D	
<i>Journal of Accounting Education</i>	2	1			1	2	2			1		5	4
<i>Accounting Education</i>	7	4	1	3	1	1	8	2	1			18	10
<i>Advances in Accounting Education</i>	1		1		2		2	1	2	1		8	2
<i>Global Perspectives on Accounting Education</i>				1			2					2	1
<i>Issues in Accounting Education</i>	2	2	2	1	1		2		1	5		8	8
<i>The Accounting Educators' Journal</i>	1			1	1		4	2	1			7	3
Subtotal by article classification	13	7	4	6	6	3	20	5	5	7		48	28
Total by section reference and subject area		20		10		9		25		12			76
Percentage of total		26%		13%		12%		33%		16%			100%

Note: Refer to [Table 4](#) for an overview of article production by journal.

**Table 6**

Data collection method used in empirical articles (by frequency count).

Section reference and subject area	Survey	Performance	Quasi-experiment	Published source	Interview	Total
2. Curriculum and instruction	7	3	1	2		13
3. Instruction by content area	2	1	1			4
4. Educational technology	2		4			6
5. Students	9	1	1	8	1	20
6. Faculty	4			1		5
Total	24	5	7	11	1	48
Percentage of total	50%	10%	15%	23%	2%	100%

**Table 7**

Analysis approach used in empirical articles (by frequency count).

Section reference and subject area	Regression	Differences-in-means	Tabulation	Analysis of variance	Path analysis	Total
2. Curriculum and instruction	5	5	2	1		13
3. Instruction by content area	1	2		1		4
4. Educational technology	2		2	1	1	6
5. Students	11	3	2	3	1	20
6. Faculty	2	1	2			5
Total	21	11	8	6	2	48
Percentage of total	44%	23%	17%	12%	4%	100%

**Table 8**

Geographic location of sample used in empirical articles (by frequency count).

Section reference and subject area	US and Canada	Australia and New Zealand	Multinational	Asia and Africa	Europe	Total
2. Curriculum and instruction	9	1		1	2	13
3. Instruction by content area	3				1	4
4. Educational technology	5	1				6
5. Students	17	2		1		20
6. Faculty	3	1	1			5
Total	37	5	1	2	3	48
Percentage of total	77%	11%	2%	4%	6%	100%

is a slight increase over the 2015 review (22%). Table 9 presents a topical summary of the articles related to curriculum and instruction. Two papers (one empirical and one descriptive) are included in the curricular issues category. The descriptive article identifies the apparent shortcoming of current courses in Italy to cover *Economia Aziendale* (EA). The other presents an empirical analysis addressing program quality. Assurance of learning and assessment includes three articles (one empirical and two descriptive) that explore the effects of excess information in multiple-choice questions, an assessment of cross-discipline scaffolding, and the benefits of using rubrics. Seven articles (five empirical and two descriptive) related to core competencies address approaches to skills development, reading comprehension and writing skills, the importance of Excel skills, and a framework for life-long learning. Eight articles (six empirical and two descriptive) on instructional approaches deal with peer assessment, study abroad, professional experience and apprenticeships, and student engagement and learning.

### 2.1. Curricular issues

Aprile and Nicolliello (2016) reviewed syllabi from 65 Italian universities (of 95 total Italian universities), having economics and business administration faculties, about *Economia Aziendale* (EA) courses.<sup>7</sup> EA is a fundamental course in Italian schools of Economics and Business Administration. EA is the basis of the traditional Italian accounting system, and it differs from the Anglo-Saxon IFRS model in that it is more conceptual and less technical. The authors provided descriptive information from the 65 syllabi from EA courses in 2010, and they noted that the syllabi were not fully consistent with the EA theory.

Fogarty, Zimmerman, and Richardson (2016) tested a model of perceived accounting program quality, with several inputs (faculty research productivity, program visibility, accreditation profile, business school reputation, graduate caliber—graduate certification success, graduate career success). The dependent variable in the logistic regression analysis was the prob-

<sup>7</sup> The article provides a good overview of EA, including the chronology of its development. One of the main characteristics of EA is to consider the firm as a social and dynamic system and not a collection of assets and/or contracts (Aprile & Nicolliello, 2016, 414–415).

**Table 9**

Overview of curriculum and instruction articles (Section 2).

	Reference	Type <sup>a</sup>	Topic
2.1.	<i>Curricular issues</i>		
	Aprile and Nicolliello (2016)	D	Analysis of <i>Economia Aziendale</i> (EA) courses
	Fogarty et al. (2016)	E	Perceptions of accounting program quality
2.2.	<i>Assurance of learning and assessment</i>		
	Abraham and Jones (2016)	D	Cross-disciplinary scaffolding assessment
	Bergner, Filzen, and Simkin (2016)	E	Multiple choice questions with excess information
	Schaefer and Stevens (2016)	D	Benefits of using rubrics to assess learning
2.3.	<i>Core competencies</i>		
	Butler (2016)	D	Strategy to improve listening skills
	Coetzee et al. (2016)	E	Reading comprehension of South African students
	Levant et al. (2016)	E	Business simulations to develop soft skills
	Lindsay (2016)	D	Framework for lifelong professional learning
	Rackliffe and Ragland (2016)	E	Analysis of importance of Excel in the curriculum
	Riley and Simons (2016)	E	Analysis of written communication issues
	Webb and Chaffer (2016)	E	Generic skills development in the UK
2.4.	<i>Instructional approaches</i>		
	Brown et al. (2016)	E	Guided reading to motivate student engagement
	Chmielewski-Raimondo et al. (2016)	D	International study programs in Australia
	Downen and Hyde (2016)	E	Effects of flipped classroom on student learning
	Gambin and Hogarth (2016)	D	Training through Higher Apprenticeships in England
	Jelinek (2016)	E	Transfer of learning through professional experience
	Meier and Smith (2016)	E	Analysis of study abroad programs
	Phillips (2016)	E	Peer assessment strategies
	Sudhakar et al. (2016)	E	Benefits of peer-assisted learning

<sup>a</sup> Empirical (E) or descriptive (D) article.

ability of being in the top 50 of the accounting program rankings from the *Public Accounting Report* (2011–2014) for US undergraduate and graduate program rankings ( $n = 243$ ). For both undergraduate and graduate programs, number of years the program had separate accounting AACSB accreditation, CPA exam pass rate, and number of accounting faculty were positively associated with quality. The institutional BYU ranking based on the number of faculty publications in the top 11 accounting journals was negatively associated with quality. The number of alumni that were Big 6 partners was not associated with program rankings.

## 2.2. Assurance of learning and assessment

Schaefer and Stevens (2016) suggested that properly implemented rubrics may be useful for assessing achievement of learning objectives for students, courses, and programs. Proper rubric development was discussed. A set of example rubrics designed to assess three learning goals was presented: (1) accounting measurement, (2) research, and (3) critical thinking.

Bergner, Filzen, and Simkin (2016) examined the ability of multiple-choice questions with excess information (MCE) to discriminate student understanding better than multiple-choice questions without excess information (non-MCE). Two studies were conducted at a single US university using two introductory financial accounting courses ( $n = 206$ , 100% response rate;  $n = 168$ , 84% response rate). In both studies, pairs of questions were created that covered the same topic; one MCE and one non-MCE. In the first class ( $n = 206$ ), students took a regular 40-question exam, which included 30 questions (15 pairs, one MCE and one non-MCE) for the study. In the second class ( $n = 168$ ), students took a scheduled 20-question exam on the same material covered in the first class. Forty questions (20 pairs) were developed for this class. The difference was that two versions of the exam were used, and neither version included a complete pair of the MCE and non-MCE questions. The results of the two studies were consistent. An analysis of student responses using point-biserial correlations revealed that (1) MCE questions lowered exam scores relative to non-MCE questions, (2) MCE questions did not appear to provide any better indication of student abilities, and (3) use of MCE was likely to merely increase the need for an overall class curve. The authors noted that, despite the widespread use of MCEs, the benefits are unknown and research in the area is limited.

Abraham and Jones (2016) reported on the development of a scaffolding learning assignment in a cross-disciplinary setting. Scaffolding involves a teacher demonstrating how to solve a problem, and then gradually withdrawing support. The authors discussed their implementation of scaffolding in terms of providing just enough support and in a 'just-in-time' fashion; including the eventual and careful withdrawal of support so students develop individual mastery. The context of their implementation was a financial management course for engineering students that included individual and group assignments in both face-to-face and online settings. Assignment and implementation details were discussed with special attention to the change in the level and type of support (scaffolding) provided at each stage of the course. Potential applications and further design enhancements also were discussed. Student feedback on the course experience was positive.

### 2.3. Core competencies<sup>8</sup>

Lindsay (2016) developed a framework for professional learning (presented as a pyramid) that distinguishes between “informed,” “competent,” and “complete” professionals. Nine interconnected elements of the framework, beginning at the top of the pyramid and proceeding downward, are (1) courses and technical updates, (2) learning with/from others, (3) learning on the job, (4) learning through reflection, (5) engaging, (6) exploring, (7) experimenting, (8) positive attitude, and (9) self-belief. The nine elements were related to “learning relating to professional competence” and “learning relating to career adaptability,” which are similar to “lifelong learning” in other frameworks or position statements. Lindsay (2016) asserted that the new learning framework will help professional accountants develop strategies for a successful career.

Riley and Simons (2016) surveyed accounting practitioners ( $n = 136$ ) and academicians ( $n = 88$ ) in the US regarding how bothered they were by specific written communication errors. Respondents evaluated 27 sentence pairs; one sentence being the correct version and the second sentence containing a writing error. Errors contained in the sentence pairs involved grammar, spelling, punctuation, and clarity issues. While respondents perceived all errors as somewhat bothersome, they were most bothered by grammar (e.g., subject/verb agreement) and spelling issues (e.g., they’re for there or your for you’re). Female and older respondents were more bothered than males by some writing errors. Respondents indicated that writing errors in e-mail communications are just as bothersome as errors in hardcopy communications and that e-mail has worsened people’s hardcopy communication. The authors believed that the survey results can help accounting faculty devote limited time and resources to areas that will most improve students’ written communication skills.

Butler (2016) described the development and use of the Probability Evaluation Game (PEG), which is used to help develop listening skills. Because linguistic terms regarding probability are imprecise, PEG uses small group sessions to accomplish three tasks: (1) translate probability word/phrase into a percentage (e.g., doubtful), (2) read a short story, “would you follow Joe,” and provide a likelihood (0–100%), and (3) provide a word or phrase to describe certain probabilities (e.g., 15%). Students provided feedback to the group after each part. The group feedback provided the opportunity to sharpen listening skills.

Rackliffe and Ragland (2016) surveyed US accounting faculty ( $n = 245$ , 11.43% response rate) at 106 accounting programs about perceptions of students’ Excel skills and importance of Excel in public accounting. Two faculty groups were surveyed; top undergraduate accounting programs and mid- to large-universities not in the first group (enrollments >10,000). All respondents were asked to provide their perceptions in five categories: (1) students’ interest in public accounting and importance of Excel in public accounting (three questions), (2) students’ proficiency in Excel (two questions), (3) usage of specific Excel functions in public accounting (one question), (4) Excel in the accounting curriculum (six questions), and (5) students’ Excel knowledge (one question). Extensive descriptive data and tabulated comparisons were presented. Positive differences were reported when comparing faculty perceptions of the importance of Excel skills and accounting student proficiency. The authors compared the faculty perceptions of the importance of specific skills in public accounting with the responses of new hires in public accounting, with 10 of the 14 comparisons showing differences (eight positive and two negative).<sup>9</sup> For example, students rated eight Excel skills (e.g., format functions, filter, and sort data functions) as more important than did faculty, and two skills (statistical regression and if/then statements) as less important than did faculty.

Levant, Coulmont, and Sandu (2016) examined student perceptions about whether completing a business simulation improved 11 soft skills related to communication, time management, and teamwork. Three hundred and ninety-two students at French and Moroccan universities rated their soft skills level before and after completing a business simulation course. Analysis of means showed that students’ perceived their level of all soft skills to be higher after the business simulation than before. The results were not affected by gender or whether students had more than a year of professional experience.

Webb and Chaffer (2016) surveyed UK graduates ( $n = 884$ , 15.5% response rate) regarding the extent to which opportunities for generic skills development were identified in accounting and non-accounting degree programs. Individuals studying for Chartered Institute of Management Accountants (CIMA) professional qualification responded to an online questionnaire about the opportunities available for the development of each skill on a three-point scale: (1) opportunity available but not exploited; (2) opportunity available but partially exploited; or (3) opportunity fully exploited. Except for oral communication skills and commitment to life-long learning, accounting graduates perceived that their degree program “fully exploited” the opportunity to develop skills required by the Quality Assurance Agency for Higher Education, including written communication, time management, problem solving, and presentation skills. Ethical awareness did not exceed the authors’ threshold for “fully exploited.” Comparable results were found for graduates of nonaccounting degree programs (77% of responses).

Coetzee, Janse van Rensburg, and Schmulian (2016) investigated the reading comprehension of South African students ( $n = 375$ ) who were assigned to read IFRS pronouncements in a financial reporting course. Course instruction was either in Afrikaans ( $n = 111$ ) or English ( $n = 264$ ), and as a first language, students spoke Afrikaans ( $n = 111$  in Afrikaans section;  $n = 21$  in English section), English ( $n = 138$  in English section), or another African language ( $n = 105$  in English section). IFRS pronouncements must be read in the English version because they are not available in Afrikaans. The Cloze test was used to

<sup>8</sup> Grimm and Blazovich (2016) addressed core competencies in an instructional resource (Appendix A).

<sup>9</sup> The source of the student data was Ragland and Ramachandran (2014).

measure reading comprehension.<sup>10</sup> In regression analysis, the Cloze score was the independent variable, with several control variables (students' first language, language of instruction, population group, secondary school South African government classification, prior academic performance, whether students had received support from the *Thuthuka* program,<sup>11</sup> whether students had attended a course to improve reading comprehension, and gender). Two variables (prior academic performance and language of instruction) were positively associated with reading comprehension. Participation in the *Thuthuka* program and Afrikaans as first language were both negatively associated with reading comprehension. In a separate test, reading comprehension was significantly higher for students taught in English versus those taught in Afrikaans.

#### 2.4. Instructional approaches

**Downen and Hyde (2016)** investigated the effects of a flipped classroom on academic performance in a required introductory accounting course taught by one instructor at a US institution. The quasi-experimental design was within-participants. Section one was the control in the first half of the manipulation (the first day was a traditional lecture) and section two was the experimental flipped group (the first day students worked in small groups to complete a comprehensive problem). In the second half of the manipulation, section one was the flipped group, and section two was the control group.<sup>12</sup> The flipped content occurred on the first day a new chapter was started. The material was the same for both sections on all other class days. Lecture slides and solutions to problems were posted online so that all students had access. Because of attrition in the class, 85 students participated in the first half of the study ( $n = 45$  flipped;  $n = 40$  traditional), and 55 participated in the second half ( $n = 28$  flipped;  $n = 27$  traditional). Exams were given after each of the two manipulations. Students in the two course sections did not differ with respect to attendance rate and SAT score, but the course grade in section two was significantly higher. Repeated-measures regression results indicated that exam grades were higher for students in the flipped group, and showed positive association with attendance and SAT score. In a separate regression, attendance was not associated with the flipped group or SAT score. In sensitivity analysis for those students who completed both parts of the course, the flipped group was not associated with course grade, but attendance rate and SAT score were positively associated with course grade.

**Brown, Danvers, and Doran (2016)** examined how using guided reading questions in intermediate accounting courses affected students' perceptions of their motivation, reading comprehension, effort, and understanding of material. Twenty to 25 reading questions were assigned for each chapter in an intermediate accounting course for accounting majors and in an intermediate accounting course for nonaccounting majors. Answers to reading questions were found in the course textbook, and students' answers were used for class discussion. A 10-question survey was administered over four semesters in the intermediate course for accounting majors ( $n = 201$ ) and over two semesters in the course for nonaccounting majors ( $n = 93$ ). Based primarily on positive student responses to questions about understanding the material and class engagement, the authors concluded that guided reading questions had served their intended purpose. The authors noted that using student perceptions is a limitation of the study, and they suggested that future research studies have a control section that does not use guided reading questions.

**Phillips (2016)** described steps he took when implementing a peer assessment system in an introductory financial accounting course taught at a Canadian university. Students in two sections of introductory financial accounting ( $n = 108$ ) completed a survey on their experiences with giving and receiving feedback from peers for two cases completed during the semester. Students agreed somewhat (mean of 3.82 on a five-point scale) that feedback received from classmates was valuable, grades assigned by classmates were fair (mean = 4.03), and they learned through assessing peers (mean = 3.99). Regression analysis indicated that students who understood case issues were better at assessing peer responses, but that accounting knowledge (exam and homework grades in the course) was not significantly associated with variations in the quality of assessments given by students for the first case. Competence in assessing responses on the first case, as measured by the peer assessment system, contributed to explaining student performance on the second case, indicating that peer assessment contributes positively to academic performance.

**Sudhakar, Tyler, and Wakefield (2016)** explored the benefits of a peer-assisted learning experience with three groups of first-year accounting students at an Australian university. Students were presented with an optional extra-credit assignment to create a screencast that explained a range of introductory, but potentially difficult, concepts to fellow students. Grading of screencasts was 40% based on conceptual accuracy, 40% on unique presentation, and 20% on the use of technology. The optional screencast assignment was completed by a total of 1644 students. Screencasts completed by the first group ( $n = 639$ ) were not subjected to peer review. Screencasts completed by the second group ( $n = 772$ ) were exposed to peer review at the student's discretion ( $n = 140$ , 18%). The third group ( $n = 233$ ) was required to expose their screencasts to peer review. Peer review was achieved by uploading the screencast to a public forum where it could be viewed and commented on by other students in the class. Regression analysis was used to evaluate the association between screencast grade and exposure to the peer review forums. Control variables included age, academic year, gender, major of study, and final exam

<sup>10</sup> The Cloze test provides an empirical reading comprehension score (Janse van Rensburg, Coetzee, & Schmulian, 2014).

<sup>11</sup> The *Thuthuka* program is a special support program primarily funded by the South African accounting profession to support students from disadvantaged communities.

<sup>12</sup> After the course drop date, both sections used the traditional method for the rest of the course. Therefore, approximately the first two-thirds of the course had a flipped component, and the final one-third did not.



grade. Results suggested that performance was enhanced when the peer review forum was present, and that those in the optional peer review group outperformed those in the compulsory peer review group.

Gambin and Hogarth (2016) discussed the factors affecting an employer's decision to train and recruit through the Higher Apprenticeships (HA) program in England. The HA program is a publicly funded program intended to provide a structured introduction for professionals moving into the accounting profession and assist employers in securing the necessary talent. Based on a series of interviews, the authors found that employers reported slightly lower costs under the non-apprenticeship path to training and recruitment, but that the benefits of a wider pool of applicants, including those who had not completed an advanced degree, offset the higher costs.

Meier and Smith (2016) gathered data on short, faculty-led study abroad trips (SFSAs) designed and implemented by AACSB accounting programs. The authors reviewed websites for AACSB accounting programs ( $n = 180$ ) and identified 18 programs that offered SFSAs with an accounting emphasis. The vast majority of the SFSAs were to Europe, with Prague and London being the most popular destinations. Other trips included South America, Australia, and Singapore. Twelve SFSAs were for undergraduates, five were for master of accountancy students, and one trip had both master of accountancy and MBA students participating. Scholarships and external financial support were sometimes used to control costs for students. Considerations for other accounting faculty thinking about or planning SFSAs include when during the year to travel, selecting a destination that will help achieve academic goals, controlling costs, and recruiting students for the trip.

Chmielewski-Raimondo, McKeown, and Brooks (2016) described an international accounting study program offered to undergraduate students from two Australian universities. The program is run twice a year, and involves three weeks of travel to either Europe or to the US and Canada. Students visit various corporate, regulatory, and educational institutions, and listen to presentations from executives, regulators, standard setters, and educators. The June 2012 program, described in the article, involved meetings with representatives from Walt Disney Studios, PricewaterhouseCoopers (Los Angeles), BMW-Canada, the Financial Accounting Standards Board, and the University of Southern California. Student feedback on the program was generally positive, although negative comments were made about cost of the program and travel time.

Jelinek (2016) presented an experiential learning project for graduate accounting students ( $n = 21$ , 100% response rate) based on transfer learning theory. The project involved an eight-week plan that included reviewing an attorney's reimbursement requests for accuracy and guideline compliance. Self-assessments before and after the project indicate that students at a US university perceived themselves as better prepared to engage in financial statement audits following the experience.

### 3. Instruction by content area

Table 10 provides an overview of the four empirical and six descriptive articles about instruction allocated over six content areas. This section contains 13% of the articles reviewed, a decline from 18% in the 2015 review. One article about AIS deals with the integration of enterprise resource planning (ERP) systems in curricula. Auditing and forensic accounting also has one article (descriptive) which provides a forensic course description. Ethics and professional responsibility includes four articles (two empirical and two descriptive) addressing instructional approaches and student perceptions. Financial accounting includes one article (descriptive) that presents matrix algebra as an instructional tool. Managerial accounting contains one article (descriptive) discussing aspects of managerial accounting textbooks. Taxation includes two empirical articles addressing the implementation and success of VITA programs.

**Table 10**  
Overview of articles about instruction by content area (Section 3).

	Reference	Type <sup>a</sup>	Topic
3.1.	<i>Accounting information systems (AIS)</i> Blount et al. (2016)	D	Integration of ERP systems in curricula
3.2.	<i>Auditing and forensic accounting</i> Kern and Weber (2016)	D	Forensic accounting course description
3.3.	<i>Ethics and professional responsibility</i> Costa et al. (2016) Cote and Latham (2016) Mintz (2016) Stephenson (2016)	E	Ethical perceptions of Portuguese students
		E	Peer teaching of ethics by Beta Alpha Psi students
		D	"Giving Voice to Values" pedagogy model
		D	A reflective ethical decision model
3.4.	<i>Financial accounting</i> Vysotskaya et al. (2016)	D	Analytical use of matrix algebra in accounting
3.5.	<i>Managerial accounting</i> Golyagina and Valuckas (2016)	D	Analysis of management accounting texts
3.6.	<i>Taxation</i> Blanthorne and Westin (2016) Christensen and Woodland (2016)	E	Analysis of VITA programs
		E	Analysis of benefits of VITA participation

<sup>a</sup> Empirical (E) or descriptive (D) article.

### 3.1. Accounting information systems (AIS)

Blount, Abedin, Vatanasakdakul, and Erfani (2016) described how enterprise resource planning (ERP) software systems have been integrated into accounting curricula. The experiences were discussed from both the student and instructor perspectives. The authors identified critical success factors.

### 3.2. Auditing and forensic accounting

Kern and Weber (2016) described a fraud and forensic accounting course developed and taught over five years at Gonzaga University. Students used actual cases of alleged fraud, mostly involving bookkeepers stealing company funds for personal use and misuse of corporate credit cards. With the help of mentors from the local Association of Certified Fraud Examiners (ACFE) chapter, students conducted forensic accounting examinations on actual data for potential fraud victims who were unable to afford private investigators. Students' work on these cases resulted in four convictions, with one victim receiving full restitution. Survey responses from students ( $n = 12$ ) indicated that improved written communication was the most valuable lesson learned from the course.

### 3.3. Ethics and professional responsibility

Cote and Latham (2016) described how they used Beta Alpha Psi (BAP) members to engage in peer teaching by discussing ethical dilemmas in sophomore level introductory accounting classes at one US public university. The framework used was the Giving Voice to Values (GVV) curriculum (Gentile, 2010, 2013), which is oriented toward business professionals confronted with ethical dilemmas. BAP students presented three workshops during class sessions that were built upon GVV principles. Accounting students responded to 23 statements in five dimensions related to knowledge, skill, or ability both before and after GVV workshops ( $n = 49$  of 151 students completed both pre- and post-test instruments). Students' post-GVV responses were significantly higher than pre-GVV for 10 of 23 questions. The article provides abundant information on using GVV in accounting courses. Mintz (2016) explained the components of the Giving Voice to Values (GVV) methodology and described its benefits as an educational tool.

Costa, Pinheiro, and Ribeiro (2016) examined whether gender, age, work experience, and attending a course on ethics affected the ethical perceptions of Portuguese accounting students. Students from two undergraduate accounting classes and one graduate accounting class ( $n = 117$ ) completed a questionnaire consisting of nine scenarios involving potentially unethical business practices. Students indicated whether the action taken in each scenario was ethical and whether they or their peers would take a similar action. Findings indicated that students were able to recognize the ethical issues in the scenarios, although students reported agreeing with some conduct that was acknowledged to be unethical. Students had a generally less favorable impression of their peers' potential ethical behavior than they did of their own. Results also indicated that the ethical perceptions of Portuguese accounting students were not associated with gender, age, work experience, or whether they had taken an ethics course.

Stephenson (2016) presented a reflective ethical decision model designed to provide a framework within which students can identify and design their own construct of ethical values. Critical steps in the process were identified and discussed, and an example model was included. The author suggested that guiding students through the process of developing their own personal code may be more effective than trying to teach ethics to students.

### 3.4. Financial accounting

Vysotskaya, Kolvakh, and Stoner (2016) used an analytical approach to demonstrate that accounting can be represented as a system of equations solved through basic matrix algebra functions. They suggested that such a representation of the accounting system may be helpful in broadening students' understanding and conceptualization of accounting as a mathematical system.

### 3.5. Managerial accounting

Golyagina and Valuckas (2016) discussed the various management accounting textbook approaches. They observed that while most management accounting textbooks deal with management accounting practice from a consulting perspective, some offer a more theoretical and practical implementation approach. They suggested that those seeking to provide students with a broad perspective on management accounting should carefully consider textbook selection.

### 3.6. Taxation

Blanthorne and Westin (2016) examined the Volunteer Income Tax Assistance (VITA) program in accounting education in the US. They provided a discussion of the background and history of the program and include a review of the academic literature surrounding the VITA program since inception. Characteristics of the VITA program and the various implementations were discussed: (1) benefits and challenges, (2) alternative implementations, and (3) best practices. In the context of the

background discussion of the VITA program, a survey of US accounting programs regarding the VITA program was conducted ( $n = 309$ , 35% response rate). Tabulated results showed that 213 (69%) were currently active with student participation; 44 (14%) never had a program; and the remaining 52 (17%) had discontinued the program. An analysis of chi-square statistics showed that private schools had a higher frequency of never having a VITA program, and AACSB schools had a higher frequency of having a currently active program. No association was found between institutional focus (i.e., teaching, balanced, research) and VITA program status. Of the institutions that had discontinued the VITA program, the most frequently reported reasons dealt with lack of institutional and faculty support.

Christensen and Woodland (2016) examined the effect of participation in VITA on students' problem solving ability and professional commitment. Students in upper level accounting classes from seven US universities were asked to complete a pre-VITA and post-VITA survey. Surveys were collected from both those students that participated and did not participate in the VITA program. Two hundred and forty-seven students completed the pre-VITA survey, 181 students completed the post VITA survey, and 171 students (full sample) completed both surveys. A total of 102 (60%) of the full sample participated in the VITA program. The two dependent variables in the regression analysis (problem solving and professional commitment) were measured based on students' responses to separate survey instruments. Problem solving was measured (on a scale of 0–6) based on the students' ability to identify the top two issues (from a list of eight) associated with each of three tax scenarios. Professional commitment was measured (on a scale of 1–7) based on the students' responses to five questions regarding affinity for the profession. The primary variable of interest, VITA, was binary. Control variables to account for age, intended career, GPA, gender, ethics, tax course experience, risk preference, perceived fairness of the tax code, moral philosophy, and a binary variable indicating past participation in VITA were included in the models. Two two-way VITA interaction terms were also included: VITA and age, and VITA and tax as an intended career. Current and past participation in a VITA program were positively associated with problem solving ability in the full sample ( $n = 171$ ) model. Only current participation was positively associated with the current VITA participant ( $n = 102$ ) model. None of the VITA variables were associated with professional commitment for either model.

#### 4. Educational technology

Table 11 provides an overview of six empirical and three descriptive educational technology articles. This section contains 12% of the articles reviewed for 2016, an increase over the 2015 review when 9% of the articles were on educational technology. We classified articles as related to technology and curricular issues and technology-based learning and assessment. Technology and curricular issues include two articles, one empirical article about recruiter perceptions of online accounting degrees, and a descriptive article discussing barriers to faculty adoption of new technologies. Technology-based learning and assessment includes seven articles (five empirical and two descriptive) addressing learning outcomes, student performance, and cheating.

##### 4.1. Technology and curricular issues

Grossman and Johnson (2016) conducted an online experiment to examine potential employers' willingness to hire applicants receiving their accounting education through either online, on campus, or hybrid programs. Respondents from US public accounting firms, corporations, government, and educational institutions completed the experimental task ( $n = 254$ , 79% response rate). Using a seven-point scale, respondents indicated their willingness to offer employment to the applicant described in the research instrument. Results showed that respondents were significantly more willing to offer employment to individuals receiving their accounting degrees from traditional or hybrid programs as opposed to fully online programs. Results also showed that respondents were less willing to hire applicants whose upper-level coursework was completed

**Table 11**  
Overview of articles about educational technology (Section 4).

	Reference	Type <sup>a</sup>	Topic
4.1.	<i>Technology and curricular issues systems</i>		
	Grossman and Johnson (2016)	E	Recruiter perceptions of online accounting degrees
	Watty et al. (2016)	D	Barriers to faculty adoption of new technologies
4.2.	<i>Technology-based learning and assessment</i>		
	Carenys and Moya (2016)	D	Review of digital game-based learning (DGBL)
	Chan et al. (2016)	E	Impact of educational computer program on learning
	Davis et al. (2016)	E	Analysis of remote-proctoring strategies on grades
	Fisher et al. (2016)	D	The problem of ghostwriters and cheating
	Khan et al. (2016)	E	Impact of social media on learning outcomes
	Sayed and Lento (2016)	E	The impact of technology on cheating
	Wooten (2016)	E	Online testing to enhance learning

<sup>a</sup> Empirical (E) or descriptive (D) article.

online as opposed to applicants whose lower-level coursework was completed online. Reputation of the degree granting institution did not affect respondents' willingness to offer employment to job applicants.

Watty, McKay, and Ngo (2016) investigated whether accounting faculty were resistant to adopting new educational technologies. The authors used interviews with 13 Australian accounting educators identified as exemplary in the use of digital technologies: intelligent tutoring system, social media technologies, click technology, video learning resources, social media, flipped classroom technologies, and instant web response tool. The authors recommended a process to help improve faculty adoption and use of technology, including garnering interest, raising awareness, building capacity, providing appropriate support, and understanding the influence of resources.

#### 4.2. Technology-based learning and assessment

Davis, Rand, and Seay (2016) examined the effect of proctoring on final exam scores for students ( $n = 244$ ) enrolled in cost accounting and auditing courses at a US university. Remote proctoring (one-on-one proctoring not in the classroom) was used for approximately 22% of the students, classroom proctoring was used for 35% of the students, and 43% of the students were not proctored while taking the final examination. Regression results showed that students in remote and classroom proctoring environments had significantly lower final examination grades than students in the no-proctoring condition. Moreover, students in the remote-proctoring condition had significantly lower exam scores than students in the classroom-proctoring condition. The authors concluded that academic dishonesty was lower in the remote proctoring condition than in the classroom and no-proctoring situations.

Fisher, McLeod, Savage, and Simkin (2016) discussed the ghostwriting problem in higher education. Ghostwriters are online services that sell publisher-provided solutions manuals and test banks, take exams, write papers, and complete entire courses for students. The authors identified six ghostwriting websites and discussed authentication techniques and proctoring options that can help control ghostwriting activities. A pilot study of authentication techniques was conducted in a US master's level fraud examination course and in a US web analytics course. The authentication techniques for examination access required students to provide a university or government-issued identification card and answers to several personal questions. Several glitches with the authentication techniques were found, including one student obtaining access to an exam after disagreeing with the terms and conditions for taking the exam.

Chan, Song, Rivera, and Trongmateerut (2016) examined whether an educational computer program called PATH (Principles Aren't That Hard) affected introductory financial accounting students' intrinsic motivation and performance. PATH incorporates an instructional design with computer game features. Students in the course ( $n = 173$ ) completed homework using PATH (87 students), Blackboard® (46 students), or paper and pencil (40 students). A 10-question quiz was administered on the first and last days of class to assess students' accounting knowledge. Perceived competence, motivation, and the perceived usefulness of the method used to complete homework were all self-reported by the students. Results revealed that students using PATH to complete homework had higher levels of intrinsic motivation and perceived competence as compared to students completing homework using Blackboard® or paper and pencil. The results of a Structural Equation Modeling analysis also showed, however, a non-significant relationship between system used to complete homework and performance for all students.

Khan, Kend, and Robertson (2016) reported the results of an online survey completed by students ( $n = 126$ ) enrolled in a first-year accounting course at four Australian universities regarding their use of social media for academic purposes. Facebook was the primary social media outlet used by the students followed by Instagram, Twitter, and Snapchat. On average, students reported spending as much time on social media per week as they spent on learning activities. A large portion of the students ( $n = 94$ , 74% of respondents) indicated that they used social media for academic purposes, although file sharing (e.g., notes, past exam questions, and answers to practice exams) was the primary academic purpose identified. Some students ( $n = 56\%$ ) reported using social media for completing assignments or projects with classmates. The authors found a significant relationship between GPA (self-reported by the students) and the use of social media for academic purposes.

Carenys and Moya (2016) reviewed accounting and business articles on digital game-based learning (DGBL) published during the 2003–2013 time period. Three stages of employing digital games were used to classify articles: (1) preliminary stage, or before playing the game, (2) deployment, while playing the game, and (3) assessment, after playing the game. Articles in the preliminary stage focused primarily on selecting the game to be used, while articles in the assessment stage focused on the effectiveness of digital games for enhancing learning. Most published articles on DGBL relate to the deployment stage, and included papers on the role of faculty and briefing and debriefing before and after using a digital game. Faculty looking for guidance on using digital games in accounting courses will find this article useful.

Wooten (2016) used a quasi-experimental implementation with students ( $n = 123$ ) across eight sections of an auditing course at a US university to demonstrate the effectiveness of integrating online testing as a method for improving student learning. Four course sections ( $n = 66$ , control group) were conducted in a traditional classroom fashion, including lecture and three paper-based tests administered in class during the semester. The treatment group (four sections;  $n = 57$ ) received the same course lectures as the control group, but took six online, out-of-class, open-book exams during the semester. For each online exam, students were informed of the test score (but not the marks on individual questions) and permitted to retake the online exam with the same questions. Only the highest score on each exam was recorded. Both the treatment and the control groups took an in-class, paper-based final exam. One regression model tested the association between final exam score and group membership (control or treatment). GPA was included in the model as an interaction term between group membership and GPA. Results showed that membership in the treatment group and GPA were positively associated

**Table 12**

Overview of articles about students (Section 5).

	Reference	Type <sup>a</sup>	Topic
5.1.	<i>Academic major and career issues</i>		
	Bline et al. (2016a)	E	Order effects on CPA exam pass rates
	Bline et al. (2016b)	E	Impact of faculty traits on student CPA exam pass rates
	Brink and Quick (2016)	D	Analysis of different US doctoral programs
	Brink et al. (2016)	E	Analysis of best degree path to accounting success
	Brody et al. (2016)	E	Awareness of accounting certifications
	Gaynor et al. (2016)	E	Impact of start time on CPA exam pass rates
	Johnson (2016)	D	Résumé best practices
	McGrath and Murphy (2016)	D	Project to attract high school students to accounting
	Sellers et al. (2016)	E	Analysis of CFO competencies
Trinkle et al. (2016)	E	CPA exam performance	
5.2.	<i>Student skills and characteristics</i>		
	Buckless and Krawczyk (2016)	E	Admission data and graduate student performance
	Burton et al. (2016)	E	Personality types in public accounting
	Domingo and Nouri (2016)	E	Comparison of transfer and native student performance
	Farag and Elias (2016)	E	Analysis of personality and skepticism
	Fortin et al. (2016)	E	Retention of nontraditional students
	Harrington et al. (2016)	E	Student intent to engage in personal budgeting
Xiang (2016)	E	Using former students to increase retention rates	
5.3.	<i>Approaches to learning and assessment</i>		
	Bernardi, Landry, et al. (2016)	E	Student willingness to report cheaters
	Boyle et al. (2016)	E	Perception of academy dishonesty
	Bristor and Burke (2016)	D	Academic dishonesty policies
	Hill (2016)	E	Student self-assessment in South Africa
	Patel et al. (2016)	D	Unique needs of Chinese student learners
	Powell and Singh (2016)	E	Reducing plagiarism through classroom interventions
	Winrow (2016)	E	Likelihood of student academic misconduct
	Wynn-Williams et al. (2016)	E	Effect of unstructured cases on surface learners

<sup>a</sup> Empirical (E) or descriptive (D) article.

with final exam scores. Another regression model used only those in the treatment group and tested the association between final exam score and number of attempts on the online exams. Each online exam for each student was included as an observation in this model ( $n = 342$  or 57 students and 6 exams). This model also included GPA and an interaction term. The number of online attempts and GPA were both positively associated with final exam scores. The interaction term was also significant. The author suggested that integration of an online testing component to traditional course delivery may enhance student learning relative to traditional in-class testing alone.

Sayed and Lento (2016) surveyed accounting faculty ( $n = 445$ , 6.5% response rate) in Canada ( $n = 57$ ) and the US ( $n = 388$ ) regarding perceptions of academic dishonesty and its association with modern technology. An examination of tabulated response frequencies reveals that faculty perceived academic dishonesty has increased over the last 10 years and technological advancement was a contributing factor. The proliferation of technology was viewed as having a larger influence on increased plagiarism than on cheating (e.g., use of other student's work in completing an assignment, or unauthorized material on a test), suggesting that faculty may be using obsolete controls to reduce the opportunity for academic dishonesty.

## 5. Students

Table 12 identifies 25 articles (20 empirical and five descriptive) about students, classified by academic major and career, student skills and characteristics, and approaches to learning and assessment. This section contains 33% of the articles reviewed for 2016, which is an increase from the 2015 review (28%). Academic major and career includes 10 articles (seven empirical and three descriptive) considering CPA exam pass rates, doctoral program characteristics, academic career path, and student competencies. Seven articles (all empirical) are on student skills and characteristics, including articles on exploring retention rates, personality characteristics, and student performance. Eight articles (six empirical; two descriptive) cover approaches to learning, including topics of students' willingness to engage in or report academic misconduct, student needs and self-assessments, and unique learning styles.

### 5.1. Academic major and career

Bline, Perreault, and Zheng (2016a) examined the association between the elapsed time necessary to pass all four parts of the CPA exam (BEC, FAR, REG, AUD)<sup>13</sup> and the candidate's choice of which part of the CPA exam to take first. The analysis is

<sup>13</sup> BEC (business environment and concepts), FAR (financial accounting and reporting), REG (regulation), and AUD (auditing and attestation) are the four parts of the CPA exam administered by the AICPA.

based on 121,234 CPA candidates who took the exam between 2005 and 2013. Tabulated data (obtained from NASBA) and regression analysis revealed that those taking the FAR section first were able to pass all four parts of the exam in the shortest elapsed time (average = 9.27 months), and those taking the BEC section first took the longest time (average = 16.89 months). In addition, those taking BEC first were more likely to lose credit for previously passed sections, and therefore were required to retake those sections.

[Blaine, Perreault, and Zheng \(2016b\)](#) investigated the associations among accounting faculty and accounting program characteristics and CPA exam performance for first-time test takers. NASBA data for the period 2005–2013 for 675,083 first-time test takers, faculty characteristics reported in [Hasselback \(2016\)](#), and other data sources were analyzed. For each of the four CPA exam sections, the candidate's exam score was regressed on various faculty and program characteristics. The exam scores for each of the four sections (AUD, FAR, BEC, and REG) were positively associated with (1) percentage of faculty with teaching and research specialty in that area, (2) school's research ranking (ranking is reversed scored), (3) percentage of accounting faculty with CPA designation, (4) average SAT score for candidate's institution, (5) AACSB accreditation, and (6) whether the student was enrolled in a graduate program. The exam scores for each of the four sections were negatively associated with candidate age, gender (female = 1), and accounting program ranking (reversed scored).

[Gaynor, Lynn, and Wasternack \(2016\)](#) investigated the association between CPA exam performance and the time of day the test was taken (circadian rhythm) for 180,797 candidates (446,039 observations). Regression analyses were used to test the association between exam start time and exam score and pass rate. The start time of the exam was identified as a categorical variable: (1) between 7:30–10:00, (2) between 10:00–12:00, and (3) between 12:00–2:30. The models also included exam section (AUD, BEC, FAR, REG), time of year, whether the candidate completed a degree from an AACSB accredited institution, age, and gender. Results showed that the middle start time was associated with both higher exam scores and higher pass rates, confirming the hypothesized association between circadian rhythm and performance. AACSB accreditation and gender were positively associated with exam score and pass rate. Age was negatively associated with both outcome metrics.

[Trinkle, Scheiner, Baldwin, and Krull \(2016\)](#) explored the factors associated with CPA exam success using NASBA data for candidates from 2005–2013 ( $n = 259,778$ ). Results showed that the most successful candidates were young, male, and possessed a degree from an AACSB accredited institution. Exam success was higher when the degree-granting institution had a separately accredited accounting department and the institution was private. The number of times a candidate sat for a section of the exam was inversely related to exam success.

[Brody, Li, and Zhou \(2016\)](#) surveyed undergraduate and graduate accounting students ( $n = 139$ , 100% response rate) at a US university about their awareness of various professional accounting certifications. Tabulated responses indicated that the CPA was the certification recognized by almost all students. Student awareness of the CMA and CIA certifications lagged that of the CPA and had declined over time. The CFE certification currently has high recognition among students.

[McGrath and Murphy \(2016\)](#) reported on a project intended to increase the number of Australian high school students who participate in accounting work experiences. The project was motivated when a survey of eight high school career advisors revealed that only two high school students (out of more than 3000 students) participated in an accounting work experience program. The program described by the authors required that students complete a case study while spending four days at an accounting firm's office and one day at their university. Thirty students participated in the first three iterations of the program and demand far exceeded opportunities to place students with firms.

[Sellers, Fogarty, and Parker \(2016\)](#) investigated the educational quality, age, and work experience of executives holding the Chief Financial Officer (CFO) or equivalent position ( $n = 3166$ ) in 2290 companies from the Russell 3000 and S&P 500. More than one respondent was included from some firms because the head accounting position was not easily identifiable. Those companies that are listed in the S&P 500 were classified as large, and all other companies in the sample were classified as small. Universities were classified as ranked (i.e., measure of educational quality) if they appeared in the top 50 of any of *US News and World Report*, *Business Week*, *Financial Times*, or *Public Accounting Report*. Univariate comparisons and  $\chi^2$  analyses were employed to explore the four primary inquiries: (1) the proportion of CFOs with ranked school credentials is disproportionately large relative to that of CPA candidates; (2) the proportion of CFOs of large firms with ranked school credentials is larger than that of CFOs of small firms; (3) the age of CFO position attainment is not associated with school rank; and (4) CFO work experience at the time of appointment is lower for those with ranked educational quality. Taken together, the results suggested that publicly traded companies were more likely to hire a CFO with branded educational credentials, and that this result was more pronounced for larger companies. The results reinforce the importance of quality accounting education in yielding better career options.

[Brink and Quick \(2016\)](#) surveyed one doctoral student each from 60 doctoral-granting institutions (63% of doctoral programs) in the US for information on program characteristics, such as course requirements, non-course deliverables, student cohort information, research support, and student teaching experience. Program rankings and post-graduate employment information were discussed.

[Brink, Norman, and Wier \(2016\)](#) surveyed accounting professionals ( $n = 860$ , 6.9% response rate) at Big 4 accounting firms in the US to examine the promotion success across six different degree paths (120-h bachelor's degree, 150-h bachelor's degree, master's degree following a 120-h bachelor's, master's degree following 150-h bachelor's degree, MBA degree following a 120-h bachelor's degree, MBA degree following 150-h bachelor's degree). Survey information included degree path, time in rank (associate, senior, manager, senior manager, and partner), and functional area (audit, tax, consulting). The study had five main findings: (1) graduate degrees were positively associated with promotion probability relative to a 120-h or

150-h undergraduate degree alone; (2) the 150-h undergraduate degree, whether alone or in combination with a graduate degree, was not associated with reduced time to promotion; (3) the greatest advantage was achieved with a combination of the 120-h undergraduate degree and MBA; (4) technical degrees (e.g., taxation) were more beneficial at lower ranks; and (5) the MBA was more beneficial at higher ranks. Taken together, the results suggested that the most favorable long-term career success was associated with an MBA with a concentration in taxation or accountancy.

Johnson (2016) described how faculty can assist accounting students in improving their résumé content and format. Tools for reshaping résumé language and suggestions for accounting faculty interested in expanding their student advising were provided.

## 5.2. Student skills and characteristics

Burton, Daugherty, Dickins, and Schisler (2016) compared the personality of practicing accountants ( $n = 61$ , 81% response rate) and master's accounting students ( $n = 51$ ) at three US institutions just prior to graduation and then three years after graduation to ascertain if certain aspects of public accountants' personality are selected or indoctrinated. Students were classified as recruited to public accounting or not and completed the Insights Discovery Personal Profile (IDPP)<sup>14</sup> assessment. The IDPP uses a four-color scheme (e.g., cool blue) to classify personality by energy level. Combinations of the four energy level classifications result in a total of eight descriptors (e.g., observer, motivator). The difference-in-means analyses revealed that (1) those recruited into public accounting careers had similar personality classifications as experienced accountants, and (2) students not recruited into public accounting careers exhibited significant differences from those who were recruited into the profession. Further, recruits who remained in the profession exhibited convergence with the personality type of experienced accountants, while those not showing convergence tended to leave the profession.

Farag and Elias (2016) surveyed accounting students ( $n = 293$ ) enrolled in auditing courses at two US universities about the association between personality characteristics and trait professional skepticism, and the association between trait professional skepticism and anticipatory socialization. Five personality traits were addressed: (1) extraversion, (2) agreeableness, (3) conscientiousness, (4) neuroticism, and (5) openness to experience. Professional skepticism reflected six constructs: (1) search for knowledge, (2) suspension of judgment, (3) self-esteem, (4) interpersonal understanding, (5) autonomy, and (6) questioning mind. Anticipatory socialization (Merton, 1957) is the process of non-group members (e.g., accounting students) learning and accepting the values and standards for groups they want to join (e.g., accounting profession). ANOVA results indicated a positive relationship between personality characteristics and professional skepticism (high/low), with four personality traits (extraversion, agreeableness, conscientiousness, and openness to experience) positively associated, and one personality trait (neuroticism) negatively associated. The five personality traits were each significantly correlated with total anticipatory socialization, and the measures of professional skepticism were each significantly correlated with total anticipatory socialization.

Domingo and Nouri (2016) investigated differential upper-level undergraduate accounting course performance between transfer students ( $n = 29$ ) and native students ( $n = 209$ ) at a four-year US liberal arts undergraduate college. Student performance in each of eight upper-level accounting courses was separately used as the dependent variable. Covariates of gender, year of graduation, and grade in the second principles of accounting course were included. Results of the one-way MANCOVA and differences-in-means analyses showed that native students outperformed transfer students in upper-level accounting course GPA. The authors concluded that transfer students suffer from *transfer shock*, and recommended that these students receive additional institutional support for making the transition from the two-year college to the four-year academic and social environment.

Buckless and Krawczyk (2016) examined the association between grade performance in the masters of accountancy program (MGPA) and student engagement (SE), undergraduate GPA (UGPA), and GMAT score using the information from students ( $n = 890$ ) enrolled at a US university between 2004 and 2014. MGPA was regressed on SE, UGPA, and GMAT. Controls for age, degree type, university type, undergraduate major, state, gender, ethnicity, and year of graduation were included. Regression results showed that all three variables of interest (SE, UGPA, and GMAT) were positively associated with MGPA performance. Controls for age, undergraduate degree, and ethnicity also were significant.

Fortin, Sauvé, Viger, and Landry (2016) investigated the withdrawal by nontraditional students from university enrollment using students at three Canadian universities ( $n = 621$ : full-time = 455, part-time = 166). Nontraditional students were defined as those who were over 24 years of age, commuter, part-time student, or some combination of the three. Analyses for full-time and part-time students were conducted separately. Logistic regression results on withdrawal for full-time students (total  $n = 455$ ; withdrawal  $n = 74$ ) suggested that the most important variables were dissatisfaction with the program choices and GPA. Logistic regression results for the part-time students (total  $n = 166$ ; withdrawal  $n = 37$ ) revealed that the most important indicators were commute distance, insufficient mastery of the French language, and GPA. The authors recommended that universities adopt programs and orientation efforts that attempt to mitigate the items identified in the study as potential indicators for student withdrawal.

Xiang (2016) examined the attendance, course performance, and course retention for students ( $n = 610$ ; control  $n = 239$ ; treatment  $n = 371$ , 100% response rate) enrolled in an introductory financial accounting course at a US university. At the end

<sup>14</sup> The IDPP is described at <https://www.insights.com/845/insights-discovery-personal-profile-.html>.

of one semester, the instructor invited students to provide written advice on the course for those taking the class in the subsequent semester. The advice was free-form and dealt with a range of topics including attendance, exams, and attitude about the class. The study took place over five semesters with 15 sections of the same course. Only the treatment group was presented with the written advice. Regression analysis showed that students exposed to the student-generated advice (treatment) exhibited higher attendance rates, higher exam scores, and a lower probability of dropping the course.

Harrington, Smith, and Bauer (2016) surveyed undergraduate and graduate students ( $n = 442$ , response rate not reported) at a private US university about their intent to use a personal budget. Differences-in-means and regression results revealed that intent to use a personal budget was associated with (1) an expectation by others (parents or guardians) that the student will budget, (2) feeling good about budgeting, and (3) a positive attitude about budgeting. Attitude about budgeting was positive when it was perceived as financially beneficial, a low-effort activity, and an activity the student knows how to do. Students were more likely to develop a personal budgeting system when they were presented with the benefits of budgeting and a way to budget that is relatively easy to accomplish.

### 5.3. Approaches to learning and assessment

Wynn-Williams, Beatson, and Anderson (2016) surveyed students ( $n = 200$ , 76% response rate) enrolled in an intermediate accounting course in New Zealand to investigate the effect of unstructured cases on deep and surface learning. Students completed the revised *Two-Factor Study Process Questionnaire* (SPQ) developed by Biggs, Kember, and Leung (2001), which evaluates tendencies toward deep and surface learning. The instrument was administered at the beginning of the semester and again at the end of the semester (i.e., each student had two SPQ scores from the beginning of the semester and an additional two from the end of the semester). The course structure was a three-hour lecture supplemented with a one-hour per week tutorial session. In the tutorial sessions during the semester, students were placed into six groups, all of which received a presentation assignment on the same topic. Three groups received an unstructured case, and three groups received a series of questions to answer. Counter to expectations, no significant change in deep learning style scores was observed during the semester. Surface learning scores, however, increased. The type of presentation (case or questions) also was not significant. The authors suggested that their results supported the notion that students focus on what is required, and that if deeper learning approaches are desired, then assessments that reward that behavior should be adopted.

Hill (2016) surveyed final year undergraduates ( $n = 282$ , 50% response rate) at a South African university to explore students' perceptions of the self-assessment process before and after an instructional intervention. The intervention took place with three in-class tests. Students were able to take a copy of their completed in-class test with them at the end of the examination period. Model answers were posted the same day to an online system where students could view the solutions, grade their own work, and submit a self-assessed grade for the test. Results of an 11-question survey showed that most students would not self-assess unless encouraged, and those that did self-assess indicated that it was beneficial. Students also reported that they believed that performing self-assessments would improve overall academic success.

Patel, Millanta, and Tweedie (2016) summarized the findings of a case study that explores the extent to which Chinese students at an Australian university have distinct learning needs, and if the cost of studying abroad is to their benefit. The authors concluded that financial incentives intended to encourage international cohorts may compete for those resources necessary in meeting the learning needs of international students.

Bernardi, Landry, Landry, Buonafede, and Berardi (2016) examined the factors that influence a student's willingness to turn in others for cheating (i.e., whistleblowing). Undergraduate business students ( $n = 218$ , 100% response rate) in an introductory accounting and business law course at a private US university completed three surveys: (1) demographic, (2) questionnaire on cheating and whistleblowing, and (3) social desirability response bias. Results of regression and differences-in-proportions analyses revealed that (1) those students who self-reported that they had cheated in the past were likely to recommend rewards for whistleblowing, and (2) students who had not cheated in the past were primarily concerned about confidentiality.

Powell and Singh (2016) conducted a six-step intervention field study to level-set students ( $n = 123$ , 27% response rate) on the topic of plagiarism at an Australian university: (1) pre-intervention survey, (2) workshop #1, (3) assignment #1, (4) workshop #2, (5) assignment #2, and (6) post-intervention survey. The workshops were conducted during class time to reveal what the student knew about plagiarism, and then details were provided to expand their understanding and conceptualization of plagiarism. The assignments were out-of-class tasks for students to apply their existing and newly acquired knowledge to a plagiarism case. A differences-in-means analysis of the pre- and post-survey responses showed a significant improvement in student understanding of plagiarism.

Winrow (2016) surveyed students ( $n = 364$ , 50.5% response rate) at a US university to examine the potential association between students' perceived utility of ethics in the workplace and the likelihood they would engage in academic misconduct. Students completed three surveys. The first survey asked students to rank the importance of 34 personality characteristics (1–5 scale) in regard to the perceived importance placed on them by employers. The second survey asked students how frequently (1–5 scale) they had engaged in 16 types of misconduct. The third survey includes 10 statements evaluated as true or false, which provided the social desirability control variable in the analysis. A factor analysis of the survey results provided four latent constructs that were labeled (1) planned cheating on examination, (2) plagiarism, (3) improper use of papers, materials, or data, and (4) spontaneous cheating. The result of the partial least squares analysis showed that the perceived importance of ethics was significantly associated with all four misconduct factors. In all cases, the frequency of misconduct



**Table 13**

Overview of articles about faculty (Section 6).

	Reference	Type <sup>a</sup>	Topic
6.1.	<i>Research</i>		
	Bernardi, Zamojcin, et al. (2016)	E	Rankings of accounting education research
	Cook et al. (2016)	D	Strategies to discuss a research paper
	Dalton et al. (2016)	D	Advice to navigate manuscript submission
	Oler and Pasewark (2016)	D	Suggestions to review a manuscript for a journal
6.2.	<i>Teaching</i>		
	Abdullah et al. (2016)	E	Analysis of pedagogical training in Ph.D. programs
	Callahan et al. (2016)	D	Pilot teaching practicum for Ph.D. students
	Dunn et al. (2016)	E	Analysis of pedagogical training for Ph.D. students
	Schnader et al. (2016)	D	Mentorship-based teaching development
	Steenkamp and Roberts (2016)	E	Faculty response to poor student quality
6.3.	<i>Other faculty issues</i>		
	Almer et al. (2016)	E	Analysis of faculty opting out of tenure-track positions
	Bergner, Filzen, and Wong (2016)	D	Information about the accounting Ph.D. job market
	Stout (2016)	D	Reflective essay on distinguished faculty career

<sup>a</sup> Empirical (E) or descriptive (D) article.

was decreasing with increasing levels of perceived importance of ethics. Social desirability was not a significant factor in the model.

Boyle, Boyle, and Carpenter (2016) surveyed accounting faculty ( $n = 571$ , 7.9% response rate) on their perceptions about the incidence and trend of academic dishonesty and the factors leading to and preventing academic dishonesty. Tabulation and regression analyses were used. Respondents reported a perceived increase in the incidence of academic dishonesty, but identified the problem as moderate and that only moderate effort to discourage the practice should be expended. The most important factors giving rise to academic dishonesty included (1) grade pressure, (2) technology enabled cheating, and (3) a perception that the expected benefits of cheating exceed the expected costs of being caught. The most frequently cited actions by professors that would deter academic dishonesty included (1) enforcing cheating rules, (2) discussing the applicable policies with students in class, and (3) careful monitoring during assessment tasks. Institutional actions viewed as most important in discouraging academic dishonesty included (1) consistent enforcement of severe penalties for violations, (2) support of faculty who pursue student cheating, and (3) an institutional culture of zero-tolerance for dishonesty.

Bristor and Burke (2016) discussed important factors for developing and implementing a comprehensive academic integrity policy. Roles and responsibilities for administrators, students, and instructors were also discussed.

## 6. Faculty

Table 13 summarizes five empirical and seven descriptive articles related to faculty classified as research, teaching, and other faculty issues. This section contains 16% of the articles reviewed for 2016, which is a decline from the 2015 review (24%). Four articles (one empirical and three descriptive) relate to research issues, including articles on research rankings and submitting and reviewing manuscripts. Five articles (three empirical and two descriptive) relate to teaching preparation for PhD students and student quality. Three articles (one empirical and two descriptive) dealing broadly with career choices and job market issues are classified as “other.”

### 6.1. Research

Bernardi, Zamojcin, and Delande (2016) examined publications in 13 accounting education journals to assess research productivity for individuals and universities for the recent six (2010–2015), 12 (2004–2015), and 20 three-year (1992–2015) periods.<sup>15</sup> The research was motivated by previous articles (e.g., Holderness, Myers, Summers, & Wood, 2014) that provided research productivity data for publications in the top two accounting education journals (*Journal of Accounting Education* and *Issues in Accounting Education*), and eleven other US accounting journals.<sup>16,17</sup> When assessing productivity of the top 50 authors,<sup>18</sup> individuals such as Jackling (Australia), Kalaganam (Canada), and Spraakman (Canada) were in the top 10 authors in accounting research productivity for the last six years when using 13 accounting education journals, but did not appear in the

<sup>15</sup> The 13 journals are published in English in English-speaking countries. Some data are also categorized by authors in six countries: Australia, Canada, Republic of Ireland, New Zealand, UK, and US.

<sup>16</sup> The 13 journals in Holderness et al. (2014) are used in the BYU accounting rankings research database. <http://www.byuaccounting.net/rankings/univrank/rankings.php>. The two journals used in both the Bernardi, Zamojcin, et al. (2016) and Holderness et al. (2014) publications were *Journal of Accounting Education* and *Issues in Accounting Education*. The *Journal of Accounting Case Research*, which comprises 18% of the sample articles/cases, ceased publication in 2008.

<sup>17</sup> Periodic literature reviews published in *Journal of Accounting Education* (e.g., Apostolou, Dorminey, Hassell, & Rebele, 2015) summarize accounting education literature published in six US, European, and Australian/New Zealand accounting education journals.

<sup>18</sup> Data are provided using two metrics, full author credit for each article, and coauthor adjusted rankings.

top 50 authors in the Holderness et al. (2014) rankings. When assessing research productivity by institution for the last 6 years, for example, Victoria University–Melbourne was ranked 12th using 13 accounting education journals, but did not appear in the Holderness et al. (2014) rankings. The article provides a wealth of data about accounting education research scholarship in a comprehensive set of accounting education journals.

Cook, Hart, Kinney, and Oler (2016) provided a primer for how to discuss a research paper, noting the importance of the process to a research career. The steps described include preparing, presenting, and following up with authors after the discussion.

Dalton, Harp, Oler, and Widener (2016) provided advice to accounting faculty and doctoral students about how to manage the review process for papers submitted to academic journals. Based upon the authors' experiences and interviews with current and former journal editors, advice was provided for reacting to editorial decisions, minimizing the risk of desk rejections, understanding the process at a specific journal, helping the reviewer by having a well-written and well-focused paper, and revising the paper based upon reviewer comments.

Oler and Pasewark (2016) provided information for accounting researchers about how to review a paper submitted for publication. The authors discussed the review process itself, whether to accept a review, the steps in reviewing a paper, and the process of preparing a review.

## 6.2. Teaching

Abdullah, Brink, Eller, and Gouldman (2016) surveyed students in accounting, finance, management, and economics doctoral programs regarding pedagogical training, with results reported separately for each group. Students ( $n = 755$ , 15.5% response rate) at 93 US doctoral-granting universities responded to 37 questions in an online survey. The results provided excellent descriptive information about teaching responsibilities, teaching training (e.g., courses for credit, noncredit workshops, mentoring programs), and teaching feedback (e.g., student teaching evaluations, peer review). When classified into quartiles based upon school prestige,<sup>19</sup> doctoral students from less prestigious accounting doctoral programs reported being more prepared to teach. Based upon the results, the authors made suggestions for improving teaching preparation (e.g., provide formal mentoring, use multiple methods of assessing teaching effectiveness, and development of a teaching portfolio).

Callahan, Spiceland, Spiceland, and Hairston (2016) presented a pilot teaching practicum course for accounting doctoral students implemented at a US university. The practicum consisted of two one-hour courses taken over a two-semester period. The first semester involved an apprenticeship program in which the student shadowed a faculty in his or her teaching responsibilities. The student taught one class under supervision toward the end of that term. The second semester was a mentorship program in which the student was the primary instructor of a course and had regular meetings with an experienced faculty to discuss relevant issues. Implementation guidance, sample practicum syllabus and reading list, teaching survey, sample teaching survey results, and a doctoral candidate review form were included in the article.

Dunn, Hooks, and Kohlbeck (2016) surveyed recent graduates from US accounting doctoral programs ( $n = 75$ , 24.8% response rate) to identify the current practices employed by those programs to prepare graduates for teaching responsibilities. Respondents were asked to identify the setting in which teaching training occurred (e.g., doctoral program, current academic employer, self-training, other) and the sources of training during their enrollment in a doctoral program (e.g., course, workshops, readings, discussion groups, observations of faculty, teaching your own class, assisting other faculty, mentoring). Tabulated results indicated that self-training was the primary setting, and that teaching a class was the most prominent source of pedagogical training. Respondents also were asked to evaluate both the importance and amount of training provided in doctoral programs for (1) course development, (2) course implementation, and (3) course innovation. A chi-square comparison of mean responses showed that for all three teaching characteristics the importance was evaluated higher than the amount of training provided. Regression results indicated that best practices should include a dedicated pedagogy course as part of an apprenticeship-style model.

Schnader, Westermann, Downey, and Thibodeau (2016) provided details on a mentorship-based teacher-scholar program (TSP) for doctoral candidates at a US university. The TSP consists of three primary components: (1) course and mentor selection, (2) course observation, and (3) guided teaching. Course selection was based on the candidate's work experience, research area, and likely teaching assignments post-graduation. Multiple mentors were initially considered for each candidate with ultimate selection based on several factors including teaching area, research interests, interpersonal and communication style, and personal energy. The director of the doctoral program made course and mentor assignments. During the course observation semester the candidate (1) attended each class, (2) directed some of the student learning activities, (3) assisted with assessments, and (4) met regularly with the assigned mentor. In the guided teaching semester, the candidate assumed the instructor role with ongoing guidance from the mentor. The authors provided additional guidance for implementation of the TSP with international doctoral candidates. Recommended topics for discussion between candidates and mentors and feedback suggestions for teaching sessions were included. TSP participants and mentors self-reported favorable views of the program and outcomes.

Steenkamp and Roberts (2016) surveyed accounting academics ( $n = 90$ , 9.4% response rate) from 39 Australian universities regarding the quality of students and academic programs and the effect on faculty behavior, particularly reduced aca-

<sup>19</sup> School prestige classifications from Fogarty and Markarian (2007) were used.

demical rigor. The majority of respondents reported a decline in the academic quality of students and the standard of accounting education in the last decade. Respondents reported that factors such as the school's economic viability, student evaluations, and reputation as being too difficult, workload from grade appeals, job security. They also reported that the prospects of promotion leads to the tendency to reduce coursework content, make assessments easier, and inflate grades. The authors identified these responses to promotional prospects as unethical. Regression analysis showed that accounting educators employed at one of the G08 universities (Australian Group of 8) were less likely to engage in reduced academic rigor than those at non-G08 institutions.

### 6.3. Other faculty issues

Almer, Baldwin, Jones-Farmer, Lightbody, and Single (2016) investigated why accounting faculty with doctoral degrees opted-out of tenure-track careers. Identified as potential opt-outs were 589 faculty who received doctoral degrees from 1984–2006 and who were without a university affiliation or a title that indicated a non-tenure-track position [the source was Hasselback (2016)]. Contact information for 300 faculty was obtained ( $n = 74$ , 27% response rate). The article provided extensive descriptive information. For example, half of those opting out were male; and of the 66 still in the work force, 45% were in academia and 55% in nonacademic positions. Dissatisfaction with research and the failure to attain tenure were most often cited as reasons for opting out.

Bergner, Filzen, and Wong (2016) provided information about the nature of the accounting doctoral job market: preparation, important factors in the process, bifurcation of the job market (e.g., research school versus balanced or teaching), and timing issues. In addition to the authors' experiences, structured interviews with nine recent hires since 2013 provided background information. The goal was to provide candidates with an overall description of the accounting faculty job market. An appendix provided sample example questions for job candidates.

Stout (2016) provided self-reflections regarding lessons learned during his personal life and his accounting academic career as a teacher, researcher,<sup>20</sup> and administrator. The paper was structured around several themes, including: (1) importance of doing little things, (2) forming realistic expectations, (3) focusing on the truly important things in life (e.g., maintaining a healthy perspective), (4) insights as a teacher (e.g., high expectations, importance of caring), (5) insights as an administrator (e.g., importance of honesty and openness, leading by example, cherish tangible and intangible rewards), and (6) importance of humility. In concluding remarks, Stout noted the usefulness of self-reflection.

## 7. Summary and suggestions for future scholarship

### 7.1. Summary

We tabulated the accounting education journal article output for 2016 and compared it to the output reported in the two prior literature reviews that covered articles published in 2015 and 2013–2014 (Apostolou, Dorminey, Hassell, & Rebele, 2015, 2016),<sup>21</sup> which permits comparisons in publication activity in the recent four-year period.

1. The biggest decline is instruction by content area, which comprised 28% of articles in the 2013–2014 review, 18% in 2015, and 13% in the current period.
2. The most significant increase is in articles about students, which grew from 18% in the 2013–2014 review to 28% in 2015 and to 33% in 2016.
3. Articles about curriculum and instruction range from 27% of total production in 2013–2014 to 26% in 2016, which is fairly consistent.
4. Articles on educational technology are 12% in the current review, similar to the prior analysis (9% in 2015 and 12% in 2013–2014).
5. Topics about faculty make up 16% in the current review, with 24% in 2015, and 15% in 2013–2014.

Appendix A presents a tabulation of the 10 articles (9%) identified as instructional resources, unchanged from the number reported in the prior review. These articles provide specific ways to facilitate learning, but they do not meet the definition of a case, which we define as a real or hypothetical situation requiring student analysis. We tabulate the instructional resources according to the best fit to content area or areas. The number of instructional resource articles for 2015 was 9 (9.3% of total) and for 2013–2014 the average was 13.5 (10.5% of total).<sup>22</sup>

As discussed in the preface to Appendix B, the 22 published cases amount to 21% of the total number of articles published in the six journals reviewed for 2016, consistent with the 20.6% published in 2015, and down from the 25.8% of total articles published for the period 2013–2014.

<sup>20</sup> In BYU's 2015 accounting research rankings, David Stout ranked first in accounting education research for the past 20 years: <http://www.byuaccounting.net/rankings/univrank/rankings.php>.

<sup>21</sup> The 2013–2014 data are presented as an average of that two-year period.

<sup>22</sup> Because 2013 was the first year that we separately classified articles as instructional resources, our comparisons are limited to the recent four years.

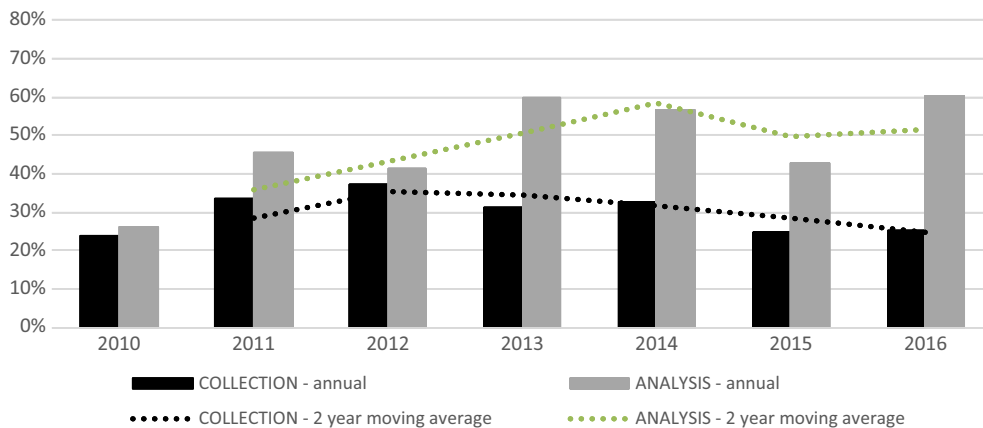


Fig. 1. Data collection method and analysis rigor (2010–2016).

The remainder of Section 7 is organized as follows. Section 7.2 addresses the research rigor of the empirical articles included in this accounting education literature review to inform future scholarship. Section 7.3 offers suggestions for future scholarship in a variety of contexts.

## 7.2. Research rigor

Table 6 reports the data acquisition methods for the empirical articles published in 2016. Survey remains the most popular method of data acquisition (50%), but has fallen to the lowest level since we started tabulating these methods data in 2010. Published sources, quasi-experiment, and course performance represented 23%, 15%, and 10%, respectively. The remaining articles obtained data from interviews (2%). We observe no pure experimental collection methods in the articles reviewed. Table 7 presents the analytical approaches used in the empirical articles. The most popular analysis approach is regression (44%), followed by differences-in-means (23%), tabulation (17%), and analysis of variance (12%). Path analysis was employed as the primary analysis approach in 4% of the empirical articles.

As we have stated in prior reviews, it is not the position of the authors that all inquiries necessitate, or are even appropriate for, those methods and approaches we classify as rigorous. Rather, we assert that the proportion of inquiry should show an overall migration toward greater rigor as accounting education research matures and inquiry becomes more explanatory.

We analyzed trends in data collection and analysis for the recent seven years. We classify data collection methods of experiment, quasi-experiment, and student course performance as more rigorous than survey, published source, and interview. Regression, analysis of variance, and path analysis are identified as the more rigorous analytic approaches. Fig. 1 provides a representation of the implementation of the rigorous collection methods and analytic approaches since 2010. The bar-graphs in Fig. 1 represent the percentage of the articles applying the rigorous methods for each year. The dotted lines are the two-year moving average, which provides a visual indication of trend. The trend lines suggest a slight decline in collection rigor with an increase in analytic rigor, which is an interesting combined phenomenon given that the quality of any analysis is unquestionably dependent on the rigor of measurement.

Using the percent of collection and analysis methods defined as rigorous, we perform univariate regressions for each using time as the independent variable. A positive (negative) coefficient on time indicates an increasing (decreasing) trend. The untabulated regression result for rigorous collection methods reveals a nonsignificant negative trend.<sup>23</sup> Therefore, while the trend may be visually compelling (and negative), the data do not demonstrate a movement in the use of rigorous data collection techniques. Separate univariate regressions for each of the three rigorous collection methods also reveal no significant trend. We conclude that the rigor in collection methodology is best characterized as stable over the period 2010–2016.

We employ a similar analysis to evaluate potential trends in analytic rigor. The proportion of articles using rigorous analytic techniques is regressed on time, and the coefficient is positive and significant. We interpret this as confirmatory that the visual trend in Fig. 1 is a significant movement in the use of rigorous methods. We also perform univariate regressions for each of the three rigorous analytic approaches. Results for the regression analytic approach shows a positive and significant trend, and it is the only significant trend of the three rigorous analytic approaches. Tabulation, which is not included in the rigorous tally, shows a negative and significant trend. Taken together, the results suggest that accounting education literature is showing signs of migration toward more rigorous analytic methods. We observe some progress in the analytic approaches applied, but also note that the most robust empirical analysis approach cannot overcome less rigorous measurement.

<sup>23</sup> We report results as significant when  $p < 0.10$ .

We promote continued movement toward the more rigorous methods and approaches. We identify two articles that use a quasi-experimental design to capture student performance as exemplars. [Chan et al. \(2016\)](#) use structural equation modeling to determine the effectiveness of alternative classroom technology. [Wooten \(2016\)](#) implements both regression and analysis of variance analytic methods to evaluate the benefit of an online component to improve student learning. The quasi-experimental approach affords many of the empirical benefits of the experimental method, but is generally easier to implement. We encourage its consideration where strict application of an experimental method is not feasible, which is often the case in educational settings.

We encourage the use of meta-analysis in accounting education research as a way to synthesize the empirical findings in lines of inquiry. [Khelif and Chalmers \(2015\)](#) reviewed 27 meta-analysis accounting research studies from 1985–2014. Meta-analysis provided for a summary of common empirical findings, potential reconciliation of apparent conflicting results, and identification of gaps in the empirical literature. Of the 27 articles included in the [Khelif and Chalmers \(2015\)](#) review, only [Thornton \(1994\)](#) dealt with an accounting education topic, the Canadian Academic Accounting Association education project for improving accounting education.<sup>24</sup> A sufficient volume of empirical studies exist on a variety of topics in accounting education research to warrant implementation of meta-analyses. We call for such studies as they can be expected to develop a set of unifying perspectives in accounting education research not directly available through other methods. For example, over time, as the accounting education literature has progressed, consistently academic performance has been significantly associated with overall GPA, GPA in prior accounting classes, and SAT, which are now standard control variables when assessing student performance. Meta analyses may help accounting education researchers identify other important controls.

In the series of accounting education literature reviews, we have advocated for multi-course, multi-instructor, multi-institution data, which increases external validity, rather than research by a single faculty member at a single institution in a single course. We continue to call for this collaborative research. While survey data may be drawn from multiple institutions and multiple courses, it is more difficult to assess educational interventions across courses and institutions. In 2016, few non-survey studies moved beyond the single course,<sup>25</sup> single institution setting.<sup>26</sup>

### 7.3. Suggestions for future scholarship

Past literature reviews have provided recommendations for research studies by topical area; e.g., students, curriculum, or technology. Interested readers should refer to prior articles in this accounting education literature review series for additional suggestions for research studies and for an historical perspective on research trends and needs.

This section of the current literature review focuses on recommendations for research studies related to some fundamental challenges confronting accounting education. These challenges include the value of accreditation, effectiveness of assurance of learning programs, educational technology, Millennial and Generation Z (post-Millennial) students, the changing demographics of the accounting professoriate, and curriculum. The accounting education profession is in need of guidance on these important issues, and well-conducted research studies will provide valuable information for faculty, administrators, and academic accounting organizations.

#### 7.3.1. Value of accreditation

Obtaining and maintaining accreditation requires a significant financial and non-financial investment by accounting education programs and the institutions that house these programs, with AACSB accreditation for Business Schools and Accounting Programs incurring additional significant costs.<sup>27</sup> The financial costs incurred to meet accreditation standards are generally identifiable and measurable, but the non-financial costs (e.g., faculty and administrator time devoted to accreditation) are often ignored or dismissed as being too difficult to measure. It is important, however, that research studies identify these non-financial costs of accreditation and attempt to measure or quantify these costs. As accountants, we should also realize that accreditation carries opportunity costs related to initiatives not pursued because available financial and non-financial resources are committed to accreditation. Research studies can be conducted to identify explicit costs and at least identify possible opportunity costs of accreditation so that institutions and administrators better understand the true cost of accreditation.

An implicit assumption of accreditation is that being an accredited accounting program adds value to students, alumni, and institutions. However, as budget constraints become more severe for many educational institutions, assuming that the investment in accreditation provides value is not acceptable. It is time for researchers to document, rather than speculate about, the benefits accounting programs derive from accreditation, and to address costs associated with the choice to be accredited or not. Do those benefits justify the attendant costs, and what are the costs of choosing against accreditation? Can these benefits and costs be measured and by what metrics? Improved education provided to accounting students is, pre-

<sup>24</sup> "Comparing intermediate accounting students at eight universities with other university students, [[Thornton \(1994, 16\)](#)] finds that accounting students are similar to other university students, except for their interest in accounting and their psychological profile with accounting students being more organized, preferring concrete rather than abstract interpretations, and having less broad interests."

<sup>25</sup> [Davis et al. \(2016\)](#) and [Bernardi, Zamojcin, et al. \(2016\)](#) each used two different courses (cost accounting and auditing in the former and introductory accounting and business law in the latter).

<sup>26</sup> For example, [Fortin et al. \(2016\)](#) studied three Canadian institutions.

<sup>27</sup> Most US colleges and universities are reviewed periodically for university-level accreditation; AACSB accreditation currently follows a five-year model. For this section, we presume accreditation means AACSB accreditation.

sumably, a benefit of accreditation. In what ways, though, does going through the process of obtaining and maintaining accreditation improve the education provided to accounting students? Research studies are needed to identify, measure, and document the benefits obtained from being an accredited accounting program to inform the accrediting bodies, institutions seeking or maintaining accreditation, and the individuals who participate in the process.

### 7.3.2. Assurance of learning

Developing and implementing effective assurance of learning (AOL) programs is critical to successful accreditation efforts. However, what makes an AOL program effective, and who decides if the program is effective beyond the specific AACSB team reviewing the school? What evidence is there that AOL programs have led to meaningful improvements in accounting education? Have AOL programs improved core competency development and professional examination pass rates?<sup>28</sup> Although AOL programs are a requirement of accreditation, they should be implemented to achieve and improve curricular outcomes as opposed to meeting an accreditation requirement. It is time for researchers to independently identify and document the educational improvements produced by AOL programs.

### 7.3.3. Educational technology

Implementing technology in educational programs is one of the great challenges of our time. Technology has advanced exponentially since the days when PowerPoint slides were an example of innovative classroom technology. Accounting students are very proficient at using technology and expect it will be used in the curriculum. The main research issue related to educational technology has remained basically unchanged for the past two decades. How can technology be integrated in accounting to improve the educational experience for faculty and students? While online or hybrid education is a part of technology integration, and deserving of study in its own right, the effective use of technology to improve education is much more complex. Research studies are needed to identify technologies that have the potential to improve accounting education and to examine how such technologies are being used, or can be used in accounting education.<sup>29</sup> The use of educational technology is one area where accounting researchers must look outside our discipline for guidance. For example, the Khan Academy is one of the most successful educational initiatives in recent memory.<sup>30</sup> How does the Khan Academy use technology to motivate and education students? Principles and methods used by the Khan Academy, and by other nonaccounting educational initiatives, should be identified and their application to accounting education programs studied.

### 7.3.4. Changing students

We often hear how Millennial students differ from students we have taught in the past, and this is most certainly true, but not a new issue. Each generation of students differs in some ways from prior-generation students, and accounting professors have faced the challenge of adapting to how our students learn. The research question is, therefore, not whether accounting educators will adapt to this new generation of students, but how we must adapt to best motivate and educate future accounting professionals. Failure to do so will only increase the frustration many accounting professors currently feel regarding some of our students and cause us to lose the opportunity to *effectively* engage and educate these students, and to prepare them for careers in the profession. Adapting to Millennial and Generation Z students is not a challenge unique to accounting education, and researchers must look outside our discipline for ideas on how to best address this challenge.

### 7.3.5. Accounting professor demographics

The demographics of the accounting professoriate, at least in the US, are changing dramatically with more international faculty members and fewer faculty members having relevant professional experience. Although this may be a sensitive issue to some, research studies should be conducted to examine how these changes might impact accounting education programs. Will this new generation of accounting professors be able to provide the professional focus to education that our students require?<sup>31</sup> Will the increasing numbers of international faculty members affect accounting students' core competency development and, if so, how will this educational priority be affected? How do the changing demands on faculty influence the manner in which we prepare faculty for the classroom and interacting with students? Similar to how accounting education researchers need to study our changing student population, we also need to study the impact that changes in the professoriate might have on accounting education programs.

### 7.3.6. Accounting curriculum

The accounting curriculum can be viewed as the basic product we provide students, with courses reflecting what the faculty considers important information for students to know.<sup>32</sup> The typical accounting curriculum includes six courses covering

<sup>28</sup> Perhaps each of these issues may be addressed in an individual accreditation process. However, the collective experience of accounting programs has not been summarized and communicated to accounting educators beyond professional meetings or seminars.

<sup>29</sup> A complicating and potentially limiting factor in adopting technology is that universities, not accounting programs, control the extent to which technology is available in the classroom, what technology is allowed and prohibited, and which courseware management system may be used.

<sup>30</sup> <https://www.khanacademy.org/>.

<sup>31</sup> The AICPA Accounting Doctoral Scholars (ADS) Program was created specifically to encourage accounting professionals with experience in auditing and tax to enter accounting doctoral programs and eventually become accounting faculty. The ADS Program explicitly tackled the issue of declining numbers of graduating doctoral students in the tax and auditing areas (<http://www.adsphd.org/>).

<sup>32</sup> CPA exam requirements in individual states and jurisdictions greatly influence the accounting curriculum.

financial accounting, cost accounting, tax, accounting information systems, and auditing topics. Courses are enhanced with different types of instructional resources, and delivery methods can differ even within different sections of the same course in the same degree program. Professors in any accounting education program have different teaching styles and ways of engaging and interacting with students.

Curriculum change can be difficult, partly because of inertia (i.e., demands for research make it difficult to invest in change after a course is prepared) and partly because many faculty members want to protect courses that they teach and enjoy teaching. As the product we provide students, the curriculum should be in a continuous state of evaluation and possible revision. How many products, especially high-priced products, can remain unchanged and fail to adjust to changing stakeholder needs? Unfortunately, with only a few exceptions, the accounting curriculum would be one such stagnant product.

It would be difficult, but not impossible, for any one researcher to conduct a study on curriculum, the results of which would be used by other accounting education programs. A single study would never provide the definitive answer to the “ideal curriculum” question, but such a study could contribute to the discussion. As a group, accounting education researchers must devote more attention to our primary product, the accounting curriculum. An example of this would be the March 2017 issue of the *Journal of Accounting Education* that is devoted to Big Data. This type of focused research effort help all of us address how to change the curriculum to provide our students with the most relevant and effective educational experience possible.

### 7.3.7. Contribution to accounting education

*The Routledge Companion to Accounting Education* (Wilson, 2014) consists of 30 chapters that address a spectrum of topics essential to understanding the present state of accounting education practice and research along with an historical perspective. We suggest this resource as a launch point to the development of future scholarship in accounting education. Accounting education researchers must resist the temptation to conduct studies that make only a very minor contribution to the literature. Editors of accounting education journals are in a position to discourage conducting such studies, and they should do so by not publishing these types of articles. Researchers can best contribute to the literature by beginning to examine and study the major challenges facing accounting education. Challenges we face are not unique to accounting education, and researchers should look outside our discipline for ideas that, potentially, can improve the education we provide to accounting students.<sup>33</sup> Only by studying the major challenges facing accounting education will research serve the important role of providing information and guidance to better educate today’s students and future accounting professionals.

## Appendix A. Instructional resources organized by content area

During 2016, the six journals covered by this literature review published 10 instructional resources, constituting 9% of the 108 articles published, consistent with prior years. These articles provide guidance on how to implement teaching strategies (e.g., mini-cases, technical projects) or creative ways to teach concepts. Instructional resources were published by *Journal of Accounting Education* (50%), *Accounting Education* (20%), *Advances in Accounting Education* (20%), and *The Accounting Educators’ Journal* (10%). We identify the 10 instructional resource articles<sup>34</sup> in alphabetical order by author, with an indication of the applicability of the resource by content area as enumerated below:

- AIS (1)
- Auditing and forensic accounting (2)
- Core competencies (2)
- Financial accounting (3)
- Managerial accounting (2)
- Taxation (1)

<sup>33</sup> The area of education scholarship is vast. As one resource, the Education Resources Information Center (ERIC) indexes education journals across disciplines and students (adults and children): <https://eric.ed.gov/?journals>. ERIC is sponsored by the Institute of Education Sciences of the US Department of Education.

<sup>34</sup> The sum of the allocation exceeds the number of articles because one has applicability to more than one content area.

Reference (alpha by author)	Accounting information systems (AIS)	Auditing and forensic accounting	Core competencies	Financial accounting	Managerial accounting	Taxation
1. Barndt, R. J., Fuller, L. R., & Flynn, K. E. (2016). Teaching inherent risk and tolerable misstatement in auditing: A modified Delphi method as a teaching tool. <i>Advances in Accounting Education</i> , 19, 125–140.		X				
2. Churyk, N. T., Reinstein, A., & Smith, L. (2016). Retail leases: A research exercise examining archived, current, and future standards. <i>Advances in Accounting Education</i> , 19, 165–193.				X		
3. Diaz, M. C. (2016). Assembling the opinion: An active learning exercise for audit students. <i>Journal of Accounting Education</i> , 34, 30–40.		X				
4. Farkas, M., Kersting, L., & Stephens, W. (2016). Modern Watch Company: An instructional resource for presenting and learning actual, normal, and standard costing systems, and variable and fixed overhead analysis. <i>Journal of Accounting Education</i> , 35, 56–68.					X	
5. Grimm, S. D., & Blazovich, J. L. (2016). Developing student competencies: An integrated approach to a financial statement analysis project. <i>Journal of Accounting Education</i> , 35, 69–101.				X		
6. McCann, L. (2016). Thinking outside the ledger: A visual representation project for accounting students. <i>The Accounting Educators' Journal</i> , 26, 61–84.			X			
7. Messer, R. (2016). Teaching variance analysis for cost accounting: How to achieve above par performance. <i>Advances in Accounting Education</i> , 18, 51–63.					X	
8. Miller, T., Miller, L., & Tolin, J. (2016). Provision for income tax expense ASC 740: A teaching note. <i>Journal of Accounting Education</i> , 35, 102–126.				X		X
9. Mungal, A., & Cloete, M. (2016). Preparing underprepared students for higher education and beyond: The development and implementation of an integrated project. <i>Accounting Education</i> , 25(3), 203–222.			X			
10. Willis, V. F. (2016). A model for teaching technology: Using Excel in an accounting information systems course. <i>Journal of Accounting Education</i> , 36, 87–99.	X					
Total <sup>a</sup>	1	2	2	3	2	1

<sup>a</sup> The grand total exceeds the number of instructional resources because one is allocated to more than one instructional content area.



## Appendix B. Cases organized by content area

During 2016, the six journals covered by this literature review published 22 cases, constituting 21% of the 108 articles published. All traditional content areas are represented by the cases. We identify the 22 cases<sup>35</sup> in alphabetical order by author, with an indication of the applicability of the resource by content area enumerated below:

- Accounting information systems (3)
- Auditing and forensic accounting (5)
- Corporate governance and regulation (2)
- Ethics and professional responsibility (1)
- Financial accounting other than IFRS (6)
- Government and nonprofit accounting (1)
- IFRS (3)
- Managerial accounting (3)
- Taxation (6)

Thirteen cases appeared in *Issues in Accounting Education* (59%), seven in *Journal of Accounting Education* (32%), and two in *The Accounting Educators' Journal* (9%) a ratio that is consistent with prior similar literature reviews.<sup>36</sup>

<sup>35</sup> The sum of the allocation exceeds the number of cases because some have applicability to more than one content area.

<sup>36</sup> The University of Notre Dame provides a searchable database that includes cases published in *Issues in Accounting Education*, the *IMA Educational Case Journal*, and the *Journal of Accounting Education*. (<http://www.cases.ndacct.com>).

Reference (alpha by author)	Accounting information systems (AIS)	Auditing and forensic accounting	Corporate governance and regulation	Ethics and professional responsibility	Financial accounting other than IFRS	Government and nonprofit accounting	IFRS	Managerial accounting	Taxation
1. Anderson, S. E., & Stallworth, H. L. (2016). <i>Sweetness and Spice: Tax issues for foodies. Issues in Accounting Education, 31</i> (1), 111–117.									X
2. Burke, Q. L., & Eaton, T. V. (2016). Alibaba Group initial public offering: A case study of financial reporting issues. <i>Issues in Accounting Education, 31</i> (4), 449–460.			X		X				
3. Campbell, K., & Helleloid, D. (2016). Starbucks: Social responsibility and tax avoidance. <i>Journal of Accounting Education, 37</i> , 38–60.			X						X
4. Cipriano, M., Hamilton, E. L., Vandervelde, S. D. (2016). Newport Soup Inc.: An interactive inherent risk assessment case. <i>Journal of Accounting Education, 37</i> , 13–23.		X							
5. Conrod, J. D., & Cumby, J. (2016). On-line gaming, financial reporting, and audit: Chester Games Corp. <i>Issues in Accounting Education, 31</i> (4), 431–437.							X		
6. Considine, B., Krahel, J. P., Lenk, M. M., & Janvrin, D. J. (2016). Social technology: A compendium of short cases. <i>Issues in Accounting Education, 31</i> (4), 417–430.	X	X		X	X				
7. Cripe, B. M., Harmon, A., & West, T. D. (2016). Lenzini Steel: The impact of transfer pricing and taxes on international operations. <i>Issues in Accounting Education, 31</i> (4), 369–387.						X		X	X
8. Engel, R., Lyons, B., & Pannese, D. (2016). Liberating trapped cash: A case study of trapped cash at Apple and Microsoft. <i>The Accounting Educators' Journal, 26</i> , 119–133.					X				
9. Gissel, J. L. (2016). A case of fixed asset accounting: Initial and subsequent measurement. <i>Journal of Accounting</i>					X		X		

## Cases organized by content area (continued)

Reference (alpha by author)	Accounting information systems (AIS)	Auditing and forensic accounting	Corporate governance and regulation	Ethics and professional responsibility	Financial accounting other than IFRS	Government and nonprofit accounting	IFRS	Managerial accounting	Taxation
<i>Education</i> , 37, 61–66.									
10. Goldman, D., Makridis, V. R., & Wu, W-T. (2016). WhyteGlov Services: IRC Section 1060 asset acquisition. <i>Journal of Accounting Education</i> , 37, 24–37.									
11. Holtzblatt, M. A., Geekie, J., & Tschakert, N. (2016). Should U.S. and global regulators take a bigger tax bite out of technology companies? A case on Apple's international tax minimization and reporting strategies. <i>Issues in Accounting Education</i> , 31(1), 133–148.									X
12. Igou, A., & Coe, M. (2016). Vistabeans coffee shop data analytics teaching case. <i>Journal of Accounting Education</i> , 36, 75–86.	X								
13. Jalilvand, A., & Kostolansky, J. W. (2016). Le Beau Footwear: A business valuation case for a privately held firm. <i>Issues in Accounting Education</i> , 31(4), 439–447.					X				
14. Jory, S. R., Benamraoui, A., Boojihawon, D. R., & Madichie, N. O. (2016). Net present value analysis and the wealth creation process: A case illustration. <i>The Accounting Educators' Journal</i> , 26, 85–99.					X				
15. Morrow, M. L., & Stinson, S. R. (2016). Mr. and Mrs. Smith: A student introduction to federal tax compliance and documentation. <i>Issues in Accounting Education</i> , 31(1), 119–132.									X
16. Popova, V. K., & Stein, S. E. (2016). Trading Styles, Inc.: An analysis of the going concern assessment. <i>Issues in Accounting Education</i> , 31(3), 355–366.		X							
17. Porporato, M. M. (2016). Logistics costs behavior and management in the auto industry. <i>Issues in Accounting Education</i> ,								X	

(continued on next page)

## Cases organized by content area (continued)

Reference (alpha by author)	Accounting information systems (AIS)	Auditing and forensic accounting	Corporate governance and regulation	Ethics and professional responsibility	Financial accounting other than IFRS	Government and nonprofit accounting	IFRS	Managerial accounting	Taxation
31(4), 389–408.									
18. Quirin, J. J., & O'Bryan, D. (2016). The marriage of Sharon and Henry Sawbones: A forensic case illustrating the use of a tax return in a litigation advisory services context. <i>Issues in Accounting Education</i> , 31(3), 347–354.		X							X
19. Samuels, J. A., & Sawers, K. M. (2016). Arizona Microbrewery, Inc.: An instructional case on management decision making. <i>Issues in Accounting Education</i> , 31(4), 409–415.								X	
20. Shelton, S. W., Trendell, M., & Whittington, R. (2016). Williams Community Hospital: An internal auditing case. <i>Issues in Accounting Education</i> , 31(3), 337–345.		X							
21. Teuteberg, T., Voll, D., & Zülch, H. (2016). The success story of international additives producer AG: A case study on categorization of investments under IFRS. <i>Journal of Accounting Education</i> , 34, 13–29.							X		
22. Watson, M. W., Klamm, B. K., Segovia, J., & Lehman, M. W. (2016). Enterprise system case using Microsoft Dynamics GP via DynamicsCloud. <i>Journal of Accounting Education</i> , 37, 67–92.	X								
Total <sup>a</sup>	3	5	2	1	6	1	3	3	6

<sup>a</sup> The grand total exceeds the number of cases because some are allocated to more than one instructional content area.

## References

- Abdullah, I., Brink, A. G., Eller, C. K., & Gouldman, A. (2016). Pedagogical training in Ph.D. programs: How does accounting compare to similar disciplines? *Advances in Accounting Education*, 18, 111–145.
- Abraham, A., & Jones, H. (2016). Facilitating student learning in accounting through scaffolded assessment. *Issues in Accounting Education*, 31(1), 29–49.
- Almer, E. D., Baldwin, A. A., Jones-Farmer, A., Lightbody, M., & Single, L. E. (2016). Tenure-track opt-outs: Leakages from the academic pipeline. *Advances in Accounting Education*, 19, 1–36.
- Apostolou, B., Dorminey, J. W., Hassell, J. M., & Rebele, J. E. (2015). Accounting education literature review (2013–2014). *Journal of Accounting Education*, 33(2), 69–127.
- Apostolou, B., Dorminey, J. W., Hassell, J. M., & Rebele, J. E. (2016). Accounting education literature review (2015). *Journal of Accounting Education*, 35, 20–55.
- Apostolou, B., Dorminey, J. W., Hassell, J. M., & Rebele, J. E. (2017). Accounting education literature review (2016). *Journal of Accounting Education*. <http://dx.doi.org/10.1016/j.jaccedu.2017.03.001>.
- Apostolou, B., Dorminey, J. W., Hassell, J. M., & Watson, S. F. (2013). Accounting education literature review (2010–2012). *Journal of Accounting Education*, 31(2), 107–161.
- Apostolou, B., Hassell, J. M., Rebele, J. E., & Watson, S. F. (2010). Accounting education literature review (2006–2009). *Journal of Accounting Education*, 28(3–4), 145–197.
- Apostolou, B., Watson, S. F., Hassell, J. M., & Webber, S. A. (2001). Accounting education literature review (1997–1999). *Journal of Accounting Education*, 19(1), 1–61.
- Aprile, R., & Nicolliello, M. (2016). *Economia Aziendale*: A missing connection between the theory and academic syllabi. *Accounting Education*, 25(4), 414–435.
- Bergner, J., Filzen, J. J., & Simkin, M. G. (2016). Why use multiple choice questions with excess information? *Journal of Accounting Education*, 34, 1–12.
- Bergner, J. M., Filzen, J. J., & Wong, J. A. (2016). Navigating the accounting academic job market and related advice. *Advances in Accounting Education*, 18, 147–176.
- Bernardi, R. A., Landry, A. C., Landry, E. E., Buonafede, M. R., & Berardi, M. E. (2016). What actions can be taken to increase whistle-blowing in the classroom? *Accounting Education*, 25(1), 88–106.
- Bernardi, R. A., Zamojcin, K. A., & Delande, T. L. (2016). Ranking accounting authors and departments in accounting education: Different methodologies—significantly different results. *Accounting Education*, 25(6), 568–597.
- Biggs, J., Kember, D., & Leung, D. Y. P. (2001). The revised two-factor study process questionnaire: R-SPQ-2F. *British Journal of Educational Psychology*, 71(1), 133–149.
- Blanthorne, C., & Westin, S. (2016). VITA: A comprehensive review of the literature and an analysis of the program in accounting education in the U.S.. *Issues in Accounting Education*, 31(1), 51–69.
- Bline, D., Perreault, S., & Zheng, X. (2016a). An exploratory examination of order effects on CPA exam passage timeliness. *Journal of Accounting Education*, 36, 65–74.
- Bline, D. M., Perreault, S., & Zheng, X. (2016b). Do accounting faculty characteristics impact CPA exam performance? An investigation of nearly 700,000 examinations. *Issues in Accounting Education*, 31(3), 291–300.
- Blount, Y., Abedin, B., Vatanasakdakul, S., & Erfani, S. (2016). Integrating enterprise resource planning (SAP) in the accounting curriculum: A systematic literature review and case study. *Accounting Education*, 25(2), 185–202.
- Boyle, D. M., Boyle, J. F., & Carpenter, B. W. (2016). Accounting student academic dishonesty: What accounting faculty and administrators believe. *The Accounting Educators' Journal*, 26(special edition), 39–61.
- Brink, A. G., Norman, C. S., & Wier, B. (2016). Attained education and promotion in public accounting. *Issues in Accounting Education*, 31(3), 301–320.
- Brink, W. D., & Quick, L. A. (2016). Accounting doctoral program characteristics: A guide for prospective students. *Advances in Accounting Education*, 18, 69–109.
- Bristol, J., & Burke, M. M. (2016). Academic integrity policies: Has your institution implemented an effective policy? *The Accounting Educators' Journal*, 26 (special edition), 1–10.
- Brody, R. G., Li, S., & Zhou, L. (2016). Beyond the CPA: Student awareness of accounting certifications. *The Accounting Educators' Journal*, 26, 1–16.
- Brown, C. A., Danvers, K., & Doran, D. T. (2016). Student perceptions on using guided reading questions to motivate student reading in the flipped classroom. *Accounting Education*, 25(3), 256–271.
- Buckless, F., & Krawczyk, K. (2016). The relation of student engagement and other admission metrics to master of accounting student performance. *Accounting Education*, 25(6), 519–533.
- Burton, H., Daugherty, B., Dickens, D., & Schisler, D. (2016). Dominant personality types in public accounting: Selection bias or indoctrinated? *Accounting Education*, 25(2), 167–184.
- Butler, C. (2016). The probability evaluation game: An instrument to highlight the skill of reflexive listening. *Accounting Education*, 25(2), 107–123.
- Callahan, C. M., Spiceland, C. P., Spiceland, J. D., & Hairston, S. (2016). Pilot course: A teaching practicum course as an integral component of an accounting doctoral program. *Issues in Accounting Education*, 31(2), 191–210.
- Campbell, K., & Helleloid, D. (2016). Starbucks: Social responsibility and tax avoidance. *Journal of Accounting Education*, 37, 38–60.
- Carenys, J., & Moya, S. (2016). Digital game-based learning in accounting and business education. *Accounting Education*, 25(6), 598–651.
- Chan, S. H., Song, Q., Rivera, L. H., & Trongmateerut, P. (2016). Using an educational computer program to enhance student performance in financial accounting. *Journal of Accounting Education*, 36, 43–64.
- Chmielewski-Raimondo, D. A., McKeown, W., & Brooks, A. (2016). The field as our classroom: Applications in a business-related setting. *Journal of Accounting Education*, 34, 41–58.
- Christensen, A. L., & Woodland, A. M. (2016). Is participation in the volunteer income tax assistance (VITA) program associated with students' problem-solving skills and professional commitment? *Issues in Accounting Education*, 31(1), 71–90.
- Coetzee, S. A., Janse van Rensburg, C., & Schmulian, A. (2016). Differences in students' reading comprehension of international financial reporting standards: A South African case. *Accounting Education*, 25(4), 306–326.
- Cook, K. A., Hart, M., Kinney, M. R., & Oler, D. K. (2016). How to discuss a paper: Developing and showcasing your scholarly skills. *Issues in Accounting Education*, 31(2), 211–218.
- Costa, A. J., Pinheiro, M. M., & Ribeiro, M. S. (2016). Ethical perceptions of accounting students in a Portuguese university: The influence of individual factors and personal traits. *Accounting Education*, 25(4), 327–348.
- Cote, J., & Latham, C. K. (2016). Peer-to-peer implementation of an action-oriented ethics framework in the introductory accounting sequence. *Advances in Accounting Education*, 19, 89–123.
- Dalton, D. W., Harp, N. L., Oler, D. K., & Widener, S. K. (2016). Managing the review process in accounting research: Advice from authors and editors. *Issues in Accounting Education*, 31(2), 235–252.
- Davis, A. B., Rand, R., & Seay, R. (2016). Remote proctoring: The effect of proctoring on grades. *Advances in Accounting Education*, 18, 23–50.
- Diaz, M. C. (2016). Assembling the opinion: An active learning exercise for audit students. *Journal of Accounting Education*, 34, 30–40.
- Domingo, M. S., & Nouri, H. (2016). How do transfer students in accounting compare academically to “native” students? *Global Perspectives on Accounting Education*, 13, 21–35.
- Downen, T., & Hyde, B. (2016). Flipping the managerial accounting principles course: Effects on student performance, evaluation, and attendance. *Advances in Accounting Education*, 19, 61–87.
- Dunn, K. A., Hooks, K. L., & Kohlbeck, M. J. (2016). Preparing future accounting faculty members to teach. *Issues in Accounting Education*, 31(2), 155–170.

- Frag, M. S., & Elias, R. Z. (2016). The relationship between accounting students' personality, professional skepticism and anticipatory socialization. *Accounting Education*, 25(2), 124–138.
- Fisher, E., McLeod, A. J., Savage, A., & Simkin, M. G. (2016). Ghostwriters in the cloud. *Journal of Accounting Education*, 34, 59–71.
- Fogarty, T. J., & Markarian, G. (2007). An empirical assessment of the rise and fall of accounting as an academic discipline. *Issues in Accounting Education*, 22(2), 137–161.
- Fogarty, T. J., Zimmerman, A. B., & Richardson, V. J. (2016). What do we mean by accounting program quality? A decomposition of accounting faculty opinions. *Journal of Accounting Education*, 36, 16–42.
- Fortin, A., Sauv e, L., Viger, C., & Landry, F. (2016). Nontraditional student withdrawal from undergraduate accounting programmes: A holistic perspective. *Accounting Education*, 25(5), 437–478.
- Gambin, L., & Hogarth, T. (2016). Counting the cost, reconciling the benefits: Understanding employer investment in Higher Apprenticeships in accounting. *Accounting Education*, 25(5), 502–518.
- Gaynor, G., Lynn, S. A., & Wasternack, O. (2016). Debits, credits, and circadian rhythms: The effect of CPA exam start time on performance. *Advances in Accounting Education*, 19, 37–60.
- Gentile, M. C. (2010). *Giving voice to values: How to speak your mind when you know what's right*. New Haven, CT: Yale University Press.
- Gentile, M. C. (2013). *Educating for values-driven leadership: Giving voice to values across the curriculum*. New York, NY: Business Expert Press.
- Golyagina, A., & Valuckas, D. (2016). Representation of knowledge on some management accounting techniques in textbooks. *Accounting Education*, 25(5), 479–501.
- Grimm, S. D., & Blazovich, J. L. (2016). Developing student competencies: An integrated approach to a financial statement analysis project. *Journal of Accounting Education*, 35, 69–101.
- Grossman, A. M., & Johnson, L. R. (2016). Employer perceptions of online accounting degrees. *Issues in Accounting Education*, 31(1), 91–109.
- Harrington, C., Smith, W., & Bauer, R. (2016). Influencing business student intent to use a personal budget. *The Accounting Educators' Journal*, 26, 135–153.
- Hasselback, J. R. (2016). *Accounting faculty directory*. Supported by the American Accounting Association and available at <<http://www.hasselback.org/index>>.
- Hill, T. (2016). Do accounting students believe in self-assessment? *Accounting Education*, 25(4), 291–305.
- Holderness, D. K., Jr., Myers, N. M., Summers, S. L., & Wood, D. A. (2014). Accounting education research: Ranking institutions and individual scholars. *Issues in Accounting Education*, 29(1), 87–115.
- Janse van Rensburg, C., Coetzee, S. A., & Schmulian, A. (2014). South African financial reporting students' reading comprehension of the IASB conceptual framework. *Journal of Accounting Education*, 32(4), 1–15.
- Jelinek, K. (2016). Transfer of learning through an experiential learning project. *The Accounting Educators' Journal*, 26, 35–59.
- Johnson, N. L. (2016). Improving the accounting student r esum e language: Accounting faculty best practice tools. *The Accounting Educators' Journal*, 26, 18–33.
- Kern, S. M., & Weber, G. J. (2016). Implementing a "real-world" fraud investigation class: The justice for fraud victims project. *Issues in Accounting Education*, 31(3), 255–289.
- Khan, T., Kend, M., & Robertson, S. (2016). Use of social media by university accounting students and its impact on learning outcomes. *Accounting Education*, 25(6), 534–567.
- Khlif, H., & Chalmers, K. (2015). A review of meta-analytic research in accounting. *Journal of Accounting Literature*, 35, 1–27.
- Levant, Y., Coulmont, M., & Sandu, R. (2016). Business simulation as an active learning activity for developing soft skills. *Accounting Education*, 25(4), 368–395.
- Lindsay, H. (2016). More than 'continuing professional development': A proposed new learning framework for professional accountants. *Accounting Education*, 25(1), 1–13.
- McGrath, D., & Murphy, D. (2016). Understanding accounting as a career: An immersion work experience for students making career decisions. *Accounting Education*, 25(1), 57–87.
- Meier, H. H., & Smith, D. D. (2016). Achieving globalization of AACSB accounting programs with faculty-led study abroad education. *Accounting Education*, 25(1), 35–56.
- Merton, R. K. (1957). *Social theory and social structure*. New York, NY: Free Press of Glencoe.
- Mintz, S. (2016). Giving voice to values: A new approach to accounting ethics education. *Global Perspectives on Accounting Education*, 13, 37–50.
- Oler, D. K., & Pasewark, W. R. (2016). How to review a paper. *Issues in Accounting Education*, 31(2), 219–234.
- Patel, C., Millanta, B., & Tweedie, D. (2016). Is international accounting education delivering pedagogical value? *Accounting Education*, 25(3), 223–238.
- Phillips, F. (2016). The power of giving feedback: Outcomes from implementing an online peer assessment system. *Issues in Accounting Education*, 31(1), 1–15.
- Powell, L., & Singh, N. (2016). An integrated academic literacy approach to improving students' understanding of plagiarism in an accounting course. *Accounting Education*, 25(1), 14–34.
- Rackliffe, U. R., & Ragland, L. (2016). Excel in the accounting curriculum: Perceptions from accounting professors. *Accounting Education*, 25(2), 139–166.
- Ragland, L., & Ramachandran, U. (2014). Towards an understanding of excel functional skills needed for a career in public accounting: Perceptions from public accountants and accounting students. *Journal of Accounting Education*, 32(2), 113–129.
- Rebele, J. E., Apostolou, B. A., Buckless, F. A., Hassell, J. M., Paquette, L. R., & Stout, D. E. (1998a). Accounting education literature review (1991–1997), part I: Curriculum and instructional approaches. *Journal of Accounting Education*, 16(1), 1–51.
- Rebele, J. E., Apostolou, B. A., Buckless, F. A., Hassell, J. M., Paquette, L. R., & Stout, D. E. (1998b). Accounting education literature review (1991–1997), part II: Students, educational technology, assessment, and faculty issues. *Journal of Accounting Education*, 16(2), 179–245.
- Rebele, J. E., Stout, D. E., & Hassell, J. M. (1991). A review of empirical research in accounting education: 1985–1991. *Journal of Accounting Education*, 9(2), 167–231.
- Rebele, J. E., & Tiller, M. G. (1986). Empirical research in accounting education: A review and evaluation. In A. C. Bishop, E. K. St Pierre, & R. L. Benke (Eds.), *Research in accounting education* (pp. 1–54). Harrisonburg, VA: Center for Research in Accounting Education, James Madison University.
- Riley, T. J., & Simons, K. A. (2016). The written communication skills that matter most for accountants. *Accounting Education*, 25(3), 239–255.
- Sayed, N., & Lento, C. (2016). Accounting professors' perceptions of academic dishonesty: Motivations, controls and the impact of technology. *The Accounting Educators' Journal*, 26(special edition), 65–87.
- Schaefer, T. F., & Stevens, J. S. (2016). Using rubrics to assess accounting learning goal achievement. *Issues in Accounting Education*, 31(1), 17–28.
- Schnader, A. L., Westermann, K. D., Downey, D. H., & Thibodeau, J. C. (2016). Training teacher-scholars: A mentorship program. *Issues in Accounting Education*, 31(2), 171–190.
- Sellers, R. D., Fogarty, T. J., & Parker, L. M. (2016). How important is the educational capital of chief financial officers? An examination of educational credentials in the context of other attributes. *Global Perspectives on Accounting Education*, 13, 1–19.
- Steenkamp, N., & Roberts, R. (2016). Unethical practices in response to poor student quality: An Australian perspective. *The Accounting Educators' Journal*, 26(special edition), 89–119.
- Stephenson, S. S. (2016). Reflective ethical decision: A model for ethics in accounting education. *The Accounting Educators' Journal*, 26(special edition), 11–37.
- Stout, D. E. (2016). Things I have learned (thus far) ... reflections of an accounting academic. *Journal of Accounting Education*, 35, 1–19.
- Sudhakar, A., Tyler, J., & Wakefield, J. (2016). Enhancing student experience and performance through peer-assisted learning. *Issues in Accounting Education*, 31(3), 321–336.
- Thornton, D. B. (1994). What does it mean? What next? Commentary on and meta-analysis of the CAAA education project. *Contemporary Accounting Research* (Special Education Research Issue), 179–185.

- Trinkle, B. S., Scheiner, J., Baldwin, A. A., & Krull, G. (2016). Gender and other determinants of CPA exam success: A survival analysis. *The Accounting Educators' Journal*, 26, 101–118.
- Vysotskaya, A., Kolvakh, O., & Stoner, G. (2016). Mutual calculations in creating accounting models: A demonstration of the power of matrix mathematics in accounting education. *Accounting Education*, 25(4), 396–413.
- Watson, S. F., Apostolou, B., Hassell, J. M., & Webber, S. A. (2003). Accounting education literature review (2000–2002). *Journal of Accounting Education*, 21(4), 267–325.
- Watson, S. F., Apostolou, B., Hassell, J. M., & Webber, S. A. (2007). Accounting education literature review (2003–2005). *Journal of Accounting Education*, 25(1–2), 1–58.
- Watty, K., McKay, J., & Ngo, L. (2016). Innovators or inhibitors? Accounting faculty resistance to new educational technologies in higher education. *Journal of Accounting Education*, 36, 1–15.
- Webb, J., & Chaffer, C. (2016). The expectation performance gap in accounting education: A review of generic skills development in UK accounting degrees. *Accounting Education*, 25(4), 349–367.
- Wilson, R. M. S. (2014). *The Routledge companion to accounting education*. New York, NY: Routledge.
- Winrow, B. (2016). Do perceptions of the utility of ethics affect academic cheating? *Journal of Accounting Education*, 37, 1–12.
- Wooten, T. (2016). Leveraging online testing to enhance student learning. *Advances in Accounting Education*, 19, 141–163.
- Wynn-Williams, K., Beatson, N., & Anderson, C. (2016). The impact of unstructured case studies on surface learners: A study of second-year accounting students. *Accounting Education*, 25(3), 272–286.
- Xiang, M. (2016). Improving the quality of learning in accounting through advice and learning experiences from former students. *Advances in Accounting Education*, 18, 1–22.