

**Hill | levene**  
SCHOOLS OF BUSINESS  
**CPA ENABLING COMPETENCIES**

A structured literature review of instructional strategies to shape future accountants

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# Objectives of the Study

**1**

structured literature review (SLR)

**2**

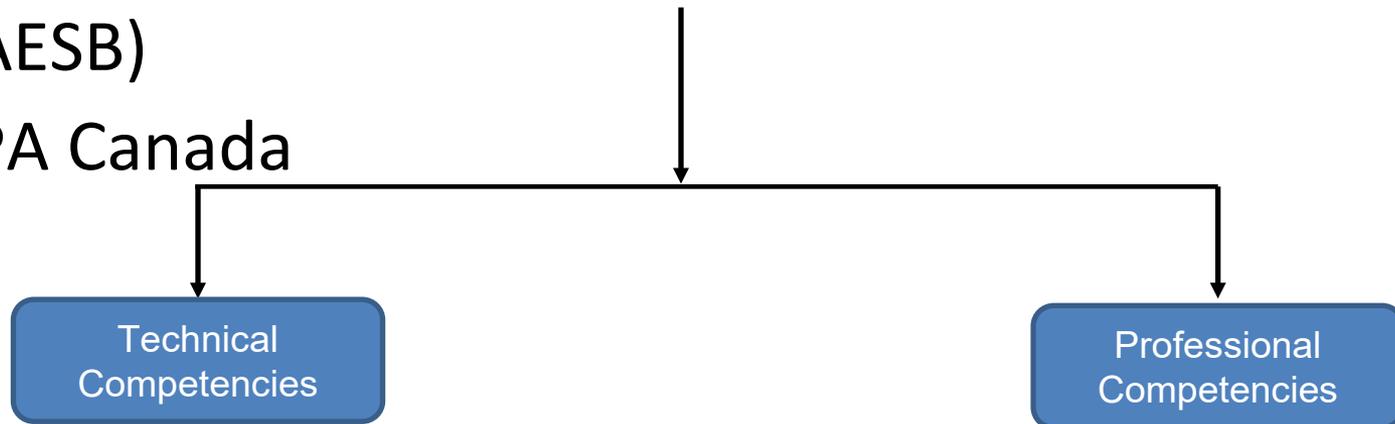
research-informed and evidence-based instructional strategies

**3**

CPA enabling competencies

# Broad Focus

- American Institute of Certified Public Accountants (AICPA);
- Institute of Management Accountants (IMA);
- International Accounting Education Standards Board (IAESB)
- CPA Canada



# Comparison between Top 10 future skills of students with CPA Enabling competency

Top 10 skills for graduates (2025):	CPA Enabling Competency
1. Analytical thinking & innovation	✓ (7)
2. Active learning and learning strategies	
3. Complex problem- solving	✓ (7)
4. Critical thinking and analysis	✓ (7)
5. Creativity, originality and initiative	✓ (5)
6. Leadership & social influence	✓ (6)
7. Technology use, monitoring & control	
8. Technology design and programming	
9. Resilience, stress tolerance and flexibility.	✓ (4)
10. Reasoning, problem-solving and ideation	✓ (7)

Sources: Future Job Report 2020, World Economic Forum

# CPA enabling competencies

1. Acting ethically and demonstrating professional values
2. Leading
3. Collaboration
4. Managing self and others
5. Adding value
6. Solving problems and making decisions
7. Communication

Source- CPA Canada (2018, 2019, 2020, 2021)

# Pillars of the Study

- Structured Literature Review

Source: Massaro, M., Dumay, J., & Guthrie, J. (2016)

- Research-informed, evidence-based instructional strategies

Source: *(Fanghanel et al., 2015).*

# Structured Literature Review (Road map)

- Step 1- The research review protocol
- Step 2- Research question
- Step 3- Literature search
- Step 4- Measure the article's impact
- Step 5- Analytical framework
- Step 6- Literature review reliability
- Step 7- Literature review validity
- Step 8- Coding
- Step 9- Insights & Critique
- Step 10- Future Research

Source: Massaro, M., Dumay, J., & Guthrie, J. (2016)

# Step 1- The literature Review Protocol

## 21 journals selected for literature review search: 10-year time frame

<i>Issues in Accounting Education</i>	<i>Marketing Education Review</i>
<i>Accounting Education: An International Journal</i>	<i>Journal of Management Education</i>
<i>Journal of Education for Business</i>	<i>International Review of Economics Education</i>
<i>Journal of Economic Education</i>	<i>Decision Sciences Journal of Innovative Education</i>
<i>Journal of Accounting Education</i>	<i>Journal of Information Technology Education: Innovations in Practice</i>
<i>Journal of Marketing Education</i>	<i>Journal of Financial Education</i>
<i>Academy of Management Learning &amp; Education</i>	<i>Journal of Information Technology Education: Research</i>
<i>Journal of Information Systems Education</i>	<i>Journal of Economics and Finance Education</i>
	<i>International Journal of Information and Operations Management Education</i>
<i>Journal of the Scholarship of Teaching and Learning</i>	<i>The Canadian Journal for the Scholarship of Teaching and Learning</i>
<i>International Journal for the Scholarship of teaching and learning</i>	<i>Teaching and Learning Inquiry</i>

# Step 2- Research Question

“What are the research-informed instructional strategies used within business and management education (BME) and the Scholarship of teaching and learning (SoTL) journals that can help support and enhance the seven enabling competencies in future accountants?”

## Step 3: The Literature search

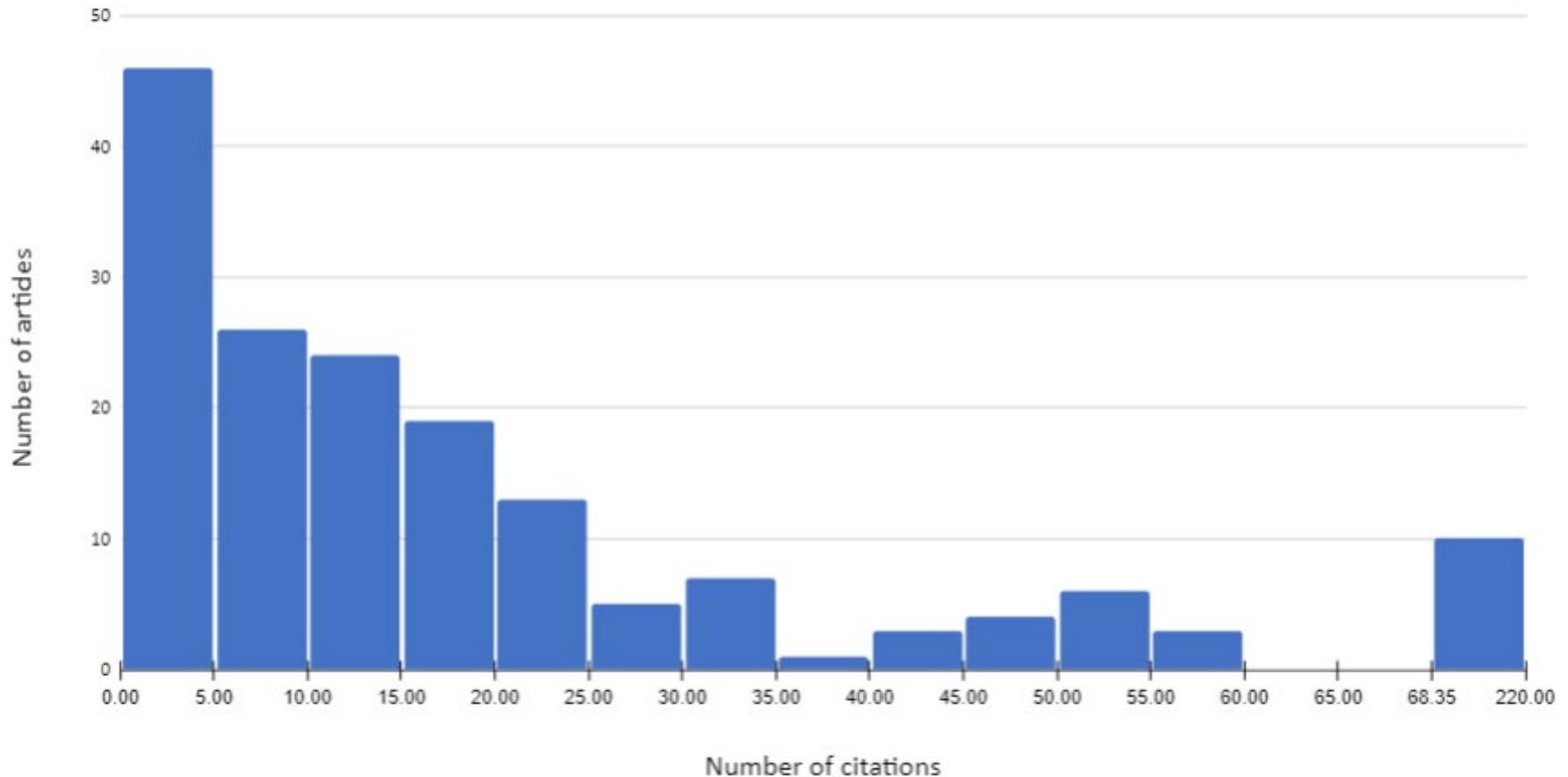
### Inclusion criteria

## Scholarship of Teaching and Learning Framework

1. Research-led teaching
2. students are engaged in research-led learning (*measurement of outcome pre- and post-implementation of the teaching tool*),
3. Public dissemination Source: (Fanghanel et al., 2015, p. 6).

# Step 4- Article impact

Google Scholar "cited by"



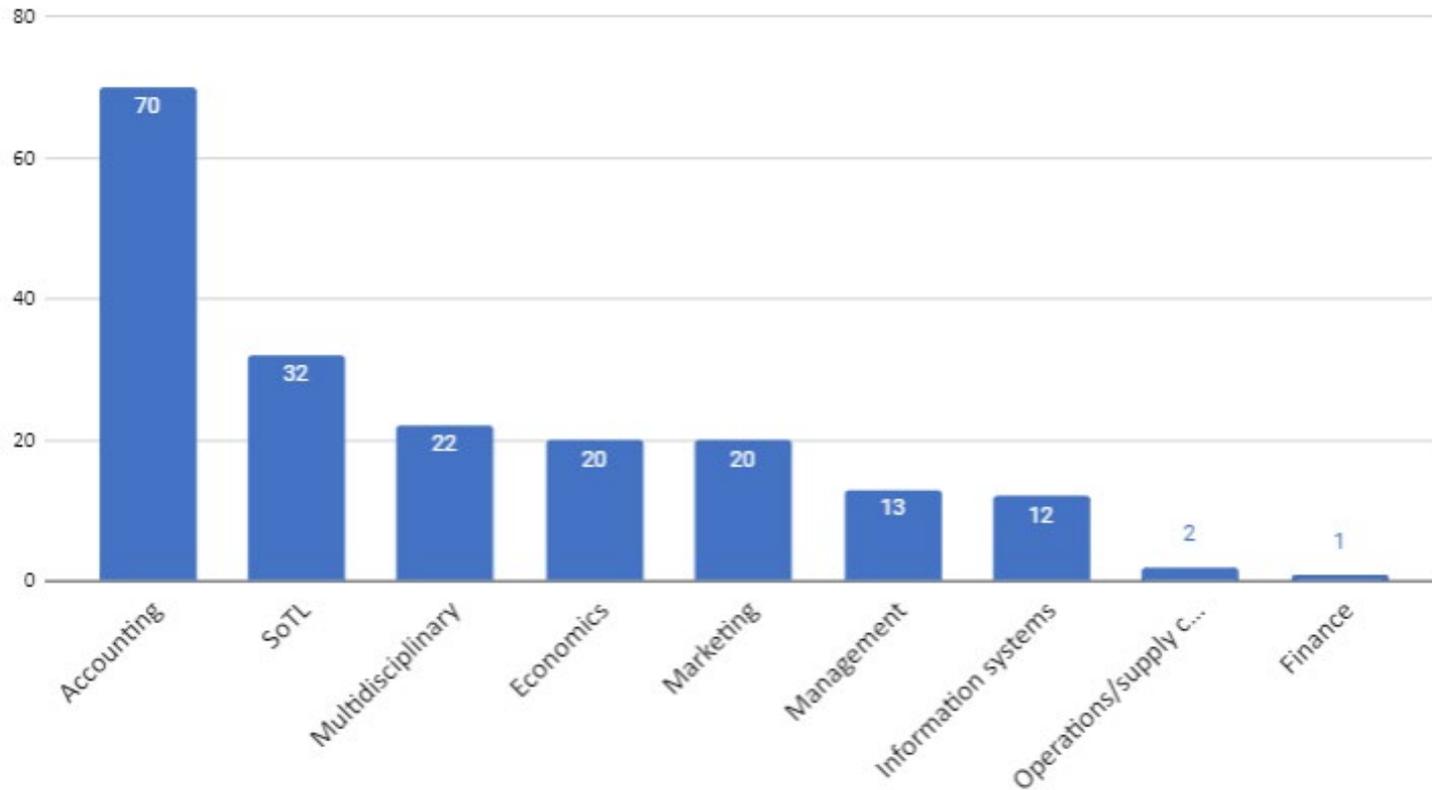
# Step 5: Analytical framework

## Content Analysis (Results by journal)

<i>Issues in Accounting Education</i>	<b>32</b>	<i>The Canadian Journal for the Scholarship of Teaching and Learning</i>	<b>6</b>
<i>Accounting Education: An International Journal</i>	<b>23</b>	<i>Teaching and Learning Inquiry</i>	<b>6</b>
<i>Journal of Education for Business</i>	<b>22</b>	<i>Marketing Education Review</i>	<b>6</b>
<i>Journal of Economic Education</i>	<b>17</b>	<i>Journal of Management Education</i>	<b>4</b>
<i>Journal of Accounting Education</i>	<b>15</b>	<i>International Review of Economics Education</i>	<b>3</b>
<i>Journal of Marketing Education</i>	<b>14</b>	<i>Decision Sciences Journal of Innovative Education</i>	<b>2</b>
<i>International Journal for the Scholarship of Teaching and Learning</i>	<b>13</b>	<i>Journal of Information Technology Education: Innovations in Practice</i>	<b>2</b>
<i>Journal of Information Systems Education</i>	<b>10</b>	<i>Journal of Financial Education</i>	<b>1</b>
<i>Academy of Management Learning &amp; Education</i>	<b>9</b>	<i>Journal of Information Technology Education: Research</i>	<b>0</b>
<i>Journal of the Scholarship of Teaching and Learning</i>	<b>7</b>	<i>Journal of Economics and Finance Education</i>	<b>0</b>
		<i>International Journal of Information and Operations Management Education</i>	<b>0</b>

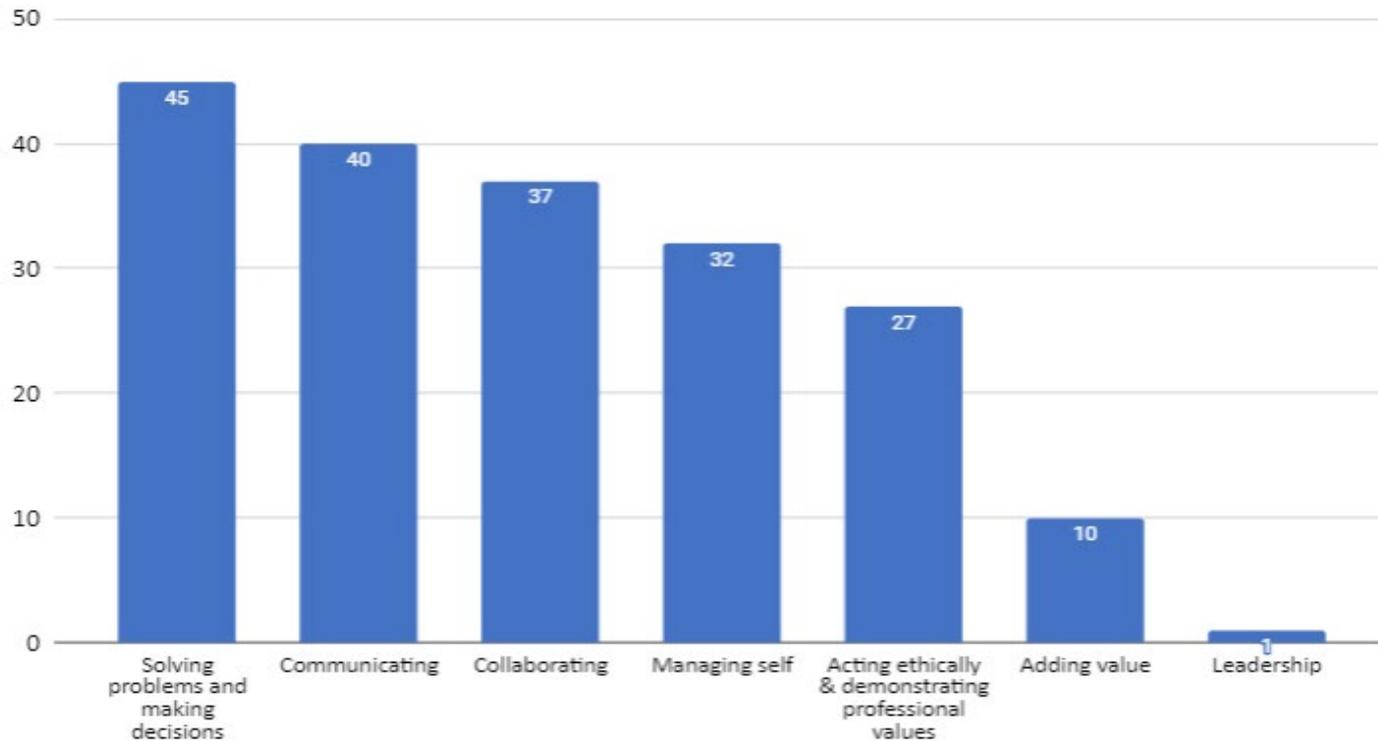
# Results by discipline

Number of articles satisfying all three criteria, by discipline (2012-2021)



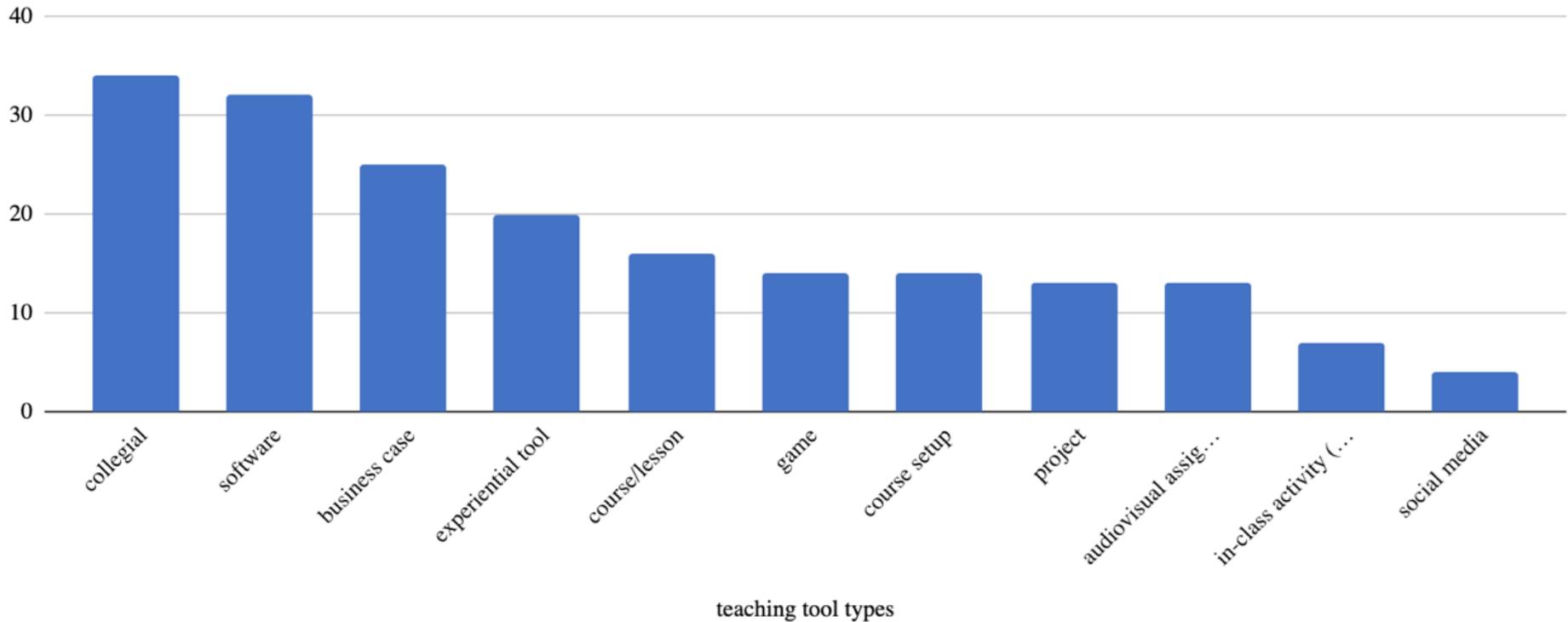
# Results by competency

Number of articles fulfilling all three criteria, by CPA competency (2012-2021)



# Results by teaching tool

Articles by teaching tool types (grouped)



# Types of teaching tools

<b>1</b>	Collegial: group work, peer review, writing activities
<b>2</b>	Software: Excel, Tableau, course management systems
<b>3</b>	Business case: stories or case studies, whether real or fictional
<b>4</b>	Experiential: simulations/experiments, service work, field work, problem-based learning, role play
<b>5</b>	Course/lesson: plagiarism, ethical behaviour, communication
<b>6</b>	Game: in-class, virtual worlds, gamification
<b>7</b>	Course setup: syllabus, weighting scheme, types of assignments/readings
<b>8</b>	Project: individual or group
<b>9</b>	Audiovisual assignment: podcasts, infographics, graphs
<b>10</b>	In-class activity
<b>11</b>	Social media: WhatsApp, Twitter, Skype

# Main Findings: Thematic Analysis

## *Teaching tools by competency*

<i>Teaching tool type</i>	Acting ethically	Adding Value	Collaborating	Communicating	Leading	Managing Self	Solving problem	Total
audiovisual assignment		4		3			6	13
business case	12		1	4			7	25
collegial			19	14		1		34
course setup			1	4		9		14
course/lesson	6			2	1	3	4	16
game	4		2	1		2	5	14
experiential tool	3	1	4	2		7	3	20
in-class activity							8	7
project		4	3			2	4	13
social media			1	3				4
software	2	1	6	7		8	8	32
<b>Total</b>	<b>27</b>	<b>10</b>	<b>37</b>	<b>40</b>	<b>1</b>	<b>32</b>	<b>45</b>	<b>192</b>

# Acting ethically & demonstrating professional values

<i>Teaching tool type</i>	<i>Acting ethically</i>
audio-visual assignment	
business case	12
collegial	
course setup	
course/lesson	6
game	4
experiential tool	3
in-class activity	
project	
social media	
software	2
<b>Total</b>	<b>27</b>

# Business Cases

- 1) Cases from Densmore Consulting Service Inc.
- 2) Canadian Managerial Accounting Case textbook from Wiley Publishing.
- 3) Canadian Financial Accounting Cases, 3rd edition from Wiley Publishing.

Other Case repertoire such as:

- a) Harvard Business School cases
- b) Ivey league case.
- c) CDWG Case Resources for PSIs

## Journals

[IMA Educational Case Journal](#)

[Issues in Accounting Education teaching notes](#)

[Accounting Educators Journal](#)

[Accounting Perspectives Journal](#)

[Financial Times Business School Cases](#)

# Course/Lesson

- Ethics intervention curriculum  
(Okougbo et al., 2021)
- Giving Voice to Values (GVV) curricular offering  
(Miller et al., 2020)

# Acting ethically & demonstrating professional values

S.N	Title of the article	Teaching tool		Title of the article	Teaching tool
1	Detecting dirty data using SQL: Rigorous house insurance case	business case	15	An integrated academic literacy approach to improving students' understanding of plagiarism in an accounting course	course/lesson
2	Directors' Responsibilities, Accountability, and Business Judgment: The Pierse Contracting Case	business case	16	Implementing a "Real-World" Fraud Investigation Class: The Justice for Fraud Victims Project	course/lesson
3	Learning from Ethical Violations in Public Accounting: A South African Audit Scandal and a Firm's Transformation	business case	17	Preparing accounting students for ethical decision making: Developing individual codes of conduct based on personal values	course/lesson
4	Applying Target Costing to the Service Sector: Sunline Auto Insurance Case	business case	18	Impact of a Counseling Ethics Course on Graduate Students' Learning and Development	course/lesson
5	Evaluating Risk and Processing Integrity Controls over Spreadsheets: An Educational Case	business case	19	Money growing on trees: A classroom game about payments for ecosystem services and tropical deforestation	game
6	Two Short Case Studies in Staff Auditor and Student Ethical Decision Making	business case	20	Dr. Phil and Montel help AIS students "Get Real" with the fraud triangle	game
7	A Corporate Tax Return Simulation: Utilizing Electronic Work Papers and Resolving Ambiguous Issues	business case	21	Using an Experiential Business Game to Stimulate Sustainable Thinking in Marketing Education	game
8	Cook and Thomas, LLC: Balancing Auditor Liability, Client Confidentiality, and the Public Interest	business case	22	Using Cartoons to Teach Corporate Social Responsibility: A Class Exercise	game
9	Starbucks: Social responsibility and tax avoidance	business case	23	Learning by Giving in an introductory economics of altruism course	experiential
10	Arachnophobia: A Case on Impairment and Accounting Ethics	business case	24	Learning by Giving applied in an upper-level course on the Economics of Altruism, Philanthropy, and Nonprofit Organizations	experiential
11	IRCS: Valuing Ethics at the Expense of Inventory	business case	25	The use of short role-plays for an ethics intervention in university auditing courses	experiential
12	Assessing professional ethics in tax: A case on uncertain tax positions	business case	26	Supporting Academic Integrity in a Fully-Online Degree Completion Program Through the Use of Synchronous Video Conferences	software
13	Accounting ethics education and the ethical awareness of undergraduates: an experimental study	course/lesson	27	A Comparative Study of the Effect of Web-Based Versus In-Class Textbook Ethics Instruction on Accounting Students' Propensity to Whistle-Blow.	software
14	Measuring the value of integrating GVV into a standalone accounting ethics course	course/lesson			

# Leading

<i>Teaching tool type</i>	Leading
audio-visual assignment	
business case	
collegial	
course setup	
course/lesson	1
game	
experiential tool	
in-class activity	
project	
social media	
software	
<b>Total</b>	<b>1</b>

	Title of article	Description
1	Creating Leaders: A Pilot SoTL Study of an Ontological / Phenomenological Leadership Course (Carey, 2020)	A leadership course as a general education course is implemented at Mount Royal University in Calgary. As a result, students who report seeing themselves as leaders increased by 36% compared to the start of the course.

# Collaborating

<i>Teaching tool type</i>	Collaborating
audio-visual assignment	
business case	1
collegial	19
course setup	1
course/lesson	
game	2
experiential tool	4
in-class activity	
project	3
social media	1
software	6
<b>Total</b>	<b>37</b>

# Team-based learning (group work)

Four principles should be addressed in order to implement of TBL successfully:

- 1) proper group formation (i.e., intellectual talents should be equally distributed among the groups);
- 2) student accountability;
- 3) team assignments that require group interaction; and
- 4) immediate feedback. (Source: Chad, 2012).

## Software

Articles described experiences using innovative software such as an interactive virtual wall (DeWitt & Koh, 2020), cloud-based collaborating services (Qin et al., 2016), CATME team tools (Loughry et al., 2014), mobile applications (Blau et al., 2019), and e-textbooks (J. Sun et al., 2012).

CATME (Source: *Loughry et al. (2014)*)

# Collaborating

S.N	Title of the article	Teaching tool		Title of the article	Teaching tool
1	The Use of <u>Team-Based Learning</u> as an Approach to Increased Engagement and Learning for Marketing Students: A Case Study	collegial	1	Promoting knowledge management processes through an interactive virtual wall in a postgraduate business finance course.	software
2	Do Team Charters Help <u>Team-Based Projects</u> ? The Effects of Team Charters on Performance and Satisfaction in Global Virtual Teams	collegial	2	Exploring the Impact of Receiving Sender-Based Negative and Positive Feedback on Team-Level Process Outcomes Using a Mobile Application	software
3	Integrating learning interpersonal skills through <u>team-based learning</u> (TBL) in a management course.	collegial	3	The perceived value of interactive digital textbook and adaptive learning: Implications on student learning effectiveness.	software
4	Enhancing the teaching of introductory economics with a <u>team-based</u> , multi-section competition	collegial	4	Evaluating the usage of cloud-based collaboration services through teamwork.	software
5	Transitioning to a <u>team-based learning</u> principles course	collegial	5	Assessing Teamwork Skills for Assurance of Learning Using CATME Team Tools	software
6	<u>Team-Based Learning</u> in professional writing courses for accounting graduates: positive impacts on student engagement, accountability, and satisfaction	collegial	6	E-Textbooks and Students' Learning Experiences	software
7	Improving Mathematics Content Mastery and Enhancing Flexible Problem Solving through <u>Team-Based Inquiry Learning</u>	collegial			
8	Creating Infographics Based on the Bridge21 Model for <u>Team-based</u> and Technology-mediated Learning	collegial			
9	Self and others in <u>team-based learning</u> : Acquiring teamwork skills for business.	collegial			

# Managing self

<i>Teaching tool type</i>	Managing Self
audio-visual assignment	
business case	
collegial	1
course setup	9
course/lesson	3
game	2
experiential tool	7
in-class activity	
project	2
social media	
software	8
<b>Total</b>	<b>32</b>



# Managing self

	Title of the article	Teaching tool		Title of the article	Teaching tool
1	Student performance in accounting courses: Do bonus points motivate performance	course setup	1	The psychology of sunk cost: A classroom experiment	experiential
2	Using 'happy' or 'sad' face in a decision-making grid to motivate students to improve academic success	course setup	2	Testing the Effectiveness of a Marketing Simulation to Improve Course Performance.	experiential
3	Development and application of assessment standards to advanced written assignments	course setup	3	Business simulation as an active learning activity for developing soft skills	experiential
4	Building Collaboration in the Flipped Classroom: A Case Study	course setup	4	Enhancing the AIS curriculum: Integration of a research-led, problem-based learning task	experiential
5	Impact of group exams in a graduate intermediate accounting class	course setup	5	The delivery of recreation programs: Students gain entry level management skills through service learning	experiential
6	Student perceptions on using guided reading questions to motivate student reading in the flipped classroom	course setup	1	Engaging with ePortfolios: Teaching Social Work competencies through a Program-wide curriculum	software
7	Using Reading Guides and On-line Quizzes to Improve Reading Compliance and Quiz Scores	course setup	2	Teaching good Excel design and skills: A three spreadsheet assignment project	software
8	Self- and Peer-Assessment: Evidence from the Accounting and Finance Discipline	course setup	3	Using Online Class Preparedness Tools to Improve Student Performance: The Benefit of "All-In" Engagement	software
9	The Impact of a Flexible Assessment System on Students' Motivation, Performance and Attitude	course setup	4	Students' Motivation to Participate via Mobile Technology in the Classroom: A Uses and Gratifications Approach	software
			5	Correlates of state goal orientation for an MBA team project using a real-time performance feedback mobile application.	software
			6	There's an app for that: The impact of reminder apps on student learning and anxiety	software
			7	Inside Out Personal Branding (IOPB): Using Gallup Clifton StrengthsFinder 2.0 and 360Reach.	software

# Adding value

<i>Teaching tool type</i>	Adding Value
audio-visual assignment	4
business case	
collegial	
course setup	
course/lesson	
game	
experiential tool	1
in-class activity	
project	4
social media	
software	1
<b>Total</b>	<b>10</b>

# Adding value

<u>S.N</u>	Title of the article	Teaching tool		Title of the article	Teaching tool
1	The Leviathan of Rationality: Using Film to Develop Creativity and Imagination in Management Learning and Education.	audiovisual assignment	6	Development of competences in postgraduate studies of finance: A project-based learning (PBL) case study	project
2	Art isn't easy... but it makes learning easier: Using art to improve cognition	audiovisual assignment	7	Mobile Business Retailing: Driving Experiential Learning on Campus	project
3	Employing Concept Mapping as a Pre-writing Strategy to Help EFL Learners Better Generate Argumentative Compositions	audiovisual assignment	8	Growing by getting their hands dirty: Meaningful research transforms students	project
4	Using Participatory Photo Novels to Teach Marketing	audiovisual assignment	9	Building Connections Through Contextualized Learning in an Undergraduate Course on Scientific and Mathematical Literacy	project
5	Fostering creativity in audit through co-created role-play	experiential	10	Engaging Higher Education Learners <u>With</u> Transmedia Play	software

# Solving problems and making decision

<i>Teaching tool type</i>	Solving problems
audio-visual assignment	6
business case	7
collegial	
course setup	
course/lesson	4
game	5
experiential tool	3
in-class activity	8
project	4
social media	
software	8
<b>Total</b>	<b>45</b>

# Solving problems

	Title of the article	Teaching tool		Title of the article	Teaching tool
1	Enhancing ERP Learning Outcomes through Microsoft Dynamics	software	1	Laying the groundwork for in-class groupwork with readings beyond the textbook	in-class activity
2	I Do and I Understand: Assessing the Utility of Web-Based Management Simulations to Develop Critical Thinking Skills	software	2	“Provide a complete, concise economic analysis of the following article...”: Using outside readings to train students to answer a single question	in-class activity
3	Representational Technologies and Learner Problem-Solving Strategies in Chemistry	software	3	The impact of an integrated assessment on the critical thinking skills of first-year university students	in-class activity
4	Using an In-Class Simulation in the First Accounting Class: Moving From Surface to Deep Learning.	software	4	Facilitating Student Learning in Accounting through Scaffolded Assessment	in-class activity
5	The Use of Argument Mapping to Enhance Critical Thinking Skills in Business Education.	software	5	Setting the Mood for Critical Thinking in the Classroom	in-class activity
6	Incorporating Mind Maps into Teaching and Learning in Higher Education: My Experience as an International University Lecturer	software	6	Motivating a Productive Discussion of Normative Issues Through Debates	in-class activity
7	Promoting economic literacy: Combining news articles and clicker questions in a large introductory microeconomics course	software	7	Team-Designed Improvement of Writing and Critical Thinking in Large Undergraduate Courses	in-class activity
8	Digital self-contained module to assist a writing task on evaluating the financial, social, and environmental performance of a company: Teaching note	software	8	Getting to the Root of the Problem in Experiential Learning: Using Problem Solving and Collective Reflection to Improve Learning Outcomes	in-class activity
1	Larson Industries: A Case on Identifying and Researching Revenue Recognition Issues	business case	4	Case-based Perspective-Taking as a Mechanism to Improve Metacognition and Higher-Level Thinking in Undergraduate Speech-Language Pathology Students	business case
2	The Reel Wheel: Using Analytical Procedures as Substantive Tests of Account Balances	business case	5	Arizona Microbrewery, Inc.: An Instructional Case on Management Decision Making	business case
3	Diamond Foods, Inc.: A Comprehensive Case in Financial Analysis and Valuation	business case	6	On-Line Gaming, Financial Reporting, and Audit: Chester Games Corp.	business case



# Communicating

<i>Teaching tool type</i>	Communicating
audio-visual assignment	3
business case	4
collegial	14
course setup	4
course/lesson	2
game	1
experiential tool	2
in-class activity	
project	
social media	3
software	7
<b>Total</b>	<b>40</b>

# Collegial (Writing Assignments)

- Use of writing circles (*Huber et al., 2020*)
- audience-centered writing assignments (*Golden, 2018; Picault, 2021*)
- writing prompts at both the graduate and undergraduate level across different classroom settings (*Achen, 2018; Ainsworth, 2021; Dale-Jones et al., 2013*).
- **Software**
  - community of inquiry framework (*Daspit & D'Souza*)
  - active learning frameworks (*McDonald & Derby, 2015*)
  - mobile apps such as Flipboard and Stitcher to enhance student learning (*E. F. McGovern et al., 2017*)

# Communicating

	Title of the article	Teaching tool		Title of the article	Teaching tool
1	Don't just read the news, write the news! — A course about writing economics for the media	Collegial (writing)	1	Student perceptions on the benefits of Flipgrid in a HyFlex learning environment.	software
2	Contextualized Writing: Promoting Audience-Centered Writing through Scenario-Based Learning	Collegial (writing)	2	An application of virtual reality in education: Can this technology enhance the quality of students' learning experience?	software
3	Improving accounting student writing skills using writing circles	Collegial (writing)	3	Teaching Operations Management with Virtual Reality: Bringing the Factory to the Students	software
4	Addressing the "My Students Cannot Write" Dilemma: Investigating Methods for Improving Graduate Student Writing	Collegial (writing)	4	Utilizing mobile devices to enrich the learning style of students.	software
5	Transferring Skills from Classroom to Professional Writing: Student-Faculty Peer Review as an Extension of Cognitive Apprenticeship	Collegial (writing)	5	Active learning to improve presentation skills: The use of Pecha Kucha in undergraduate sales management classes	software
6	Team-Based Learning in professional writing courses for accounting graduates: positive impacts on student engagement, accountability, and satisfaction	Collegial (writing)	6	Promoting the Use of Online Social Technology as a Case-based Learning Tool	software
7	Accounting Students in an Australian University Improve their Writing: But How Did It Happen?	Collegial (writing)	7	Using the Community of Inquiry Framework to Introduce Wiki Environments in Blended-Learning Pedagogies: Evidence from a Business Capstone Course	software
1	Enhancing Student Experience and Performance through Peer-Assisted Learning	Collegial (Peer review)			
2	The Power of Giving Feedback: Outcomes from Implementing an Online Peer Assessment System	Collegial (Peer review)			
3	Transferring Skills from Classroom to Professional Writing: Student-Faculty Peer Review as an Extension of Cognitive Apprenticeship	Collegial (Peer review)			
4	Can Business Students Learn to Evaluate Better? Evidence From Repeated Exposure to a Peer-Evaluation System	Collegial (Peer review)			

# Top teaching tools by CPA competency

<u>CPA Enabling Competency</u>	<u>Instructional teaching tool</u>
1. Ethics	Business case Course/lesson
2. Adding value	Experiential tool
3. Collaborating	Team-based learning Software
4. Communicating	Writing prompts Software
5. Leading	Gap in the literature
6. Managing self	Course setup Software
7. Solving problems	In-class activities Critical thinking skills Business cases



# Implication & Future Research directions

## Recommendations

- 1) Research-informed teaching tool & accounting curriculum

## Design Based Research

- Analysis and Exploration
- Design and construction
- Evaluation and reflection

(Wang & Hannafin, 2005; McKenney & Reeves, 2019)

2) Research-informed teaching tools and other competencies (*Albrecht & Sack, 2000; Kavanagh & Drennan, 2008*).

3) Best and Least-Used Research-Informed Teaching Tools in Accounting

4) Research-informed teaching tool and science education (*Code & Gilbert, 2016; Wieman, 2019*)

<https://cwsei.ubc.ca/about/stlf.html>

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