



Main article

Experiential learning activities in university accounting education: A systematic literature review



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ABSTRACT

There have been multiple calls for change in higher education in accounting in Australia since the 1980s. These calls for change were motivated by industry demands for graduates with transferable skills. Many universities started responding to these calls for change by introducing more Experiential Learning Activities (ELAs) into their accounting courses. This article is the first to provide a systematic review and thematically analyse the body of research published about ELAs in undergraduate accounting courses at universities. The aim is to review what types of ELAs are researched, what benefits of ELAs are researched and the strength of the evidence provided for these benefits. The 50 captured articles from 1993 to 2018 presented a positive view of ELAs, with the shortcomings far outweighed by the benefits. The most commonly researched benefits that emerged from the review were technical knowledge and comprehension, student attitude and satisfaction as well as authentic application of theory. Five recommendations for future research have been identified including investigating transferable skills as a benefit of ELAs, exploring student characteristics and ELA characteristics that can effect ELA learning outcomes, investigating under-researched benefits and using more diversified and rigorous research designs.

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1. Introduction

Historically, higher education in accounting adopted instructor-centred learning environments, which use traditional learning activities such as lectures and generic textbook exercises (Connell et al., 2015; Coram, 2005; Elen, Clarebout, Léonard, & Lowyck, 2007). However, there have been multiple calls for change in higher education in accounting in Australia since the 1980s (Cappelletto, 2010; Connell et al., 2015; Mathews, Brown & Jackson, 1990). In Australia, these calls for change have been predominantly propelled by industry employers and the professional accounting bodies (Connell et al., 2015).

Employers and professional accounting bodies have been asking for higher education in accounting to evolve due to changes in the nature of the industry (Connell et al., 2015; Elen et al., 2007; Khalil, 2015). In the last 25 years, increased globalisation and technical innovation have drastically altered the accounting industry (Connell et al., 2015). In order to join this rapidly evolving industry, students now require a very different skillset compared to 25 years ago (Connell et al., 2015; Khalil, 2015). Employers and professional accounting bodies now place a huge emphasis on soft skills such as critical thinking, communication, teamwork, conflict resolution and professional values/ethics (Connell et al., 2015; Khalil, 2015). Many universities started responding to the call for change by introducing a more student-centred learning environment (Connell

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et al., 2015). This environment uses teaching methods, which involve the student more in order to improve their soft-skills (Connell et al., 2015; Coram, 2005; Elen et al., 2007; Khalil, 2015).

Experiential Learning Theory (ELT) was one of the theories that informed these student-centred environments (Canboy, Montalvo, Buganza, & Emmerling, 2016). More recently, Butler, Church, and Spencer (2019) embeds Kolb's learning cycle in their explanation of the benefits of good ELAs. Butler et al. (2019) is a strong advocate for the use of ELAs and for these reasons ELT informed the development of the search string used for this review (see Section 3).

ELT is defined as a constructivist stance towards learning, which suggests learners create meaning from experience by following Kolb's learning cycle while still acknowledging that individual students learn in different ways (Kolb, 2014, 1984; Hedin, 1980). One aspect of ELT is the concept that it recognizes students' individuality through its identified learning styles (Kolb, 2014, 1984). These learning styles and how they are developed are explained by Kolb and Kolb (2013) in the learning styles index. Another notable feature of ELT is Kolb's learning cycle, which entails the following steps: Concrete Experience, Reflective Observation, Abstract Conceptualization and Active Experimentation (Kolb, 2014, 1984). These steps have been aptly simplified and explained by Butler et al. (2019) as "Do, Reflect, Think and Apply". Kolb's learning cycle can start with any experience in various situations. However, when focusing on classroom experiences, ELT does suggest that experiential learning activities (ELAs) can be more effective and valuable for student learning and for commencing the learning cycle (Kolb, 2014, 1984).

Although ELT research suggests the use of ELAs (Kolb, 2014, 1984; Butler et al., 2019), there appears to be no comprehensive review of research on the use of ELAs in accounting education at universities. There have been reviews on ELT in higher education (Hickcox, 1991; McCarthy, 2016; Morris, 2019). However, these reviews are focused on the theory, not on learning activities using the theory. This article's purpose is to undertake a systematic review and interpret the body of research published about specific ELAs. More specifically, this review aims to answer the following research questions in regard to published research on ELAs for undergraduate accounting university students:

1. What types of ELAs are researched?
2. What benefits of ELAs are researched?
3. How compelling is the evidence for these benefits?

This third research question is important in the context of practice being based not only on opinions or theory but also on sound scientific evidence (Rebele & St Pierre, 2015). Furthermore, this review identifies gaps in the literature on this topic that would be valuable to address and presents recommendations for future research.

2. Methods

2.1. Database selection

The review was conducted in databases instead of individual journals in an attempt to capture as many relevant results as practically possible. During the planning, it was noted that although certain journals specialise in accounting education, articles about accounting education could be published in other journals. Therefore, the search was not limited to specialized accounting education journals. However, it was a priority to make sure all accounting education journals were captured in the chosen database combination. The following paragraph provides more detail regarding the database selection process.

The database selection involved three steps. First, academic journals in the accounting education field were identified through the latest periodic Accounting Education Literature Review by Apostolou, Dorminey, Hassell, and Hickey (2019). The following journals were identified in this article: Journal of Accounting Education, Accounting Education, Advances in Accounting Education, Global Perspectives on Accounting Education, Issues in Accounting Education and Accounting Educators' Journal. Second, these journals were searched in Ulrichsweb to determine which databases included each journal. For example, Journal of Accounting Education was found in all the following databases: EBSCOhost, Elsevier BV, Emerald Publishing Limited, Gale, OCLC, ProQuest and Taylor & Francis. Lastly, a combination of databases was found, which would adequately encompass the identified accounting education journals. The reputation and functionality features of the databases also factored into the decision. The final combination of databases selected for this systematic literature review were Emerald, OCLC, Proquest and Scopus.

2.2. Search string development

The search string used for this review was derived from the second research question concerning benefits from ELAs. Key words were extracted from this research question, and adapted to a search string with various alternative terms for each key word or phrase. Table 1 depicts the final search string with one key word or phrase from the research question presented in each column, and all its alternative terms in the rows below. Using Boolean search protocols, the columns were separated by 'AND' while the alternative terms for each column were separated by 'OR' during the search. Boolean search protocols also use asterisks to truncate a word so alternative word endings were included. For example, including constructivis* as a search term included both constructivist and constructivism. Lastly, quotation marks indicate a specific combination of words is

Table 1
Search string including alternative terms.

accounting business	university student* education "higher education" tertiary	experiential learning Kolb* "active learning" "student-centred learning" "problem-based learning" "cooperative learning" constructivis* "learning by doing" "learn by doing"	learning activity "case study" "live case" "living case" "role play" "industry speaker" "work placement" intern* practicum simulation	benefit better assessment feedback engagement motivat* evaluat* improve* value
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required rather than a selection of words in any order. The final search string was developed over multiple searches. The outputs of preliminary searches were used to fine-tune and add alternative terms to the search string to get the most comprehensive and accurate list of articles for the review. For example, 'business' was included as an alternative to 'accounting' because although this captured many articles not relevant to this review, too many relevant articles were not captured without it.

2.3. Inclusion/exclusion criteria

Articles were only included in the final thematic analysis if they met all the following inclusion criteria:

1. The article must be about an accounting subject (not other business majors¹ and not general business where accounting students are not specified)
2. The article must be about undergraduate university students (not high school and not postgraduate education)²
3. The article must include a valid theoretical construct
4. The article must assess the efficacy of specific ELA(s)
5. The article must be in English or have an English version available
6. The article must be a published academic journal article (not a book or media article)
7. The article must be published in 2018 or earlier.

2.4. Additional search for articles

Although it is a highly effective technique, database searching has limitations in terms of identifying all relevant sources (Siddaway, Wood & Hedges, 2019). In this study, the main limitation was that some articles would not be captured through the database search because the search strategy required experiential learning or a related term to appear in the article anywhere except the full text.³ Therefore, an additional manual search was performed to capture as many relevant results as practically possible. The references from Butler et al. (2019) were examined individually and included if they satisfied the inclusion criteria listed above. While an important paper providing key information about ELAs in general, Butler et al. (2019) itself was not included in the final thematic analysis of this systematic literature review because it did not meet the inclusion criterion number four listed above. Nevertheless, Butler et al. (2019) specifically advocated the benefits of ELAs in accounting education and so can be expected to cite relevant papers for this review. Additionally, references from the periodic "Accounting education literature review" were examined for the period from 2000 (Watson, Apostolou, Hassell, & Webber, 2003) to 2018 (Apostolou et al., 2019) inclusively (this set of literature reviews will subsequently be referred to collectively as the Periodic reviews). These literature reviews consolidate all articles published by a selection of accounting education journals for a year or a series of years together. In each Periodic review article, all instructional cases were checked for inclusion as well as references in any other section that could be relevant to the topic of this systematic literature review.

¹ For the purpose of this article other business majors included tax, information systems, management, HR, marketing, entrepreneurship, finance, business law and economics.

² In cases where an article investigates postgraduate and undergraduate students, the article was only included if the undergraduate student results can be examined in isolation (such as having separate columns for postgraduate and undergraduate students in the results table).

³ Some articles such as cases prepared and published as instructional resources included an accepted theoretical foundation, but it was not one of the prominent points made within the article. As such, experiential learning or related terms were featured in the main body of the article but not in the key words, abstract or title. The search strategy could not be changed to include full text as the number of results it returned was too large and on examination most of these were not relevant to this literature review.

3. Results

3.1. Article screening results

The screening process used four steps to ensure only relevant articles from the search string were included in the final analysis (Table 2). In step one, the search string was entered into the databases, and citation details of all 803 resulting records were downloaded. In step two, all duplicate records were excluded resulting in 665 unique records. In step three, titles and abstracts of all unique records were screened based on the criteria previously outlined, which resulted in 573 records being excluded. Full texts of the remaining 92 articles were then reviewed. Consequently, 33 articles were included for subsequent analysis from the search string.⁴

In step five, an additional 17 articles were included for subsequent analysis from the manual search of Butler et al. (2019) and the Periodic reviews. As a result, a total of 50 articles made up the body of research analysed for this systematic literature review. Both the search string method and manual search method were required to get a more complete body of articles on this topic: 17 of the 50 articles were not found by the search string method alone and another 17 articles were not found by the manual search method alone. In particular, this shows how this literature review provides a more complete review of the accounting ELA literature specifically than relying on the Periodic review articles.

3.2. Article bibliography profile

Over time there has been an increasing trend in the frequency of published articles on ELAs in undergraduate accounting courses (Fig. 1). Of the 50 articles, 32 (64%) were published in Accounting Education, Issues in Accounting Education or Journal of Accounting Education (Table 3). These journals are accounting education journals with the highest SCImago Journal Rank Indicator⁵ out of journals specializing in accounting education. Additionally, these 50 articles were conducted in countries across four continents, including 33 articles (66%) in the USA and nine articles (18%) in Australia (Table 4). The locations of the studies were determined by statements of location included in the study or by the authors' university location when there was no statement. The location statistics are significantly impacted by the fact that only English articles were included in this analysis.

3.3. Qualitative analysis – emerging themes

Fifty articles underwent thematic analysis using Nvivo. Five themes were identified from the thematic analysis: *ELA types*, *Research regarding ELA benefits*, *Barriers to ELA success*, *Extent of ELAs being used as well as Expectations on graduates and universities*. The following sections summarise the results of these themes individually.

3.3.1. Theme 1 – ELA types

The first research question to be investigated through this review is 'What types of ELAs are researched?'. The ELA types identified in this review were case studies, live cases, physical simulations, computer simulations, field trips, work placements, in house work placements, role plays, labs/pracs, communities of practice and games (Table 5). Two articles referred to two ELAs instead of one. Lafond, Catanach, and Barsky (2008) investigated a live case and a field trip, but the two ELAs were linked. Huber, Law, and Khallaf (2017) investigated a field trip and two live cases compared to traditional learning activities. However, the articles that investigated multiple ELAs only assessed the efficacy of the ELAs collectively instead of separate evaluations. For more information about each type of ELA, refer to the last column of Table 5 for the most highly cited⁶ article that explored an instance of each ELA type respectively. These papers (Table 5) provide a starting place for educators interested in exploring ELAs they can use in their classes. Another resource that is worth investigating is the previously mentioned Periodic reviews. Although not focused on ELAs, the Periodic reviews contain appendices that list published instructional resources and/or cases and these are often ELAs.

3.3.2. Theme 2 – research regarding ELA benefits

Students' benefits from ELAs was the second theme identified by the thematic review and the second research question. The number of papers researching the potential of each benefit shows a concentration on a few benefits (Fig. 2). The following paragraphs explain each benefit in more detail.

⁴ For the sake of efficiency, only one exclusion criteria is recorded for each article excluded from analysis. During the screening process, as soon as an exclusion criterion was met in an article that article was excluded. The researcher did not continue reading to determine if the article met any additional exclusion criteria. However, this should not impact the reproducible nature of the systematic literature review as the articles included in the final analysis should be consistent no matter the order of the exclusion criteria.

⁵ The SCImago Journal Rank Indicator expresses the average number of weighted citations received in the selected year by the documents published in the selected journal in the three previous years.

⁶ The citation information was sourced from google scholar for the sake of consistency when comparing articles. Google Scholar was the only database that captured citation information for all 50 articles included in this review.

Table 2
Article screening process.

Step 1: Compiling records From each database		
	Records identified through Emerald	26
	Records identified through OCLC	11
	Records identified through Proquest	710
	Records identified through Scopus	56
Total Records		803
Step 2: Removing duplicates		
Less:	Duplicates	138
Total Unique Records		665
Step 3: Title and abstract screening		
Less:	Not English	1
	Not journal articles	0
	Not accounting	471
	Not undergraduate university students	24
	No Specific ELAs or relevant theoretical construct	77
	No ELA efficacy assessment	0
Total Records After Screening Titles and Abstracts		92
Step 4: Full text screening		
Less:	Not English	2
	Not journal articles	2
	Not accounting	28
	Not undergraduate university students	4
	No specific ELAs or relevant theoretical construct	20
	No ELA efficacy assessment	3
Total Records after Screening Full Text		33
Step 5: Manual search		
Add:	From Periodic reviews and Butler et al. (2019)	17
Total articles included in analysis		50

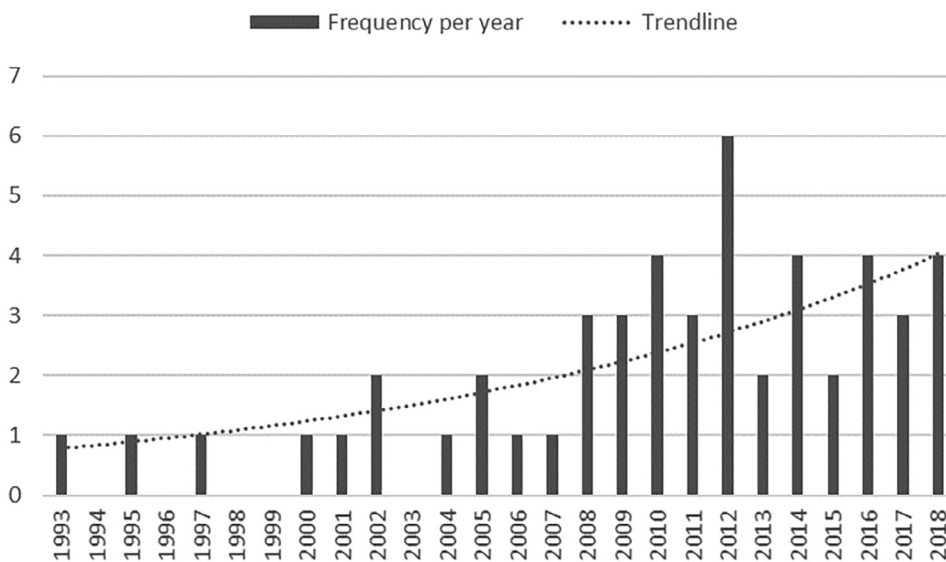


Fig. 1. Number of papers by year published.

There were three very common benefits researched in the literature: *Technical knowledge and comprehension*, *Student attitude and satisfaction* as well as *Authentic application of theory*. *Technical knowledge and comprehension* refers to the hard-skills of understanding or retaining technical accounting knowledge. For example, both [Marriott \(2004\)](#) and [Siegel, Omer, and Agrawal \(1997\)](#) provided evidence that students understood the relevant course content better after participating in an ELA. However, [Marriott \(2004\)](#) demonstrated it qualitatively through students' comments while [Siegelet al. \(1997\)](#) demonstrated it quantitatively through exam scores. *Student attitude and satisfaction* includes all references regarding the extent of

Table 3
Number of papers by journal.

13	Accounting Education
10	Issues in Accounting Education
9	Journal of Accounting Education
3	Advances in Accounting Education
2	Academy of Educational Leadership Journal
2	Accounting Research Journal
1	Australasian Accounting, Business and Finance Journal
1	Education + Training
1	International Education Studies
1	International Journal of Social Sciences and Humanity Studies
1	Journal of Business and Educational Leadership
1	Journal of Economic and Financial Sciences
1	Journal of Education for Business
1	Journal of Higher Education Theory and Practice
1	Journal of information systems
1	Journal of Management Education
1	Journal of Public Budgeting, Accounting & Financial Management

Table 4
Number of papers by geographic location.

33	USA
9	Australia
2	South Africa
2	UK
1	New Zealand
1	Singapore
1	Spain

*One of the 50 articles did not indicate its geographic location.

Table 5
Spread of ELAs.

ELA name	ELA description	Freq	Example
Case Study	An historical and/or made up scenario provided to students with specified tasks for them to perform (Fortin & Legault, 2010)	14	(Wynn-Williams, Whiting & Adler, 2008)
Live case	A real and current scenario provided to students with specified tasks for them to perform (Simons, 2016)	8	(Drake, 2011)
Physical Simulation	For the purpose of this research project physical simulation refers to an approximate imitation of a real world scenario which involves physical objects or actions substituting real business materials or decisions ^a	6	(Drake, Haka & Ravenscroft, 2001)
Computer Simulation	A virtual organization or semi-realistic microworld, which requires students to perform specific business tasks that imitate the real industry environment (Doonga, 2013)	5	(Marriott, 2004)
Field trip	For the purpose of this research project field trip refers to excursions students go on that are relevant to their field of study ^a	5	(Webb, De Lange & O'Connell, 2009)
Work placement	Students spending a set period of time doing real work for a real business in their relevant field (Khalil and Elkhider, 2016; Paisey & Paisey, 2010)	5	(Stanley, 2017)
In house work placement	Students spending a set period of time doing real work in their relevant field for the university (Khalil, 2015; Dombrowski, Smith & Wood, 2013)	4	(Dombrowski et al., 2013)
Role play	A scenario provided to students with specified tasks for them to perform while acting out a certain role (Van Ments, 1989)	1	(Taplin, Kerr & Brown, 2017)
Lab/Prac	For the purpose of this research project labs/pracs refer to any practical application of skills within a classroom setting such as excel class exercises or class exercises using a bookkeeping software ^a	1	(Rolling, 2016)
Community of practice	A type of cooperative learning where a group of students select a particular member to act as their leader and liaison between the instructor and the group (Stephenson, 2017)	1	(Stephenson, 2017)
Educational Game	"A physical or mental contest played according to specific rules... whose main purpose is to provide not only entertainment but also training" (Noemí & Máximo, 2014)	1	(Murphy, 2005)
Not specified	One article stated an active learning environment but did not state the individual learning activity	1	(Coram, 2005)

^a The descriptions for Physical Simulation, Field Trip and Lab/Prac ELAs are not referenced because satisfactory explanations were not found in the literature so descriptions were developed for the purpose of this article.



Fig. 2. Number of articles providing evidence about each benefit of ELAs.

student enjoyment or interest during an ELA. For example, [Taplin et al. \(2017\)](#) and [Marriott \(2004\)](#) both provided evidence that students enjoyed the particular ELA through thematic analysis of student comments. *Authentic application of theory* refers to linking the task to the real world or by practically applying theories previously learnt. For example, both [Stanley \(2017\)](#) and [Gujarathi and McQuade \(2002\)](#) presented student comments that highlight the positive effect of applying theories previously learnt in a realistic context.

The following three benefits were moderately common in this review: *Transferable skills*, *Real world awareness* and *Employment or career*. *Transferable skills* refers to students' soft skills, such as communication skills, team work skills and problem-solving skills. For example, [Holmes and Sullivan \(2018\)](#) used author/instructor observations to show that students gained research skills, technology skills, critical thinking skills, leadership skills, communication skills, and professional demeanours as a result of their ELA. *Real-world awareness* refers to insight and awareness students gained of the accounting profession in the real world. For example, [Marriott \(2004\)](#) provided a student comment stating they became aware of how important sensitivity analysis was in the real world after participating in the ELA. [Taplin et al. \(2017\)](#) provided student comments indicating how an ELA increased awareness of how important and difficult it was to uphold ethical standards in the real world. *Employment or career* refers to benefits directly in relation to the student's future career. This benefit came in two broad forms. The first was that an ELA sparked a student's interest in pursuing a career in accounting ([Huber et al., 2017](#)). The other form was where an ELA either made students more attractive to employers or outright led to employment in the industry ([Stanley, 2017](#); [Gujarathi & McQuade, 2002](#)).

The following four benefits were identified in the review, but were uncommon: *Student perception of skills and knowledge importance*, *Engagement*, *Life-long learning* and *Learning styles*. *Student perception of skills and knowledge importance* refers to an appreciation for the importance of various skills. For example, [Bautista-Mesa, Molina Sánchez, and Ramírez Sobrino \(2018\)](#) showed that students' awareness regarding the importance of communication skills and teamwork increased after completing the ELA. *Engagement* refers to the attentiveness or keenness to learn. For example, both [Krom \(2012\)](#) and [Drake \(2011\)](#) provided evidence from instructors' observations that students were more engaged during their ELAs. *Life-long learning* refers to techniques that facilitate continuous learning throughout students' lives. For example, [Chmielewski-Raimondo, McKeown, and Brooks \(2016\)](#) included a student comment stating they now know learning continues after graduation through-out their career. Lastly, *Learning styles* refers to the preferred way students learn. [Wynn-Williams et al. \(2008\)](#) was the only article in this review which investigated students' learning styles using Kolb's learning style index ([Kolb and Kolb, 2013](#)). The study showed trends towards more balanced learning styles, however these trends were not statistically significant.

3.3.3. Theme 3 – barriers to ELA success

Thirteen articles included elements that were categorized as *Barriers to ELA success*, which includes references regarding hurdles involved with implementing an ELA. However, in many cases when a hurdle was identified a plausible solution was already provided in the same article. For example, [Gujarathi and McQuade \(2002\)](#) identified getting support from instructors for a new activity that would require even more time and effort as one of the main challenges they faced. However, they went on to explain that making the effort to show instructors research about why and how the project would be beneficial to students and community mitigated this challenge.

3.3.4. Theme 4 – extent of ELAs being used

Extent of ELAs being used refers to excerpts considering the extent to which ELAs are already being used in their environment. Only one article included data on this theme. [Dombrowski et al. \(2013\)](#) conducted an email survey of academics asking what ELAs they implement, which showed that case studies were the most popular activity with 80% of the academics employing case studies in their classes.

3.3.5. Theme 5 – expectations on graduates and universities

Expectations on graduates and universities was apparent in two forms. First, the role of the university was discussed. [Stanley \(2017\)](#) showed that a number of employers agreed that a university's role is to equip students with basic technical/theoretical knowledge and broad transferable skills. Second, industry demands were discussed, which included references to what skills and knowledge employers want in graduates. For example, employers stated they want graduates to have time management skills and people skills as well as technical knowledge such as firm systems and processes ([Stanley, 2017](#)).

3.4. Articles' overall perception of ELAs

Overall, the view of ELAs was distinctly positive in this body of research. Out of the 50 articles in this review, 48 provided positive evidence of benefits. For example, [Siegel et al. \(1997\)](#) provided evidence that students understood the relevant course content better after participating in an ELA. On the other hand, 16 of these articles gave negative evidence regarding the benefits tested. For example, [Cord, Bowrey, and Clements \(2010\)](#) showed evidence that students' academic results were not improved after completing their ELA. However, all the articles providing negative evidence also presented positive evidence to support benefits of ELAs. Lastly, two articles presented insignificant results. These two articles provide neither positive nor negative evidence of the benefits investigated. For example, [Wynn-Williams et al. \(2008\)](#), showed that there was a slight trend towards more balanced learning styles, but the trend was not statistically significant.

3.5. Research methods used to study ELAs

To help answer the third research question concerning the evidence for the benefits of ELAs the methodology used by the articles was examined. The 50 articles used a mix of methodologies with no identifiable trends over time. More specifically, 20 articles used a quantitative methodology, 13 articles used a qualitative methodology and 17 articles used mixed methods.

Although the literature contains a few articles that collectively cover a diverse range of collection tools, the vast majority of articles used the student perception survey to collect data, followed by student academic performance ([Fig. 3](#)). The student perception survey is where a written questionnaire is used to record students' self-assessment of their own reactions or performance after participating in a learning task. Student academic performance is where students' results from subsequent assessments or exams are used to assess the efficacy of the learning activity. Student academic performance is arguably a superior measure as it is more objective and less prone to bias than students' perceptions. Academic performance might also be considered the ultimate objective of the learning activity, at least if the assessment is high quality and measures characteristics that are considered important. However, only approximately half (five out of nine) of these articles provide the assessment tasks and only two provide marking keys. This makes comparisons across articles difficult if academic performance is measured in different ways between studies. Student perception surveys are also arguably more appropriate for specific outcomes, such as student attitudes and satisfaction.

The total in [Fig. 3](#) is larger than 50 because nine articles used more than one data collection method. Of those nine, eight used two methods and one used three methods. The article with three methods assessed the efficacy of the learning task using a student perception survey, educators' perception survey and student academic performance. Three articles used a combination of student perception survey and student academic performance. Two articles used a combination of student perception survey and employer semi-structured interview. One used a student interview/focus group and student academic performance. The remaining two articles used a student perception survey in combination with a student interview/focus group and an educators' perception survey respectively. The remaining 41 articles used only one method to collect data regarding the efficacy of the learning activity.

A wide range of data analysis methods were used by studies in this review. They were *difference in (unpaired) means* (36 articles), *quoting student comments* (20 articles), *thematic analysis* (eight articles), *paired t-test* (six articles), *regression* (one article), *recording author's perceptions* (one article), *quoting employer comments* (one article) and *factor analysis* (one article). The type of data analysis used was largely determined by the requirements of the research questions and data collection method. However, statistical techniques were generally simplistic and amounted to comparing paired or unpaired means using t-tests. This amounts to using one dichotomous variable (for example, presence or absence of the ELA) to predict a dependent variable. It is theoretically simplistic to assume no other variables influence the academic performance or student attitude of students. Only one article used regression and one article used factor analysis (none used Structural Equation Modelling). The prevalence of analysing unpaired means rather than paired t-tests reflected the research design and nature of the data collected: responses in different treatments (eg. ELA or no ELA) could not be matched to the same person, possibly to ensure the anonymity of responses. While this may be understandable from a practical perspective it is undesirable from a statistical or scientific perspective as it provides less precise estimates of the effect of the ELA.

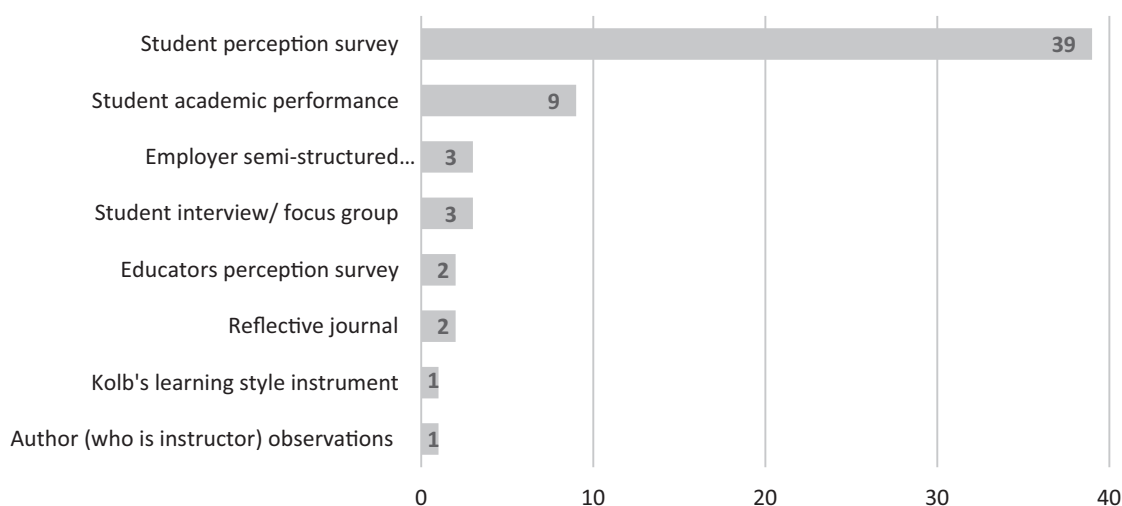


Fig. 3. Number of articles using each data collection tool.

Furthermore, 38 of the 50 articles (76%) simply tested the efficacy of a learning activity after the activity with no control groups or baseline data for comparison. Of the 12 articles that provided a comparison, nine used a quantitative methodology and three used a mixed methodology (none use a qualitative methodology and the articles using a mixed methodology only provided baseline data for the quantitative component). Only three of these nine articles used a control group while the other six articles collected data before and after the ELA to provide baseline data. Only one paper collected data before and after the ELA and also used a control group.

Finally, only seven of the 13 articles using a qualitative methodology indicated that thematic analysis was undertaken (and only one of the 17 articles using mixed methods did so). While it is possible the remaining articles did use a recognised method to analyse their data this was not disclosed in the article. The remaining 22 out of these 30 articles (73%) quoted student/employer/author comments as evidence without any indication of systematic analysis. Thematic analysis synthesises student comments and presents the interpreted themes while most articles only presented student comments and expected readers to draw their own conclusions.

4. Discussion and recommendations for future research

The discussion of results from this review are presented as recommendations for future research. Each of the subsections below details a recommendation for future research accompanied by discussion of any results relevant to the respective recommendation.

4.1. Recommendation 1 – transferable skills

The first future research idea recommended by this review is to focus on individual transferable skills and endeavour to test them in more depth. The wider accounting education literature identifies transferable skills as one of the most significant industry demands of graduates (Kavanagh & Drennan, 2008). The International Accounting Education Standards Board (IAESB) specifically listed professional skills (also known as transferable skills) as one of their International Education Standards (IESs). Furthermore, accounting ELT research touts transferable skills as one of the most prominent benefits of using ELAs. The specific soft skills listed as benefits in the literature can depend on the nature of the ELA, but include written/verbal communication skills (Griffin & Coelho 2019), teamwork (Bremser & White 2000) and critical thinking skills (Butler et al. 2019). Despite the industry relevance and importance within the ELT literature, articles on transferable skills are only moderately common in this review. Furthermore, when transferable skills were included in a study, they were most often only evidenced by students' self-assessment, which is very subjective. This is likely due to the fact that transferable skills can be difficult to assess in other more objective ways, but methods to test these skills can be developed. The fact that transferable skills are so desirable makes it important to measure the effect of ELAs on transferable skills more reliably. For example, students' written business communication skills could be assessed by requiring students to draft a business email before and after completing an ELA in class. Another example is assessing students' critical thinking skills using an established critical thinking skills test instead of a self-evaluation perception survey. The results of these studies would be extremely relevant to both professional bodies and accounting educators since the professional bodies require soft skills as part of their course accreditation standards.

4.2. Recommendation 2 – student characteristics affecting ELA learning outcomes

The second recommendation is that future research focus on student characteristics that can affect ELA benefits. An important research question is whether an ELA benefits some students more than others; the past literature implies or assumes the benefit is similar for all students. There are many factors that could be explored ranging from basic student demographics such as age and English language proficiency to more advanced personal characteristics. For example, a future study could explore the effects of students' preferred learning styles on their reactions/results from specific ELAs. Results from such studies could assist accounting educators in making decisions that will best benefit their specific cohort of students.

4.3. Recommendation 3 – ELA characteristics affecting ELA learning outcomes

The third recommendation for future research is to investigate how ELA characteristics can affect ELA learning outcomes by comparing and contrasting more than one ELA within the same study. Studies in this review tended to isolate individual ELAs by examining the application of one ELA within each study. Additional research questions include “Do different ELAs provide equal benefit?” and/or “which ELAs are better for certain desired benefits?”. Research in this direction will assist university accounting educators in making informed decisions regarding which ELAs to include in their classes. Additionally, the current ELT literature refers to ELAs collectively as a group when discussing benefits of ELAs. Following this direction of research can also provide evidence about whether the wider ELT literature is accurate in referring to ELAs as a group or whether there should be more differentiation between ELAs in the literature. For example, [Butler et al. \(2019\)](#) provides guidance on how to develop a good ELA. This research could be built on by determining if guidelines apply more for some ELA types than others, or apply more for some benefits or situations than others. Research in this area would provide more information for accounting educators developing their own ELAs or deciding which ELA, or which type of ELA, they use in their teaching.

4.4. Recommendation 4 – under-researched benefits

The fourth recommendation is that future research should focus on assessing touted benefits of ELAs in more detail. One example of a touted benefit that is not well-researched is engagement. Engagement is a prominent benefit listed by the ELT literature, which is further evidenced by the fact that 17 articles (34%) included engagement in the background or learning objectives. However, only six articles (12%) assessed student engagement. When engagement was assessed, instructor observations or self-assessed levels of student interaction were often used as the only indicator of engagement. Furthermore, none of the articles focused on engagement, it was simply assessed through one question/indicator included among other benefits. Engagement should be investigated more rigorously and in more detail to better reflect the importance they are given within the ELT literature. Although engagement is given as a detailed example, the following benefits are also very important and should be further researched: Student perception of skills and knowledge importance, Life-long learning and Learning styles.

4.5. Recommendation 5 – research design and analysis

The fifth recommendation is to employ more advanced research methods, both data collection and data analysis. While both of these will largely be dictated by research questions and practical necessity, there are several ways research can be taken to a higher level.

First, using multiple data collection methods is one aspect of the research that could be enhanced. Only nine articles (18%) in this review collected data using more than one data collection method. Using multiple data collection methods within one article is not a required standard of good research, however it can enhance the quality of the evidence and subsequently the study. In particular, if the methods are similar, it can increase the validity of the data through triangulation ([Creswell, 2012](#)). Conversely, if the methods are very different, the blind spot of one method could be covered by another method to provide a fuller picture ([Creswell, 2012](#)).

Second, more research can include baseline information for comparison. Only 24% of the 50 articles provided baseline information without the ELA for comparison and only 6% used a control group in their research design. Control groups are important scientifically because there are reasons other than the ELA that might explain why measurements change over time. For example, student perception surveys and student academic performance can systematically produce different results the second time they are measured. With such a scarcity of research using control groups (or even any baseline data for comparison) it is difficult to conclude that the literature has strong scientific evidence of benefits of ELAs in accounting education. While the simpler methods used in these reviewed articles might be acceptable in exploratory research or an emerging field, established research fields such as medicine would find the rare use of these techniques unacceptable ([Medical Journal of Australia, 2020](#)). Education research in this area can progress to a higher level of rigour if these techniques are included more often. In most cases it should be possible to at least take measurements both before and after the ELA. When control groups are used, ideally students will be randomly allocated to the ELA or control group. The use of both baseline measurement before and after the ELA and the use of control groups is preferable and these techniques can be used to improve qualitative research as well as quantitative research.

Third, research can take more efforts to improve the estimation precision of estimated effects by removing variation from other sources. For example, the use of a paired *t*-test to compare measurements before and after an ELA helps remove variation between students. This requires the research to be able to match each measurement taken before the ELA to the measurement of the same student after the ELA. This is statistically superior to analysing unpaired responses but can suffer from bias if respondents feel their anonymity has been compromised. Future research might be required to examine which is superior: analysing paired data or retaining anonymity. In some cases it may be acceptable to only measure responses after the ELA, possibly measuring the change. For example, using a Likert question: "Did your understanding of accounting theory increase due to this lesson?" There are many options however this review found most articles were using simple techniques. Furthermore, most articles used similar techniques and the literature lacks a debate on the advantages and disadvantages of alternative approaches.

Fourth, qualitative research methods overwhelmingly consisted of quoting student comments without any documentation of how the data was analysed. Research can embrace more systematic ways of analysing qualitative data, such as thematic analysis. Alternatively, or in addition to this, articles can document more comprehensively how this analysis was undertaken.

Quality research is difficult to perform and the intention here is not to devalue past efforts. Exploratory research is informative in a developing area of research. However, it can be argued that research in this area is ready to progress to higher levels of quality. This not only includes the use of more sophisticated research design and analysis, but a discussion in the literature of which approach is preferable for specific research and publication of a diversity of approaches.

5. Limitations

Several limitations of this literature review are important to acknowledge. First, only articles in English were included. As a consequence, conclusions may be less relevant to accounting education conducted in languages other than English or possibly for different cultural backgrounds. Second, the literature review focussed on articles concerning accounting education. While there are many reasons why accounting education may differ from other subject areas, it is possible conclusions found in other subjects may be relevant to the teaching of accounting. Even if this is true, a case can be made for research that tries to replicate these findings from other subjects within accounting to ensure the evidence suggested by other disciplines is also relevant to accounting.

Third, while alternative strategies were used to capture all relevant articles it is possible not all articles were captured. For example, relevant articles might be published in a wide range of journals or other outlets such as conference proceedings. Fourth, this review has taken the position of being evidence based. Articles that contain only opinions or arguments based on theory were excluded but these might contain valuable and relevant information. For example, this review article would itself be excluded from our search criteria on the basis that it does not assess the efficacy of specific ELA(s) with empirical data. Nevertheless, the need for empirical evidence is fundamental to research and hopefully to the practice of education within accounting.

6. Conclusion

Due to the evolution of accounting university education, ELT and ELAs have become more common research topics in recent years. Therefore, we completed a systematic literature review and thematically analysed the body of research published about specific ELAs in accounting university education. Fifty articles were studied in order to investigate what types of ELAs are researched, what benefits of ELAs is found, and the evidence for these benefits.

We discovered a wide range of ELA types have been studied, with the three most researched ELAs being case studies, live cases and physical simulations. The other researched ELA types identified within this paper were computer simulations, field trips, work placements, in-house work placements, role plays, labs/pracs, communities of practice and educational games, in order of prominence in the literature. The most highly cited example of each ELA type was listed in this article.

We found the three most commonly researched benefits of ELAs were: technical knowledge and comprehension; student attitude and satisfaction; and authentic application of theory. The remaining researched benefits were transferable skills, real world awareness, employment or career, student perception of skills and knowledge importance, engagement, life-long learning and learning styles, in order of prominence in the literature. The information provided regarding ELA benefits is useful for accounting educators because it can provide guidance on how they can achieve a desired benefit.

The last objective of this review was to provide recommendations for future research. Five recommendations for future research were identified: (1) investigating transferable skills benefits of ELAs (2) exploring student characteristics that can effect ELA learning outcomes (3) researching ELA characteristics that can effect ELA learning outcomes (4) investigating under-researched benefits and (5) using more rigorous data collection and analysis methods. Future studies addressing these recommendations will provide practical assistance for accounting educators. This includes providing strong evidence to convince students and staff of the benefits of ELAs and helping to decide which ELAs are optimal for specific students.

Accounting professional bodies advocate the teaching of professional and soft skills and ELAs are one way of achieving these aims. The results of this paper will therefore be of interest to these professional bodies for several reasons. First, evidence that ELAs achieve these aims is summarized, and evidence should inform practice when possible. Second, it identifies

gaps in the literature and the professional bodies may be able to assist filling these gaps. Third, professional bodies may desire instructors to teach professional and transferable skills such as working in teams, but to achieve this students need to be convinced these are worthwhile. Professional bodies stating these skills are important is helpful, but students may require more convincing arguments or evidence if they are to fully engage. Finally, the results of this paper are important to help education providers present evidence regarding their achievement of accreditation standards.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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