



# Who Are We Citing and How? A SoTL Citation Analysis

## ABSTRACT

The Scholarship of Teaching and Learning (SoTL) is continuing to develop as a multidisciplinary, international field of practice and a topic of study itself. As the field matures, one area of interest has been the SoTL literature review. However, there has not been an evidence-based study of SoTL citation practices. The purpose of this study was to analyze one year's worth of articles from this journal to see how references and in-text citations are used. Overall, 514 references and 954 in-text citations were found across 18 articles. A diverse range of multidisciplinary and specialized academic journals were cited; 8 percent of in-text citations cited a source other than an academic journal. Each reference and in-text citation was coded as either substantive (Applied, Contrastive, or Supportive) or non-substantive (Reviewed or Perfunctory). A high rate of in-text citations (74 percent) were found to be non-substantive, with the majority of non-substantive in-text citations (71 percent) found in either the Introduction or Literature Review sections of the articles. Conversely, of the 26 percent of in-text citations considered substantive, 50 percent were found in either the Results & Discussion or Conclusion sections. We demonstrate the use of the coding scheme as a self-assessment tool and conclude by suggesting that SoTL authors and reviewers could use it to assess the depth and breadth of their literature reviews.

## KEYWORDS

citation analysis, SoTL, literature review, references

## INTRODUCTION

### **The Scholarship of Teaching and Learning field**

The Scholarship of Teaching and Learning (SoTL) continues to emerge as an international field of practice as evidenced through the establishment of international and local conferences, interest groups within disciplinary societies, postdoctoral positions, research centers, and research chairs at universities. Like many multidisciplinary fields, SoTL benefits from a diversity of ideas, perspectives, frameworks, and methods. As a result, one of the areas of focus is the emerging nature of the field itself, the definition and boundaries of which continue to be debated. In this article, we add to this body of work by analyzing recent citation patterns in this journal, *Teaching & Learning Inquiry*, the journal of the International Society for the Scholarship of Teaching and Learning, to assess what and how authors are citing other work.

A review of the relevant literature is critical in the framing and reporting of a SoTL study. It not only plays a foundational role in framing the need and purpose of a study, but is often revisited and expanded as findings begin to emerge (MacMillan 2018, 23). In their writing, authors may describe the work of other researchers for a variety of reasons, including: to develop an argument for the contribution of their own findings to existing knowledge and/or practice; to

show how their conclusions support, elaborate upon, or challenge conclusions from others; and to provide evidence for credibility, generalizability, and/or transferability of their findings (Creamer, Musaeus, and Edwards 2018). Reviewing the work of others is also critical to the researcher's own thought process as it helps the researcher make meaning of and explain their own results, both expected and unexpected. Indeed, many disciplines consider writing to be part of the research process itself, rather than simply a means of dissemination (Manarin 2018). As Margy MacMillan (2018, 23) points out, "reconceptualizing the literature as data and synthesis of the literature as a meaningful result of the study in and of itself is the first step to getting more out of the literature review process as a researcher, as well as providing a product that benefits readers and SoTL as a discipline."

However, SoTL has been criticized for weak literature reviews (MacMillan 2018, 23; McKinney 2010, 37; Weimer 2006, 51), which have also been the most frequent target of feedback and rejection or resubmission decisions in this journal (Chick, Poole, and Blackman (n.d.) cited in MacMillan 2018, 25). Given the multidisciplinary and "big tent" nature of SoTL (Huber and Hutchings 2005, 4), this is perhaps unsurprising; the scholars of this field have multiple bodies of literature (disciplinary, multidisciplinary, methodological, theoretical) to draw from and different writing conventions related to their disciplines and research approaches (Chang 2013; Hellqvist 2010; Štěpánková 2012), resulting in extra layers of work compared to conducting their disciplinary scholarship. Both deductive and inductive SoTL studies require an extensive literature review that is then used to frame the study in different ways. Deductive studies, which apply existing conceptual and theoretical frameworks in designing the study and analyzing the results, usually discuss the literature extensively at the beginning of an article to describe the constructs or theories being applied, justify the importance of the question, and provide a rationale for the purpose and design of the study. Literature cited at the end of the article would be used to compare the findings with expectations. Inductive studies are more exploratory, where new perspectives could emerge from the findings and thus further literature might be incorporated later in the article to support or modify existing findings. No matter the methodological approach, authors will want to provide the reader with explanations about results and observations about consistency of the findings with the literature, a description of the limitations of their study, a statement about contributions to and implications for knowledge and/or practice, and recommendations for future inquiry (MacMillan 2018). This means that SoTL researchers must often make difficult (but informed) decisions about which literature to cite, and they intentionally integrate multiple, large bodies of literature in order to write for a broad audience, possibly making it challenging to meet the expectations of all readers and reviewers (MacMillan 2018, 24).

Another reason for the lack of depth in literature reviews may be the newness of the field and thus, the inexperience of many authors as SoTL researchers. SoTL researchers often find that their disciplinary conventions for research approach, methods, citations, and their entire academic identity and thinking processes do not translate easily to SoTL (Miller-Young, Yeo, and Manarin 2018). This inexperience is also evident in other ways—many published SoTL studies include theoretical assumptions and framing that are implicit rather than explicit and use predominantly inductive methods of analysis even though appropriate conceptual and theoretical frames may already exist (Fraser and Pechenkina 2020; Miller-Young and Yeo 2015). This study, which describes current citation practices in

this journal, will help SoTL newcomers, writers, and readers to better understand current practices regarding referencing and building upon others' work, and to reflect on their own practices.

### **Citation analysis of academic journal articles**

Citation analysis is one way to describe a network of published research and it can be applied across specific time periods, institutions, disciplines, and more (Moed 2005; Zhao and Strotmann 2015). For example, one study showed that the average number of references per article ranged from 8.2 in the health sciences to 53.9 in the social sciences (Halevi 2013). However, few studies have analyzed the nature or importance of the citations themselves. A recent study in the field of library and information sciences (LIS) by Dangzhi Zhao, Alicia Cappello, and Lucinda Johnston (2016), showed the highest-rated references (that is, those where a significant element of the cited paper was adopted by the citing authors) were most often used four or more times in the body of an article (Zhao, Cappello, and Johnston 2016). Yet these higher-level references accounted for only 11 percent of all in-text citations. The lowest-rated references (that is, those with little importance or contribution to an article's main arguments), on the other hand, were usually only cited once in the article's text, yet accounted for more than 50 percent of all in-text citations (60). Zhao, Cappello, and Johnston also found that those high-rated references were more likely to be found in the second half of the article (Methodology and Results & Discussion sections) than in the first half of the article (Introduction, Background, and Literature Review sections) (64). As a result, Zhao, Cappello, and Johnston (2016) recommended that, for citation analysis purposes, the level or rating of the reference be assessed and used to identify importance instead of simply reporting overall counts (65). To our knowledge, a similar study has not been conducted in the field of SoTL.

We considered two possible frameworks from the literature for analyzing the nature of citations in SoTL articles. The first, generated by Torgny Roxå (2018) using an inductive approach, was developed by analyzing how engineering doctoral students cited educational literature in reports written as part of an introductory pedagogical course. From 20 reports with 66 unique references to education and psychology journals, Roxå generated six codes for how the references were cited. However, the nature of the reports was likely different than a SoTL study (learners had to "make a claim" about a topic rather than compare and contrast research results to previous literature). Thus, we decided the five codes that were used and modified by Zhao, Cappello, and Johnston (2016) were a better fit for this study as they were generated from published research studies and from a larger data set. Their codes were based on a 2013 doctoral dissertation by Nahid Tabatabaei that included the coding of 55 articles from the *Journal of the Association for Information Science and Technology*. These five codes are Applied, Contrastive, Supportive, Reviewed, and Perfunctory, which will be defined in the next section. We applied Zhao, Cappello, and Johnston's methodology, which used Tabatabaei's codes and definitions, to 18 articles in two recent issues of *Teaching & Learning Inquiry*.

The purpose of this study was to examine how authors published in *Teaching & Learning Inquiry* in 2018 cited literature. Specifically, we wanted to know the following:

- ***What journals are most frequently cited in the sample?***
- ***How are references used in the text of the articles?*** That is, what are the frequency of citations, location of citations within the manuscript, and type of citations?

This topic is important because it describes current conventions of writing within this journal, which is useful for newcomers, reviewers, and editors in the field to know, and it provides a framework that authors can use to reflect on their own citation practices.

## METHODS

For this study, the journal *Teaching & Learning Inquiry* was selected as the source of articles for analysis. The articles from volume 6 (2018), issues 1 and 2, were selected as they were the most recent at the time the analysis was conducted. For each article, we counted and coded references by journal title (references are listed at the end of each article, but may be cited more than once within the article), and we counted and coded in-text citations (the individual citations used after a quote or paraphrased within the text of the article) for the way they were used and where in each article they appeared. Inclusion criteria for the articles were finalized after the first round of coding using the citation use codes from Zhao, Cappello, and Johnston (2016).

### Initial sample

There were nine articles published in volume 6, issue 1, and 10 articles published in volume 6, issue 2. With one exception, the articles from both issues were coded for preliminary analysis. One article, titled “First-Year Seminar Faculty: Recruitment, Supports, Motivators, and Challenges,” was excluded from the study because it was a meta-analysis of previous literature and thus did not align with the studies described in the other 18 articles.

### Coding

All in-text citations in the 18 articles were coded (using the qualitative data assessment software NVivo) according to one of the five codes from Zhao, Cappello, and Johnston (2016). The surrounding text was used to determine the context of the citation and the appropriate code to be used. In most cases, references were cited multiple times and in different ways throughout the article; each citation and its code were recorded in the data set. The codes and descriptions are as follows:

- **Applied:** an in-text citation in which a significant element of the cited article has been borrowed, adopted, or used to develop the citing article’s theme or study; or when the cited article was the inspiration for the citing article or a significant element of it; or when a citing article built upon, expanded, furthered, or modified the cited article’s study, method, or approach.
- **Contrastive:** an in-text citation that contrasts (or compares) the citing article’s data, methods, models, theories, findings, or conclusions with what was used, documented, reported, or found in the cited article.
- **Supportive:** an in-text citation that makes reference to a cited article in order to establish legitimacy of the topic; to substantiate an assumption or claim; to justify an argument, data, or method; to confirm findings; or to support an assertion, opinion, method, or result.
- **Reviewed:** an in-text citation that describes or reviews relevant or similar studies. Such citations may be used to provide background information; to set the stage for a research area or problem; to introduce the origin of the idea or concept; to illustrate the history or current state of the research problem, research area, or

subject knowledge; or to provide contextual information necessary to understand the broader context of the study or the significance of the research questions or problems. They are not, however, used to support the validity of the citing article's arguments.

- **Perfunctory:** an in-text citation that has little importance, significance, or contribution to the theme, analysis, or results of the citing article. These citations are typically made without additional comments or context. The cited article is usually not relevant to the citing article's theme or arguments, and is not used to compare or analyze the citing article's contribution to the research.

Once all in-text citations from all 18 articles were coded, we calculated the frequency of the citations and the codes used. For reporting purposes, frequency was divided into one of five categories based on the number of times cited: once, twice, three times, four times, or five or more times. Each reference was assigned the highest code it received in the citation analysis. For example, in the article "Public Pedagogy and Representations of Higher Education in Popular Film," the 2008 reference from Giroux was cited six times. Three of the citations were coded as Supportive and three were coded as Reviewed. For the frequency analysis, this reference would be included in the "cited five or more times" category and would have a Supportive code. Further explanation and demonstration of the coding scheme can be found in the appendix, which shows the citation counts, highest citation rating, and explanations for each code for the references used in this article.

We used Excel to keep track of the section of the article in which each citation was found. Sections could be one of six categories: Introduction, Literature Review, Methodology, Findings, Results & Discussion, or Conclusion. Some of the articles did not use these explicit titles for their sections; in these cases, sectional categories were selected based on the content of the text and the category to which that type of text most likely belonged. For example, for the same article mentioned in the previous paragraph, four of the citations were coded as being in the Introduction sectional category, one was in the Findings sectional category, and one was in the Results & Discussion sectional category.

All of the data was then used to conduct an analysis of the citations. Most of the analysis was conducted within Excel using pivot tables and formulas. For the purposes of comparing results with those of Zhao, Cappello, and Johnston (2016), we followed their convention of classifying Supportive, Contrastive, and Applied citations as substantive (they used the term "significant") and Perfunctory and Reviewed citations as non-substantive (or "insignificant"). In other words, substantive citations are used to explain the reasons for the methodology, compare/contrast results, or demonstrate how the article followed the aspects of a previous study.

## RESULTS AND DISCUSSION

Analysis of the 18 articles revealed a diverse range of journals cited, with non-disciplinary journals cited most frequently, and about 26 percent of the in-text citations coded as substantive. We also found patterns in the location and frequency of different levels of in-text citations.

### **Journals and other sources cited**

The 18 articles referenced 159 unique academic journals.<sup>1</sup> Eight of the 159 journals were cited in three or more articles. Of these eight journals, *Teaching & Learning Inquiry*, *Research in Higher Education*, and *Teaching in Higher Education* had the highest number of in-text citations, respectively. *Teaching &*

*Learning Inquiry* had the highest number of citations in all categories except Applied, with *New Directions for Teaching and Learning* being the only one of 18 having an Applied citation. Reviewed citations were the most common for all journals. These findings are illustrated in table 1.

**Table 1. Academic journals cited in three or more articles, by citation code (N = 18 articles)**

Journal name	Substantive			Non-substantive		Total in-text citations
	Applied	Contrastive	Supportive	Reviewed	Perfunctory	
<i>Teaching &amp; Learning Inquiry</i>	0	5	3	16	4	<b>28</b>
<i>Research in Higher Education</i>	0	2	2	14	1	<b>19</b>
<i>Teaching in Higher Education</i>	0	0	1	13	1	<b>15</b>
<i>New Directions for Teaching and Learning</i>	1	1	1	8	1	<b>12</b>
<i>International Journal for the Scholarship of Teaching and Learning</i>	0	0	2	8	1	<b>11</b>
<i>Studies in Higher Education</i>	0	0	1	8	1	<b>10</b>
<i>College Teaching</i>	0	2	0	1	0	<b>3</b>
<i>Educational Researcher</i>	0	1	0	2	0	<b>3</b>
<b>TOTAL</b>	<b>1</b>	<b>11</b>	<b>10</b>	<b>70</b>	<b>9</b>	<b>101</b>

These results may be useful to new SoTL researchers wondering what other multidisciplinary journals to follow for inspiration or to inform their work. The high number of citations for *Teaching & Learning Inquiry* is not surprising because this is the same journal from which the articles were drawn; authors may be most familiar with this journal, or may have wanted to reach the same audience as the previous TLI work that they were citing. The relatively high number of Supportive and Contrastive citations from *Teaching & Learning Inquiry* also supports this inference. Overall, the low number of Applied references can be explained by the fact that there were only 11 Applied references in all 18 articles, as shown below.

#### **Frequency of reference and citation use**

In the 18 articles, there was a total of 514 unique references and 954 in-text citations, but the totals per article ranged widely—there were between 17 and 266 in-text citations per article and between 19 and 84 references per article. Overall, 65 percent of references only appeared in an article once, while 5 percent of references appeared five or more times. These findings are shown in table 2.

**Table 2. References by frequency, N = 18 articles**

References cited (frequency)	One time	Two times	Three times	Four times	Five or more times	Total
# of unique references	332	89	40	25	28	<b>514</b>
% of unique references	65%	17%	8%	5%	5%	<b>100%</b>

Overall, the majority of references (58 percent) and in-text citations (65 percent) were coded as Reviewed, and 7 percent and 13 percent as Perfunctory. There were twice as many Supportive as Contrastive references and in-text citations, and only 2 percent Applied (table 3).

**Table 3. References and in-text citations by citation code, N = 18 articles**

References cited	Substantive			Non-substantive		Total
	Applied	Contrastive	Supportive	Reviewed	Perfunctory	
# of unique references	11	52	114	299	38	<b>514</b>
% of unique references	2%	10%	22%	58%	7%	<b>100%</b>
Total in-text citations	15	66	131	616	126	<b>954</b>
% of in-text citations	2%	7%	14%	65%	13%	<b>100%</b>

A relatively low number of Applied references is not surprising, as the defining criterion for this code is that a “significant element” of the cited article is adopted or built upon, and thus it would only be possible to use a small number of references in this way without an article losing focus. For example, our own article relies on only two Applied references (appendix table A1). However, a rate of 11 Applied references in 18 articles seems very low. This result does seem to align with SoTL’s roots that are grounded in investigating questions that arise from practice (Bass 1999), but also supports the argument that SoTL work is predominantly inductive and that its theoretical underpinnings are often implicit rather than explicit (Fraser and Pechenkina 2020; Miller-Young and Yeo 2015).

### Types of citation by article section

In both the Introduction and Literature Review sectional categories, the number of non-substantive in-text citations far outweighed that of substantive in-text citations. On average, Reviewed citations were the most frequently found in-text citation in all sectional categories except Conclusions, where Supportive citations were found more often. A higher number of Supportive and Contrastive citations were found in later sectional categories of the articles (Methodology, Results & Discussion, Conclusion), while the Methodology sectional category had the highest occurrence of Applied citations. The detailed breakdown of in-text citations by citation code and sectional category can be found in table 4.

**Table 4. In-text citations by citation code and section, *N* = 18 articles**

Section	Substantive			Non-substantive		Total
	Applied	Contrastive	Supportive	Reviewed	Perfunctory	
Introduction	3	3	16	276	15	<b>313</b> (33%)
Literature review	2	2	11	190	22	<b>227</b> (24%)
Methodology	6	2	56	56	25	<b>145</b> (15%)
Findings	2	6	15	16	2	<b>41</b> (4%)
Discussion	1	37	23	39	18	<b>118</b> (12%)
Conclusion	1	16	45	39	9	<b>110</b> (12%)
<b>TOTAL</b>	<b>15</b>	<b>66</b>	<b>166</b>	<b>616</b>	<b>91</b>	<b>954</b>

We found it surprising that the Methodology sectional category also had the highest number of Perfunctory in-text citations and that the Results & Discussion sectional category contained only 12 percent of the total in-text citations (table 4). For comparison, Zhao, Cappello, and Johnston (2016) found 79 percent of non-substantive citations in the Introduction, Background, and Literature Review sections, compared to our finding of 71 percent of non-substantive citations in the Introduction and Literature Review sectional categories. While both studies had more substantive citations in the sectional categories typically found in the later half of articles (Findings, Results & Discussion, and Conclusion), Zhao, Cappello, and Johnston (2016) found 67 percent substantive citations there and we found only 54 percent. While the scope of this study does not allow us to generalize to SoTL as a field, the distribution of citations found here does seem to show that authors of the articles in this study spent much more of their energy providing background and rationale for their studies than situating their findings within the existing literature.

#### **Types of citation by frequency**

References that were cited fewer times within an article tended to be less substantive (table 5). Applied references were found five or more times within an article, whereas Perfunctory references predominantly occurred only once (appendix table A2). The remaining citation codes—Contrastive, Supportive, and Reviewed—all appeared only once in the coded articles at rates of 20/52 (38 percent), 33/37 (89 percent), and 221/303 (73 percent), respectively.



**Table 5. Reference use by frequency and type of citation, N = 18 articles**

References cited	Substantive			Non-substantive		Total
	Applied	Contrastive	Supportive	Reviewed	Perfunctory	
One time	2	20	33	221	56	<b>332</b>
Two times	1	10	1	46	31	<b>89</b>
Three times	2	11	1	17	9	<b>40</b>
Four times	2	6	0	10	7	<b>25</b>
Five or more times	4	5	2	9	8	<b>28</b>
<b>TOTAL</b>	<b>11</b>	<b>52</b>	<b>37</b>	<b>303</b>	<b>111</b>	<b>514</b>

While, as noted above, there are differences between the conventions of different disciplines, it is interesting to compare our results to those of the Zhao, Cappello, and Johnston (2016) study conducted within library and information science because both fields are multidisciplinary in nature. Our findings are slightly different than those of Zhao, Cappello, and Johnston (2016), who found fewer non-substantive references appearing once (68 percent) or twice (55 percent) within an article (compared to 83 percent and 87 percent, respectively, in this study), and more substantive references appearing four (76 percent) and five or more (81 percent) times within an article (compared to 68 percent and 61 percent, respectively, in this study). While both studies found a higher number of non-substantive references overall, the articles we reviewed for our study cited them more often, and cited substantive references less often. For a literature review to be a meaningful outcome of the study itself, as MacMillan (2018) advocates, we encourage SoTL authors, reviewers, and editors to pay attention to the ratio of substantive to non-substantive citations in an article and to carefully reflect on the reason for including each Reviewed and Perfunctory citation. We describe our own self-reflection in the next section.

## IMPLICATIONS AND FUTURE WORK

Our findings suggest that authors published in *Teaching & Learning Inquiry* are citing widely, an average of nine different journals per article, and they are pulling from multidisciplinary journals on teaching and learning rather than staying within a discipline or specialization. Given that most of the citations of *Teaching & Learning Inquiry* were coded as Reviewed, it seems that the journal is continuing to act as a “big tent,” rather than building a knowledge community that is engaged in ongoing and inter-related conversations (Thomson 2018). While inclusivity is part of the vision and identity of the International Society for the Scholarship of Teaching and Learning and its journal, in general, articles could benefit from literature reviews that are written more like “a reliable guide to the conversations that can inform conducting and interpreting a study” (MacMillan 2018, 28). It may be that authors have not explicitly thought about their reading and citation practices, or that they simply feel they should be as comprehensive as possible in their reference lists. An interesting follow-up to this study would be to ask authors about these and other issues related to their reading, writing, and citation strategies.

The coding scheme we used in our study could also be used as a self-assessment tool.<sup>2</sup> As an example, we provide a coding analysis of this article in the appendix (tables A1, A2, A3). We found that using this coding process during the final phases of editing this manuscript forced us to consider each reference we cited more carefully and determine whether it was necessary and used appropriately. For

example, when we initially coded a reference as Perfunctory or Reviewed, it caused us to critically question whether the citation was necessary. In other words, we asked ourselves if the reference was gratuitous, if we were simply acknowledging previous work, or if we believed that the reference was truly essential for the reader to understand the rationale and implications of the study, and what kind of reference was most appropriate in each instance. We removed several references, and as a result believe our article is more readable. We also found a low number of Contrastive citations in our own article, which caused us to reflect critically on whether any confirmation bias was affecting our choice of references. However, we point out that we also contrasted our results with the Zhao, Cappello, and Johnston (2016) study, but this reference was also coded as Applied. Overall, we believe that applying the coding scheme to our own article improved our citation decisions, as well as the quality of our writing.

In addition to demonstrating how quality rather than quantity of references can be assessed, our study revealed some citation patterns in recent SoTL work, which are worthy of further inquiry. In general, the pattern of having more substantive citations in the latter sections of an article follows more emergent and exploratory styles of writing, rather than the format of most deductive studies where constructs and frameworks are defined up front. However, this conflicts with the fact that a higher percentage of citations overall appeared in the earlier sections of the articles. Are scholars from qualitative backgrounds using typical social science headings and sections (introduction, methods, results, discussion, conclusion) to frame their writing without changing the general flow and style? Do they feel they have to follow a social science convention? Indeed, out of the 18 articles we reviewed, all but six used fairly standard headings to frame the article, with small variations (for example, one article used the heading “Research Context and Material” rather than “Literature Review”). While SoTL endeavours as a field to be inclusive of all disciplinary styles and research approaches, the articles within this sample primarily followed a social science paradigm.

We offer this article as a contribution to the literature about the nature of SoTL as a field and/or community. Our findings are complementary to Tight’s (2017), which reviewed the countries, disciplines, and topics generating SoTL and found all to be numerous and diverse. Tight (2017) argues that this means that SoTL, as a form of inquiry, has not distinguished itself from closely-related areas of activity, such as pedagogical research and higher education research in general. However, others argue that the inclusiveness of the SoTL community is what defines it (such as Larsson et al. 2017). While further work needs to be done to better understand the overlap and differences between these research and scholarly communities, this study provides strong empirical evidence that SoTL is indeed wide-ranging; the authors of articles in this sample reviewed and cited work from such a large number of other journals, as well as some non-academic sources. It would be fruitful to also examine how much SoTL authors are engaging in conversations with other audiences, for example, by also publishing their work in discipline and subject-specific journals, and to assess how other higher education journals are citing *Teaching & Learning Inquiry* in terms of both substance and frequency.

## CONCLUSIONS

This article provides a useful snapshot of current citation practices in *Teaching & Learning Inquiry*. We described what journals are most frequently cited, and what kinds of citations are used, as well as their frequency and location within an article. Although the study is small in scope, it provides empirical evidence supporting others’ assertions that SoTL literature reviews could often benefit from

more depth. These findings should encourage both emerging and established scholars in the field to thoughtfully consider how they use citations in their own work and to be explicit about their reasons, if or when they diverge from current conventions. The coding framework provides a useful tool to prompt them to do so. Not only authors, but also reviewers and editors, could use the coding scheme to pay attention to how often citations are used in a substantive way, resulting in literature reviews that themselves become more meaningful outcomes of SoTL studies.

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## NOTES

<sup>1</sup> Each journal was counted a maximum of one time per coded article, even if the authors cited multiple articles from that journal.

<sup>2</sup> A two-page self-assessment tool is posted as an open educational resource at <https://doi.org/10.7939/r3-m232-sv61>.

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## APPENDIX

**Table A1. Coding of this article, with explanations (references listed in the order in which they appear in the article)**

Reference	Location (# of citations)	Highest citation rating	Explanation for highest rating
MacMillan (2018)	Introduction (5) Results & Discussion (2)	Supportive	Establishes the legitimacy of the topic of SoTL literature reviews
Creamer, Musaeus, and Edwards (2018)	Introduction (1)	Supportive	Supports claims about different ways literature is used
Manarin (2018)	Introduction (1)	Reviewed	Supports but does not provide specific information about the statement's claim
Weimer (2006)	Introduction (1)	Reviewed	Supports claims about weak SoTL literature reviews
McKinney (2010)	Introduction (1)	Reviewed	Supports claims about weak SoTL literature reviews
Chick, Poole, and Blackman (n.d.)	Introduction (1)	Supportive	Establishes the legitimacy of the topic because weak literature reviews are a common cause of rejection or resubmissions
Huber and Hutchings (2005)	Introduction (1)	Reviewed	Provides contextual information about SoTL

Chang (2013) Hellqvist (2010) Štěpánková (2012)	Introduction (1, 1, 1)	Perfunctory	Little explanation about the studies is provided
Miller-Young, Yeo, and Manarin (2018)	Introduction (1)	Reviewed	Provides contextual information about SoTL
Miller-Young and Yeo (2015)	Introduction (1) Results & Discussion (1)	Supportive	Supports assertion that SoTL's theoretical underpinnings are often implicit (as a reason why Applied citations are low)
Fraser and Pechenkina (2020)	Introduction (1) Results & Discussion (1)	Supportive	Supports assertion that SoTL is predominantly inductive (as a reason why Applied citations are low)
Moed (2005) Zhao and Strotmann (2015)	Introduction (1, 1)	Supportive	Establishes legitimacy of citation analysis as a method
Halevi (2013)	Introduction (1)	Supportive	Establishes the legitimacy of the topic as differences have been found in other fields
Zhao, Cappello, and Johnston (2016)	Introduction (6) Methods (3) Results & Discussion (4)	Applied	Applies the citation codes and methodology from this study
Tabatabaei (2013)	Introduction (2)	Applied	Applies the coding scheme from this study
Roxå (2018)	Introduction (1)	Contrastive	Contrasts the method in this study with our own
Bass (1999)	Results & Discussion (1)	Reviewed	Provides background information about SoTL
Thomson (2018)	Results & Discussion (1)	Reviewed	Provides background information about typical expectations of a journal
Tight (2017) Larsson, Mårtensson, Price, and Roxå (2017)	Results & Discussion (2, 1)	Supportive	Supports the findings of diffuse and inclusive nature of the field

**Table A2. This article's unique references, by frequency of citation**

References cited (frequency)	One time	Two times	Three times	Four times	Five or more times	Total
# of unique references	17	3	0	0	2	<b>22</b>
% of unique references	77%	14%	0	0	9%	<b>100%</b>

**Table A3. This article's in-text citations, by citation code and section**

Section	Substantive			Non-substantive		Total
	Applied	Contrastive	Supportive	Reviewed	Perfunctory	
Introduction	8	1	11	5	3	<b>28 (64%)</b>
Methodology	3	0	0	0	0	<b>3 (7%)</b>
Results & Discussion	4	0	7	2	0	<b>13 (29%)</b>
Conclusion	0	0	0	0	0	<b>0</b>
<b>TOTAL</b>	<b>15</b>	<b>1</b>	<b>18</b>	<b>7</b>	<b>3</b>	<b>44</b>



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