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Conceptualizing SoTL: Situating One Research-Intensive University into a Broader 4M Framework

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Abstract: The conceptualization of the Scholarship of Teaching and Learning [SoTL] has evolved over its 30-year history. This study sought to understand how faculty, staff, and students at a research-intensive institution in Ontario, Canada label and describe SoTL. We performed an environmental scan that consisted of: 1) mining academic journal titles to identify names commonly used to describe systematic inquiry into teaching and learning; 2) a campus-wide survey of faculty, staff, and students; and 3) interviews with select faculty members who perform SoTL work. We identified several dichotomies between the findings from these three methods and discuss the meanings of these findings in relation to the 4M, micro-meso-macro-mega levels, framework.

Keywords: Scholarship of Teaching and Learning; 4M framework; Interdisciplinarity; Institutions of Higher Education; Environmental Scan

The Scholarship of Teaching was advanced by Ernest Boyer (1990) who wrote about the importance of inquiry, synthesis, and application of teaching and learning knowledge into practice to bridge the gap between teaching practice and research (Tight, 2018). Since then, the Scholarship of Teaching and Learning [SoTL], a movement now into its fourth wave, has undergone manifold name and definitional changes (Kreber, 2002; Plews & Amos, 2020; Vajoczki et al., 2011). The first waves emerged with Boyer in 1990 and centered around defining and theorizing what would later be called SoTL (Webb, 2020). The second wave built upon this foundation, adding concerns around rigor and research, interdisciplinarity, and a shared language of SoTL. The third wave saw substantial international growth in communities of practice and formal institutions build around SoTL, with additional consideration of SoTL's transformational potential. The current fourth wave is said to be

marked by increased institutional support and institutional teaching and learning centers, amongst many other movements in the field (Webb, 2020). Simmons and Marquis (2017) assert that this evolutionary process is part of the field's development.

Extant literature suggests threefold parts that comprise SoTL (McKinney, 2007; West & Stephenson, 2016). First is reflection on teaching methods to affect student learning (Tierney, 2017). McKinney (2007) calls this "Good Teaching." Second is employing teaching practices based on evidence, which is called "Scholarly Teaching" (McKinney, 2007; Vajoczki et al., 2011). Third combines the essences of good teaching and scholarly teaching but includes conducting research on teaching and learning and publicly disseminating research findings (Trigwell et al., 2000). This, McKinney (2007) calls the "Scholarship of Teaching & Learning." Kern and colleagues (2015) propose a fourth element, teaching practice. It is also important to note that some scholars draw firmer boundaries between SoTL and scholarly teaching, with SoTL existing on a continuum from teaching practice to engagement in scholarship (Boshier, 2009; Mathany, Clow, & Aspenlieder, 2017).

Some definitions of SoTL are based in disciplinary norms, particularly privileging the social sciences (Felten, 2013; Quinnell et al., 2010; Simmons et al., 2013). For instance, many have argued that scholars with a background in education are at an advantage over scholars from the natural sciences or humanities (Chick, 2013; Vander Kloet et al. 2017). Moreover, there are myriad disciplinary terms that exist alongside terms that apply to research on teaching and learning in higher education more broadly (Daniel & Chew, 2013; Kreber, 2002). SoTL is one such broad term, which lies outside of, and is distinct from, disciplinary boundaries (Chen, 2021; Miller-Young et al., 2017; Quinnell et al., 2010) Thus, SoTL's appeal is that it embraces cross-, multi-, inter-, and trans-disciplinary perspectives (Felten et al, 2013; Kern et al., 2015; Tight, 2018) and SoTL can be situated into various disciplines (Quinnell et al., 2010). This is because each discipline offers "different rules and assumptions about what constitutes credible evidence, and what kinds of methods yield 'scholarly' results" (Huber & Hutchings, 2005, p. 25). This quality, which aims to be inclusive of scholars from all disciplines, contributes to SoTL's global appeal (Webb, 2020). However, SoTL's cross-disciplinary landscape also underlies ontological, epistemological, and methodological debates when it comes to defining the types of scholarship that are recognized as legitimate (Kern et al., 2015; Kolomitro, Laverty, & Stockley, 2018; Marcketti & Freeman, 2016; Secret et al., 2011; Tierney, 2017).

How SoTL is defined continues to be contested in the literature (Harland, Raja Hussain, & Baker, 2014; McKinney, 2006; Tierney, 2017; Vithal, 2018). As a result, widespread recognition of SoTL among faculty and staff remains elusive, which some believe undermines the field's legitimacy (Boshier, 2009; Hardland et al., 2014; Kolomitro et al., 2018). While some scholars argue that the lack of an agreed upon definition is a main concern and that there is a need for defining the boundaries as to what can or should be considered SoTL (Newton, Miller-Young, & Sanago, 2019), others posit that it may be preferable to continue advancing ambiguous shared definitions SoTL in order to keep a focus on praxis in the classroom and allow SoTL to further develop to meet the needs of local environments (Felten, 2013; Mathany et al., 2017; Simmons & Marquis, 2017, Webb, 2020). Toward this end, Vithal, (2018) argues that "the deployment of SoTL at an institutional level requires that its definition and meaning remain open and inclusive of the multiple aspects of [teaching and learning] research, practice, reflection and evaluation." (p. 480).

In the Canadian context, the Society for Teaching and Learning in Higher Education [STLHE] surveyed institutions of higher education country-wide in 2012 (Wuetherick & Yu, 2016). They found that 91% of respondents reported confusion as to how to define SoTL. Scholars at individual institutions in Canada have conducted similar studies (Kolomitro et al., 2018). Some decided to adopt a common term for SoTL across their institution. This was the case at one Canadian university that adopted 'educational research' as an umbrella term instead of SoTL, the latter of which they found was perceived to be exclusive and less accessible (Delgarno et al., 2020). The authors noted that, "This

approach may be contrary to researchers trying to define SoTL as a research discipline in its own right" (Delgarno et al., 2020, p. 224).

Researchers at McMaster University, a research-intensive institution in Ontario, Canada wherein this study is situated, sought to conduct a study similar to Delgarno et al.'s (2020) and STLHE's (as reported in Wuetherick & Yu, 2016). The aim of this present study was to respond to Simmons and Marquis (2017) call that "definitions of SoTL should take into account the local context" by understanding how faculty, staff, and students label and describe SoTL. The purpose was to leverage findings to advance a shared institutional language for systematic inquiry into teaching and learning. Herein, we share the findings of this study and discuss its implications as to how SoTL is defined at various levels of the 4M framework, which connects micro-meso-macro-mega levels, which in this case are individual-departmental-institutional-inter-institutional levels (Friberg, 2016; Simmons, 2016; 2020).

Methods

This paper focuses on one research question drawn from a larger environmental scan of teaching and learning scholarship at McMaster University, a research-intensive university in Ontario, Canada (Harvey et al., 2022). The broader environmental scan was in response to a strategic initiative that called for creating a campus-wide shared understanding of the value of SoTL based on a campus-wide inventory of the type and valuation of SoTL scholarship undertaken by faculty, staff, and students (Quinnell et al., 2010; Secret et al., 2011). Herein, we asked: How do faculty, staff, and students label and describe systematic inquiry into teaching and learning? Formulating this question was inherently challenging, as the research team needed to choose a label for teaching and learning inquiry that clearly articulated the aims of the research without demonstrating a preference for any one particular disciplinary tradition. Hence, we choose "systematic inquiry" as a neutral that speaks to taking a methodological approach to examining or investigating teaching and learning practice (Felton, 2013; Elon University, 2023).

Data Collection and Analysis

To answer our research question, we collected data in threefold ways. We first mined academic journal titles as a means of identifying the names commonly used to describe systematic inquiry into teaching and learning. Then, after the collection of data from human subjects research design was approved by the McMaster University Research Ethics Board (MREB#5390), we conducted a survey of the university's faculty, staff, and students asking for the labels they most frequently use to describe systematic inquiry into teaching and learning. Lastly, we conducted interviews with faculty who perform research related to education, teaching, and learning to ask about the most common terms for systematic inquiry into teaching and learning that are used in their discipline and department, as well as ask what those terms mean to the interviewee.

Journal Mining

We mined the titles of academic journals as a means of identifying the names commonly used to describe systematic inquiry into teaching and learning. Our inclusion criteria were titles of journals focused on publishing educational research, as well as journals whose aims are to publish education research in post-secondary contexts more broadly. Our exclusion criteria were journals focused on early childhood development, primary, and/or secondary schooling, and journals not published in English. We did not include individual articles in our analysis, but rather focused our analysis on the

titles of the academic journals. Our rationale for focusing on the names of the scientific journals was that the language used by the publisher would influence the language authors use when writing articles for a particular journal, as well as discourse more broadly. Using the McMaster University library catalogue for journals, we searched for journals with one or more of the following in their titles: "educat*" or "teach*" or "learn*" or "pedagog*" or "andragogy*." We supplemented with several scholarship of teaching and learning library guides and databases (See Table 1).

Table 1: Library guides and databases consulted.

https://libguides.mcmaster.ca/sotl
https://www.scimagojr.com/journalrank.php?category=3304
https://cetl.kennesaw.edu/teaching-journals-directory
https://guides.library.utoronto.ca/SOTL_journals_databases
https://dal.ca.libguides.com/clt/sotl/journals

Survey

We disseminated our survey the summer of 2021. We invited all faculty, staff, and students who work in a teaching and/or research capacity to complete a survey aimed at ascertaining the breadth of teaching and learning scholarship taking place across the various faculties at the university. In our recruitment efforts, we emailed the invitation to participate in the survey to the Deans of each Faculty/School and Chair of each department asking that they share the invitation within their Faculty/School and department, included the invitation to participate on the teaching and learning centre's weekly newsletter for approximately one month, and posted the invitation to participate on the teaching and learning centre's website.

Ultimately, 56 individuals from all disciplinary backgrounds represented at the university completed the survey (see Table 2).

Table 2. Survey respondent Faculty affiliation at McMaster University. N=56. Examples of "Other" category affiliations included multidisciplinary appointments and the Teaching and Learning Centre.

Faculty	**Respondents (%)**	**Respondents (N)**
Science	23.2	13
Health Sciences	21.4	12
Engineering	17.9	10
Humanities	12.5	7
Social Sciences	7.1	4
Business	3.6	2
Other	7.1	4
Prefer not to disclose	7.1	4
Total	**100**	**56**

Of these, all had conducted some form of research on teaching and learning in the past five years. Participants represented each of the university's Faculties/schools: Science (23%), Health Sciences (21%), Engineering (18%), Humanities (13%), Social Sciences (7%), and Business (4%). An addition 7% represented multidisciplinary and cross-faculty affiliations. Respondents also represented all ranks: research-track faculty members (52%), teaching-track faculty (14%), sessional or

contractually limited appointment instructors (16%), postdoctoral fellows (7%), graduate students (5%) and instructional or research assistants (4%) (Table 3).

Table 3. Survey respondent position at McMaster University. Respondents could select multiple responses. N=56. Examples of role descriptions in the "Other" category include Research Coordinator, Assistant Dean, and recently completed Postdoctoral Fellow.

Position	Respondents (%)	Respondents (N)
Professor (Research-Track)	10.7	6
Associate Professor (Research-Track)	21.4	12
Assistant Professor (Research-Track)	19.6	11
Professor (Teaching-Track)	0.0	0
Associate Professor (Teaching-Track)	12.5	7
Assistant Professor (Teaching-Track)	1.8	1
Contractually Limited Appointment	8.9	5
Sessional Instructor	8.9	5
Postdoctoral Fellow	7.1	4
Graduate Student	5.4	3
Instructional Assistant	1.8	1
Research Assistant	1.8	1
Staff	16.1	9
Other	8.9	5

Two members of the research team performed statistical analysis of the survey data using SPSS version 26.0 (IBM Corporation, Armonk, United States), generating descriptive statistics for each question. The sub-question response rates varied between 92.8-100%.

Interviews

Once individuals completed the survey, they were invited to partake in a semi-structured interview. From our larger sample, eight faculty members agreed to participate in an interview (See Table 4).

Table 4: Participant Characteristics – Interview.

Attribute	Respondents (%)	Respondents (N)
Gender	Women 50% Men 50%	Women N = 4 Men N = 4
Race	Caucasian 100%	Caucasian N = 8
Primary Faculty (aka "School" or "College") Affiliation	Science 37.5% Health Science 25% Social Science 25% Engineering 12.5%	Science N = 3 Health Science N = 2 Social Science N = 2 Engineering N = 1
Rank	Full Professor 25% Associate Professor 50% Assistant Professor 12.5% Contractually Limited Appointment 12.5%	Full Professor N = 2 Associate Professor N = 4 Assistant Professor N = 1 Contractually Limited Appointment N = 1

Members of the research team facilitated these interviews virtually, using Zoom, over the summer of 2021. After each interview, we cleaned and de-identified the transcripts generated via Zoom and subsequently deleted the video/audio recordings of each interview.

From an interpretive and reflexive perspective, we used a thematic analysis approach to make meaning of the interview data (Braun & Clarke, 2006; 2021). Following Braun and Clarke's (2006) six-steps for conducting thematic analysis, we first read each transcript to familiarize ourselves with the data. We subsequently abstracted data from the transcripts pertaining to our research question. Meaning, we highlighted data pertaining to the how faculty, staff, and students label and describe systematic inquiry into teaching and learning and transferred this data from all eight interview transcripts onto another word document. We (KH, AM, MC-N, FK, JK) then independently engaged in open coding, assigning initial codes to the abstracted data. The coders met to discuss their initial codes and potential themes we each identified in the data. In keeping with the ethos of partnership in higher education (Healey, Flint, & Harrington, 2014), the intent of these meetings was not to reach intercoder 'consensus,' a process that has been criticized for unifying divergent researcher perspectives and privileging the perspectives of the individual(s) in power on research team (Smith & McGannon, 2018). Rather, being a reflexive and interpretive process, we used these meetings as opportunities to discuss and deepen our individual and collective understandings of the data and one another's interpretations.

Themes, according to Braun and Clarke (2019) "are creative and interpretive stories about the data, produced at the intersection of the reviewer's theoretical assumptions, their analysis resources and skill, and the data themselves' (p. 594). With this in mind, we generated initial themes by determining which data was most significant and interesting (Braun & Clarke, 2006) with regards to answering our research question. We next reviewed our themes, asking if they met the criteria for rigour in that they were grounded in the data (Braun & Clarke, 2006) and were "the product of deep and prolonged data immersion, thoughtfulness and reflection" (Braun & Clarke, 2019, p. 591) on our part as researchers. In these discussions, we defined our themes to determine their 'essence' (Braun & Clarke, 2006, p. 92) (See Table 5).

Table 5: Themes identified in the data and their meanings.

Theme	**Example codes that fall under this theme**	**'Essence' or meaning of the theme**
Conceptualizing SoTL from a disciplinary lens	Institutional identity; disciplinary names for SoTL; opinion versus science; disciplinary debates over educational substantive areas; assessed within discipline; no/de-emphasis on SoTL; SoTL as second class; conflating SoTL with passion for teaching; lack of communication as to what counts as SoTL; everyone can do SoTL	Institutional structures in higher education are built around disciplinary silos. Therefore, without a shared institutional definition of SoTL, disciplinary norms are used to assess SoTL work, resulting in misunderstandings as to what is SoTL and a de-valuation of SoTL.
Contextually-dependent terminology	Personal definitions; relationship to general terms; general terminology; tensions regarding research versus scholarship; SoTL = research; relatable and familiar terms; too	Individuals used terms that they perceived as accessible and familiar to them and the disciplines into which they were enculturated. People would use these terms situationally, according to

	many confusing acronyms; SoTL as inaccessible	what fit the particular context in which they found themselves.
SoTL: learning comes second	Scholarship of teaching and learning versus scholarship of learning and teaching; student exposure to SoTL	Some interviewees described the need to emphasize and prioritize students, and student learning, in SoTL as symbolized by putting learning first.

Framework

Braun and Clarke (2019) describe making sense of the data as an act of meaning-making. Herein, researchers aim to contextualize the data in the sociocultural and political landscape during which the data were collected, as well as reflecting on their positions/relationships as researchers to the data and those who participated in the research. Toward this aim, we wrote up our analysis, alongside our findings from the survey and journal title mining data (reported in the section that follows) and related our findings to the 4M framework. The 4Ms refer to the micro-meso-macro-mega levels, which in this case are individual-departmental-institutional-inter-institutional levels (Friberg, 2016; Simmons, 2016; 2020). We thought this was an apt framework, because it was the same framework employed in research regarding of the state of SoTL in Canada more broadly (Wuetherick & Yu, 2016) wherein this study took place. This extant national research was also an inspiration for this present institutional research, and so mapping our findings onto the 4M framework meant we could make meaningful comparisons as an institution to the larger national landscape.

Findings

In the following section, we first share the findings from our journal title mining findings, breaking these findings down by journal type and by frequency of terminology within titles. We then share the results of the survey we disseminated to faculty, staff, and students at McMaster University to understand the range of ways they name and describe systematic inquiry into teaching and learning. Here, we describe the number of terms and most frequently reported terms individuals use. Finally, we share the findings from interviews, broken down into the three aforementioned themes (Conceptualizing SoTL from a disciplinary lens; Contextually-dependent terminology; and SoTL: learning comes second) with faculty members to contextualized how and why they use the terms they use. In the subsequent analysis, we relate the findings that follow to the aforementioned 4M framework.

Journal Title Mining

Our search yielded 295 journals that publish teaching and learning research in higher education. Of these, 73% were disciplinary journals (e.g., *The Journal of Business Education*), 21% were higher education journals (e.g., *Journal of the Scholarship of Teaching and Learning*), and 18% were multi/inter/trans-disciplinary journals (e.g., *Journal of Interdisciplinary Education*) (see Table 6).

Table 6. Breakdown of Journals that Publish Teaching and Learning Research by Type. Journal subcategory for disciplinary journals are organized by the major Faculties (known as 'schools' or 'colleges' in other institutional contexts) at McMaster University.

Journal Type	Journal Subcategory	Number of Journals	Percent of Total
Disciplinary Journals		**T disciplinary = 214**	**72.5%**
	Business	25	
	Engineering	17	
	Health	33	
	Humanities	49	
	Science	56	
	Social Science	22	
	Other Disc	12	
Educational Journals		**T educational = 63**	**21.4%**
	Higher Education	37	
	Educational Technologies	18	
	Other Education	8	
Interdisciplinary Journals		**T interdisciplinary = 18**	**6.1%**
		Grand Total = 295	100%

In regard to the most common terms found in these 295 journal titles, the most frequently found overall was "education" (see Table 7).

Table 7. Breakdown of Most Common Terms in Journal Titles. Reported by frequency (number count) and percent of total sample and percent by journal type (disciplinary, education, and interdisciplinary journals respectively).

Term	Number / Percent Total Sample	Number / Percent Disciplinary Journals	Number / Percent Education Journals	Number / Percent Interdisciplinary Journals
Education	N = 198 (67.1%)	N = 142 (66.3%)	N = 41 (67.2%)	N = 15 (83.3%)
Teaching	N = 37 (12.5%)	N = 25 (11.7%)	N = 12 (19.7%)	N = 0 (0%)
Learning	N = 28 (9.5%)	N = 11 (5.1%)	N = 16 (26.2%)	N = 1 (5.56%)
Pedagogy	N = 28 (9.5%)	N = 19 (8.9%)	N = 8 (13.1%)	N = 1 (5.56%)
Research	N = 26 (8.8%)	N = 18 (8.4%)	N = 7 (11.5%)	N = 1 (5.56%)
Studies	N = 12 (4.1%)	N = 12 (5.6%)	N = 0 (0%)	N = 0 (0%)
Scholarship	N = 7 (2.4%)	N = 4 (1.9%)	N = 3 (4.9%)	N = 0 (0%)
Instruction	N = 2 (.7%)	N = 0 (0%)	N = 1 (1.6%)	N = 1 (5.56%)
Andragogy	N = 0 (0%)	N = 0 (0%)	N = 0 (0%)	N = 0 (0%)

This is echoed in the disciplinary, educational, and interdisciplinary journals, with "education" being the most frequently found term within each respective category. Although there was some variation within subcategories, "teaching" and "learning" were the second most frequently found terms, along with "pedagogy" and "research." "Scholarship" and "instruction" were infrequent in the

journal titles, and despite a targeted search, we were unable to identify any journals with "andragogy" in their titles.

Survey

We asked survey respondents about the terms they use to describe systematic inquiry on teaching- and learning-related topics. Respondents could select more than one response (See Table 8).

Table 8. Number of Terms used to Describe Systemic Inquiry on Teaching and Learning Topics. Respondents could select multiple responses. N=56. Respondents selecting "Other" and providing additional terminology was counted as one term.

Number of Terms Used	Respondents (%)	Respondents (N)
1	10.7	6
2	25.0	14
3	26.8	15
4	16.1	9
5	12.5	7
6	3.6	2
7	1.8	1
8	3.6	2

Reponses ranged from 1-8 distinct terms, and a median number of terms being 3.

The survey results pointed to "pedagogical research" (73%), being the most frequently used term by respondents' systematic inquiry on teaching- and learning-related topics (see Figure 1).

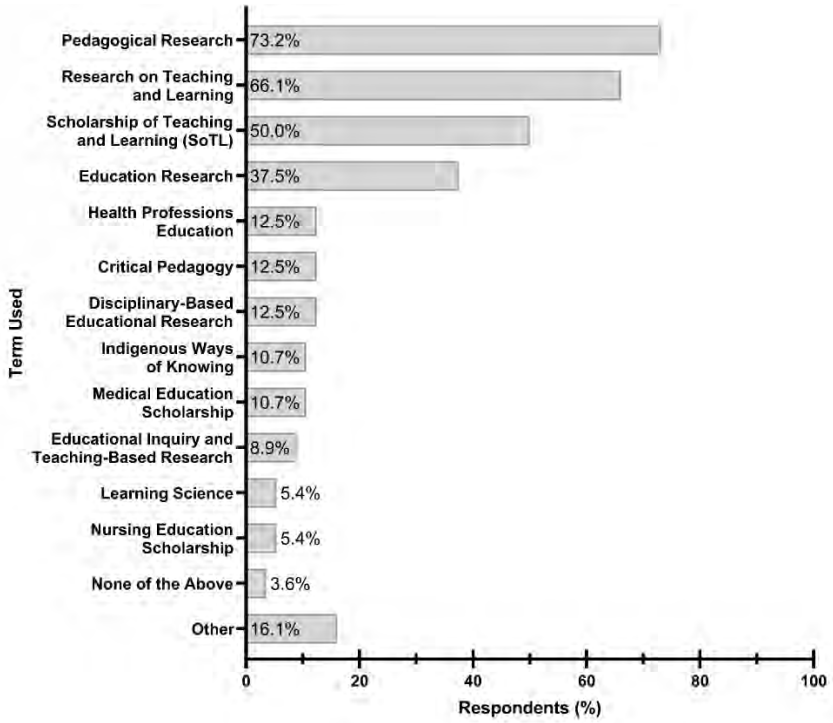

Figure 1. Terms used by respondents to describe teaching and learning research reported as percentages. N = 56. Respondents could select multiple responses.

The next most frequent terms were "research on teaching and learning" (66%), followed by "scholarship of teaching and learning (SoTL)" (50%), and "education research" (38%). Less frequent terms included: health professions education (12.5%), critical pedagogy (12.5%), disciplinary-based terminology (12.5%), Indigenous ways of knowing (10.7%), medical education scholarship (10.7%) and (Figure 1).1 Notably, a number of respondents (16%) reported using terms not listed in the survey. Examples of these "Other" terms used included: Education Cognition Research, Anti-Racist Pedagogies, Health Education Scholarship, and Education Science.

Interviews

Conceptualizing SoTL from a disciplinary lens

We defined this first theme, Conceptualizing SoTL from a disciplinary lens, as relating to how the institutional structures in higher education are built around disciplinary silos. At McMaster University, where this study took place, similar disciplines are housed within a Faculty (known as a School or College in other contexts). A Dean will provide guidance and leadership for each faculty, which is comprised of many disciplines that are led by department chairs. Findings in this theme speak to how this institutional organization around disciplines, in absence of a shared institutional definition of SoTL, meant that disciplinary norms were used to assess SoTL work, resulting in a de-valuation of SoTL.

When asked, how they describe systematic inquiry into teaching and learning, most faculty, like Dr. One, primarily spoke of their work in disciplinary specific terms, such as Engineering Education, Math Education, etc.):

> In the [disciplinary] area that I publish in, no one would call it, nobody calls it SoTL. In fact, the journal *[Discipline] Education*, … in no paper that I've ever reviewed in the [journal], [and] I'm on the board, have I ever seen that word.

This example also speaks to disciplinary siloing within the particular journal to which Dr. One claims there is no space for SoTL. Dr. Two explained that the reason SoTL was not recognized by some disciplines was because "in [my discipline] we typically see very, very narrow--and SoTL is much, much broader than reality." Meaning, SoTL is a multi-, inter-, and transdisciplinary, which does not fit well into a disciplinary lens.

Faculty shared that the valuation of disciplinary terms over broader, interdisciplinary terms led to SoTL being de-emphasized and subsequently devalued. For example, Dr. Three stated that he "would have never gotten tenure if [he] only published in [disciplinary] education." This is because of the ways in which faculty's work toward tenure and promotion was assessed within the university. Dr. Four described this process, indicating that, "95% of the time that person's research is going to be looked at by people who are in that discipline research field who have not engaged fulsomely, maybe dabbled, but not engaged fulsomely in pedagogical or educational research." Thus, the committee members appraising peers' work were comprised of those within one's discipline. This meant that those engaged in SoTL work had their scholarship appraised by disciplinary peers, rather than fellow SoTL practitioners. The result was ontological and epistemological debates as to what constitutes research and scholarship. As Dr. Five put it:

> The scholarship of teaching and learning in [my discipline], it's often very quantitative experimental type research, because that is what is familiar to [the discipline]. They want to find ways to value-non-traditional scholarly outputs and they just don't know how.

As a result, some faculty, like Dr. Five, felt that their SoTL work was misunderstood if they strayed outside of disciplinary norms. The result of straying outside disciplinary lines meant one's work was seen as less rigorous than disciplinary research, or as Dr. One stated, other faculty see is as "a second-class thing."

Faculty also expressed hope. The university had just launched a new Teaching and Learning Strategy (McMaster University, 2021), which to them signaled a first step in recognize SoTL work. Previous steps taken to value teaching was the establishment of Teaching Track positions wherein faculty workload was typically 80% teaching (about 4 courses per term) and 20% service with little to no research expectations. This is in stark contrast to Research Track appointments at 40% teaching (about 2 courses per term), 40% research, and 20% service. Dr. Six, explained the significance of this:

> …It's a research university anyway, but I do, you know, each faculty and department, they all have Teaching Track positions. So certainly, in the past number of years, it's becoming more formally recognized and people are formally recognized for their interest in and for what they do.

Thus, faculty's hope was that this research-intensive university was making strides toward valuing teaching, student learning experiences, and SoTL by embedding these values into policy and practices. The next step, which was the aim and outcome of the larger study from which these interviews were taken, was to institute a shared terminology for SoTL that would embody this valuation of teaching, student learning experiences, and SoTL. However, since no shared framework yet existed, faculty relied on the contexts in which they were positioned for selecting the appropriate terminology to describe teaching and learning inquiry, as is the subject of the next theme.

Contextually-dependent terminology

This second theme, contextually-dependent terminology, builds upon the previous theme. Findings herein speak to the ways in which individuals would use certain terms – education, pedagogy, SoTL, etc. – situationally and in accordance with what fit the particular context in which they found themselves. As above, many faculty members expressed a preference for the disciplinary terms with which they were familiar and into which they were enculturated. What this further means is that faculty would also describe how they would use additional terms they perceived as accessible to the audience (e.g., students, teaching and learning centre staff, disciplinary colleagues). In this section, we will share two examples as to how and when these faculty would employ different terms in different contexts. The first example comes from an account by Dr. One:

> I think if you asked anybody in my group, it would be just education research. Stop. That's all anyone would say, no one would say SoTL. That's a term that gets used a lot at meetings that are about SoTL, but once you get outside of there, or in small groups, everyone just calls it education research.

This was echoed by Dr. Four, who shared:

> We tend to use scholarship of teaching and learning to be a very broad term encompassing, but not limited to, actually doing some kind of research. Whereas we tend to use, in my area 'pedagogical research' seems to be a fairly dominant term.

In these examples, both faculty members acknowledge that SoTL is used in certain social networks, and as such they were familiar with and would use this acronym in such circumstances. In their departmental and disciplinary networks, other terms were considered the norm. However, it is also evident that SoTL is used by both in certain broad, cross-disciplinary contexts. Dr. Eight too would employ SoTL in broad, cross-disciplinary contexts that they described as both formal and informal: "so I would talk about the scholarship on teaching and learning and use it in ways that have been sometimes more formalized, sometimes less formalized."

Faculty not only described using different terms with one another, depending on context, but also described using different terms when speaking with students. For instance, Dr. Seven shared, "I tend to use scholarship and teaching and learning with collaborators, but more often than not, when I'm speaking more colloquially or with students, [I] use the term pedagogical research." The rational for this division, Dr. Seven stated, was "we already bombard them with a lot of acronyms anyway" and I "already talk about with my students 'what is pedagogy.' And so, this is pedagogical research. I think it's just it's a better use of terminology, to facilitate understanding." This SoTL/pedagogy terminology implies a symbolic division between faculty and students. This is a potential barrier for SoTL, which is implied by this account as being inaccessible given the use of acronyms to denote outsiders who would not know the meaning of SoTL and insiders for whom SoTL is shared jargon.

SoTL: learning comes second

The faculty interviewed all employed students in their SoTL work and many were actively involved in the university's Students as Partners program, which aims to empower students in higher education teaching and learn research and practice (Healey et al., 2014). Aligned with this ethos of student empowerment, this final theme – SoTL: learning comes second – is intended to highlight the need for emphasizing and prioritizing students, and student learning, in SoTL.

While many faculty members spoke to the importance of students in SoTL, this theme was best represented Dr. Seven, who raised that "I think it's becoming a bit of an issue for me that the teaching comes first in that acronym, and I want it to be learning and teaching." They also mused that "learning and teaching, teaching and learning, you know it's a yin and a yang there-reciprocal, synonymous." Although reciprocal and synonymous, this faculty member still felt strongly about positioning students first. This is further exemplified by this journal's very own statement that, "articles should address both teaching and the *learning* that takes place in higher education" (IUScholarWorks Journals, 2022). This emphasis on learning and the symbolism of placing learning before teaching in the reconfigured Scholarship and Learning and Teaching implies an opportunity to prioritize student learning experiences to an even greater degree. Admittedly, while we (a research team comprised of students and a postdoctoral fellow) did include student perspectives in the survey for this study, the implications of the terminology people use and that institutions endorse on learning experiences is unknown. We will examine this further, as well as how the findings map onto the 4M framework, in the discussion that follows.

Discussion

We found some interesting dichotomies between the findings from the three data collection methods. The journal title findings revealed that collectively the disciplinary journals devoted to publishing teaching and learning research far exceed that of educational and interdisciplinary journals. It is notable to highlight, however, that the number of journals within each individual discipline is comparable to the respective number of education and interdisciplinary journals. Regardless of journal type, we found 'education' to be far the most common term in journal titles. This is in contrast to "education research"

being reported by survey respondents as being used less often than "pedagogical research," "research on teaching and learning," and "scholarship of teaching and learning." The survey also revealed that faculty, staff, and student respondents are often flexible in what terminology they use to describe teaching and learning research, using upwards of eight different terms. In the discussion that follows, we consider the meanings of these findings according to the 4M framework of higher education: 1) the micro, or individual classroom, level wherein individual instructors and students might employ different terminology; 2) the meso, or departmental, level that might promote more disciplinary traditions related to teaching, learning, and research; 3) the macro, or institutional, level, which in this study speaks to the efforts of the university to identify and endorse a common term for SoTL; and 4) the mega, or inter-institutional, level where multiple institutions interact, such as within academic journals, at conferences, and through academic societies (Friberg, 2016; Simmons, 2016; Tight, 2018).

At the micro level, this research demonstrates that individuals would adapt their use of terminology to fit the context, sometimes using a median number of three distinct terms. It is possible that some individuals use these terms interchangeably, not knowing the differences between SoTL, pedagogical research, education research, etc. (Tight, 2018). However, it might also be that some individuals strategically employ different terms in different contexts. For example, we found that when speaking with students, some faculty described using terms with which students were most familiar; whereas, when speaking with colleagues, faculty would often use disciplinary-specific terminology. This practice is aligned with (Quinnell et al.,'s (2010) recommendation of translating SoTL into disciplinary contexts to appeal to disciplinary scholars. Moreover, some individuals would use terms to signal their positionality and values. This was the case for one faculty member who spoke of positioning learning before teaching in SoTL so as to students' experiences. Extant research has found that some individuals undertaking SoTL work would employ different terminology that they felt was more institutionally accepted and valued (Harland et al., 2014). Therefore, if seeking to adopt a shared institutional terminology for SoTL, it is imperative to understand and examine the institutional influences governing the terminology individuals' employ, so as to not inadvertently favor one disciplinary tradition over others.

At the meso, or departmental, level, it remains important to speak the language of other disciplines (Kolomitro et al., 2018; Quinnell et al., 2010). We see this reflected in the journal data reported herein whereby disciplinary journals made up the majority of education-related outlets for dissemination, but also in the interview responses extoling the institutional requirements for publishing in one's discipline. Daniel and Chew (2013) caution that disciplinary terminology can contribute to tribalism, as well as divisions between individual scholars and across disciplines. For this reason, the results of this study are being leveraged by institutional leaders to embed a valuation of SoTL into policies related to tenure, promotion, and permanence (Harvey et al., 2022). Indeed, other large, research-intensive universities have seen progress and successes when tenure, promotion, and permanence policies include SoTL (Marcketti & Freeman, 2016; Secret et al., 2011) Such policies are especially important for institutions, like McMaster University where the study was conducted, that offer teaching- and research-stream appointments for faculty. That is because teaching-focused faculty have been found to adopt broader teaching-focused definitions of SoTL, while research-focused faculty have favored narrower definitions of SoTL limited to prospects for publication (Secret et al., 2011). The hope is that an institutional valuation of SoTL will change the cultures within departments to attribute greater value to SoTL, thus bridging the divide between teaching and research (Marcketti & Freeman, 2016; Secret et al., 2011; Tight, 2018).

At the macro level, there are myriad examples emerging in the literature of adopting institution-wide language for SoTL. Vithal (2018) described an organic process of permitting the definition of SoTL to evolve alongside institutional norms and culture. Conversely, Delgarno et al., (2020) explained that SoTL did not resonate at their institution and instead adopted a different term.

This lack of resonance with SoTL may be explained by Boshier (2009), who claimed that SoTL is "a hard sell, particularly in research-intensive universities" (p. 12). This was the case in this study. While survey respondents most frequently reported using "education research," the institution choose to promote "research on teaching and learning" as the preferred term, as this was the second most-frequently used term and the phrasing was aligned with the institution's recent Teaching and Learning Strategy (Harvey et al., 2022; McMaster University, 2021). However, the terminology "research on teaching and learning" further demarcates research from other forms of scholarship under the umbrella of SoTL (Tight, 2018).

Adopting an institutionally recognized term for SoTL can create institutional cohesion, possibly fostering collaboration over tribalism. Adopting a different term other than SoTL, when SoTL does not resonate in the local context, is aligned with Webb's (2020) caution that (g)local definitions that bridge global and local conceptualizations of SoTL are necessary (Simmons & Marquis, 2017; Webb, 2020). At the mega level, SoTL transcends disciplinary and geographic boundaries, thus bringing together individuals from any discipline and from institutional in any country (Chen, 2021; Miller-Young et al., 2017; West & Stephenson, 2016). This connective quality of SoTL has been described as relational (Webb, 2020). It is thus important to critically question and examine the impact of the incoherence of aligning local terminologies with the global SoTL movement, as opposed to imposing a definition of SoTL derived from the literature onto a local, institutional context (West & Stephenson, 2016).

Implications for practice

This research contributes to ongoing conversations seeking to define SoTL at the national (Wuetherick & Yu, 2016) and institutional (Delgarno et al.'s (2020) contexts (Simmons & Marquis, 2017). Institutions looking to replicate these studies should be mindful of consulting faculty, staff, and students when seeking to adopt an institution-wide, shared terminology. Doing so provides a research-supported and transparent foundation for choosing a terminology that will be shared across all disciplines at a given institution. Moreover, as this study emphasized, the involvement of students in this process can ensure that student voices are included in the consultation process and can serve as a means of emphasizing learning alongside teaching.

In the case of McMaster University, where this study took place, this examination has served as a catalyst for initiating wider discussions within the institution and establishing new committees dedicated to defining, valuing and then integrating SoTL practices in career advancement policies, procedures and practices. As part of this process, the adopted terminology is now being drafted into institutional policies so that SoTL work can be recognized in faculty and staff tenure and promotion cases, as well as position descriptions upon hiring, across all disciplines (Marcketti & Freeman, 2016; also see Suart et al., 2023 for more ways in which teaching and learning centres can support SoTL research at their institutions). The shared institutional terminology facilitates this process across academic units. That said, the institution emphasizes that encompassed within the shared terminology are all of the disciplinary and contextual words and phrases used to describe SoTL (Harvey et al., 2022). Meaning, faculty, staff, and students do not need to use the shared terminology in their work, as this would be incompatible with the terms used in journals, within disciplinary associations, when working with students, or when associating with the international SoTL community. Rather, the shared terminology is to facilitate inter-institutional communication and bridge differences across campus.

Conclusion

Collectively, this study speaks to the ongoing tensions with defining and demarcating the bounds of SoTL (Simmons & Marquis, 2017). It is evident that there are many definitions related to SoTL work that interact at various levels of influence, with individual subjective definitions being governed by contextual and institutional factors, as well as disciplinary norms and institutional cultures. Navigating these tensions and interactions posed to be a challenge for advancing a shared institutional language for systematic inquiry into teaching and learning, without favouring any one particular disciplinary tradition. This study provides another case example of how local and global definitions of SoTL continue co co-evolve; however, it is unknown whether these efforts will bring about the culture change necessary to bridge the gap between teaching practice and research at McMaster University.

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