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Leadership for the Scholarship of Teaching and Learning: Understanding Bridges and Gaps in Practice

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Abstract

The gap between the practice of individual academics based on the ideal of the SoTL—improving student learning—and the institutional infrastructure and leadership to support that work is an ongoing challenge to the development of the field (Hutchings, Huber, & Ciccone, 2011; Poole, Taylor, & Thompson, 2007; Simmons, forthcoming). To better understand how individuals in diverse roles contribute to the development of the SoTL in the context of their institutional cultures, this study examined how faculty, educational developers (EDs), and administrators enact SoTL leadership. A grounded theory approach (Leedy & Ormrod, 2001) guided the development of a survey that used closed and open-ended questions to invite respondents to share their personal conceptions and lived experiences of the SoTL. Drawing on the responses received (n=75), we identified ways faculty, educational developers, and administrators construe their SoTL leadership roles and how they can fulfill a vital role in facilitating leadership across and beyond their institutions to create critical social networks for SoTL work (Mårtensson, Roxå, & Olsson, 2012; Williams et al., 2013) and contribute to institutional cultures that support and value that work. The results reveal how gaps between the work of individual scholars and the cultures of their academic communities are being bridged through diverse leadership roles that cross multiple levels in their institutions and identify some of the gaps that remain.

L'écart qui existe entre la pratique de certains professeurs basée sur l'idéal de l'ACEA – améliorer l'apprentissage des étudiants – et l'infrastructure et le leadership institutionnels en place pour soutenir ce travail est un défi continu pour le développement de la discipline (Hutchings, Huber et Ciccone, 2011; Poole, Taylor et Thompson, 2007; Simmons, à venir). Afin de mieux comprendre la manière dont les professeurs, dans leurs divers rôles, contribuent au développement de l'ACEA dans le contexte de la culture de leurs établissements, cette étude examine comment les professeurs, les conseillers pédagogiques et les administrateurs assurent le leadership en ACEA. Une approche basée sur la théorie ancrée (Leedy et Ormrod, 2001) a guidé le développement d'une enquête qui comportait des questions fermées et des questions ouvertes pour inviter les répondants à partager leurs conceptions personnelles et leurs expériences vécues en matière d'ACEA. À partir des réponses obtenues (n=75), nous avons identifié des manières selon lesquelles les professeurs, les conseillers pédagogiques et les administrateurs interprètent leurs rôles en matière de leadership en ACEA et comment ils peuvent jouer un rôle essentiel pour faciliter le leadership au sein de leurs établissements et au-delà afin de créer des réseaux sociaux essentiels au travail de l'ACEA (Mårtensson, Roxå et Olsson, 2012; Williams et al, 2013) et de contribuer à la culture institutionnelle qui soutient et valorise ce travail. Les résultats révèlent comment les écarts entre le travail de professeurs individuels et la culture de leur communauté universitaire sont comblés par le biais de divers rôles de leadership qui traversent plusieurs niveaux au sein de leurs établissements et identifient certains des écarts qui subsistent.

The Scholarship of Teaching and Learning (SoTL) is a genre of inquiry dedicated to understanding and enhancing students' learning in a particular context (Huber & Hutchings, 2005; Hutchings, Huber, & Ciccone, 2011). Although there is a long history of research on teaching and learning in some disciplines, the evolution of a more wide-reaching SoTL in North America in particular was energized by the vision of leaders such as Boyer (1990) and Rice (1996) and supported through initiatives of the Carnegie Foundation (e.g., Huber & Hutchings, 2005; Huber & Morreale, 2002; Hutchings et. al., 2011; Hutchings & Shulman, 1999). These initiatives explored how diverse approaches to inquiry can contribute to our collective knowledge not only about how postsecondary students learn, but also about how college and university faculty learn about teaching and learning (Huber & Morreale, 2002; Hutchings, et al., 2011). The idea of conducting inquiry to enhance the learning experiences of our students captured the imaginations of academics across diverse disciplines and grass-roots support for the SoTL began to take hold. The challenge to the development of the field then became the gap between the practice of individual academics based on the ideal of the SoTL—improving student learning—and the institutional infrastructure and leadership to support that work (Poole, Taylor, & Thompson, 2007; Simmons, forthcoming).

Faculty, educational developers (EDs), administrators, and students can all act as leaders in promoting, sustaining, and providing leadership for the SoTL. At the same time, institutional culture—those "embedded patterns, behaviours, shared values, beliefs, and ideologies of an institution" (Kezar & Eckel as cited in Kustra et al., 2014, p. 6) – influences how the SoTL can become authentically integrated in an institution's vision, its efforts to enhance student learning, resources to support the development of SoTL inquiry, and the ways faculty roles are defined and rewarded (Hutchings, et al., 2011; Miller-Young et al., 2017).

To better understand how individuals in diverse roles contribute to the development of the SoTL in the context of their institutional cultures, this study examined how faculty, educational developers (EDs), and administrators support the SoTL, advocate for it, and actively build SoTL communities - in short, how they enact SoTL leadership. In this paper, we report on the results of a survey designed to make explicit the roles of these leaders. The results reveal how gaps between the work of individual scholars and the cultures of their academic communities are being bridged through diverse leadership roles and across multiple levels in their institutions, as well as some of the gaps that remain.

Dimensions of SoTL Leadership

Lucas (1994) painted an inspiring picture of academic leadership practice, noting the ways in which

> leaders create a shared vision, energize others by communicating that vision at many levels, stimulate others to think in different ways and to excel, give individual consideration to others, and provide an organizational climate that helps others to accomplish activities of value and feel appreciated. (p. 47)

This conception of leadership is also reflected in an established literature that describes the characteristics of effective leaders. Strong leaders create a vision that resonates with a community (Kouzes & Posner, 2012; Ramsden, 1998). They recognize opportunities to learn and improve, collaborate, believe in others, enable others to act, provide opportunities to lead, and share

responsibility (Kouzes & Posner, 2012; Ramsden, 1998). Effective leaders acknowledge organizations are complex systems (Senge, 2006) and that leadership is a distributed resource (Bolden, 2011; Creanor, 2014).

But what do these characteristics look like in practice? Hannah and Lester (2009) argue that the role of leaders in learning organizations is to be "social architects and orchestrators" of processes that support "developing individual learners and effective social networks that then serve to promote organizational learning" (p. 35). In a social network context, leadership is distributed across people in diverse roles and tends to emerge from, rather than direct, learning and problem-solving activities (Bennett, Harvey, Wise, & Woods, 2003; Bolden, 2011; Bolden, Petrov, & Gosling, 2008). Leaders need not be in formal leadership roles, but rather are those engaged in activities that support others' work. In practice, such leaders facilitate engagement, connections, collaborations, and advocacy across institutional boundaries (Hannah & Lester, 2009). These were the characteristics that we developed into the conceptual framework for our study.

Conceptual Framework and Method

To develop the conceptual framework used to map the ways in which participants in our study demonstrate leadership for the SoTL, we drew on existing literature to propose that leaders, both formal and informal, act to enable SoTL in the four dimensions of engagement, connection, collaboration, and advocacy (Hannah & Lester, 2009; Matthews et al., 2015; Roxå et al., 2011; Williams, Verwood, Beery, Dalton, McKinnon, Strickland, et al., 2013) (see Table 1). To verify the relevance of these dimensions in a SoTL context, we conducted a pilot study with colleagues who agreed that these four dimensions were relevant to their experiences and identified numerous examples of leadership in each of these dimensions. This characterization of leadership in practice informed the design of the survey and our interpretation of survey responses.

Table 1
Dimensions of SoTL Leadership[1]

Dimensions	Leadership Characteristics
Engagement	• Energize processes at individual, social network, and system levels with resources, encouragement, and recognition
Connection	• Identify and enable clusters of strong local discipline teaching and learning practice and scholarship • Actively connect clusters through shared interests; intentionally enhance and sustain connections between groups
Collaboration	• Foster collaboration to share and build practice, leadership, and knowledge
Advocacy	• Advocate for the SoTL to be valued, supported, and recognized and create a common vision • Integrate what is learned through these processes in institutional practices and policies

[1]Adapted from Hannah & Lester, 2009; Matthews et al., 2015; Roxå et al., 2011; Williams et al., 2013.

Our framework also acknowledges that academic work takes place in a complex "ecological" system (Bronfenbrenner, 1976). This model allows us to see the individual SoTL practitioner and his or her courses at the centre (micro) along with the other spheres of influence (meso, macro, mega) to which that individual contributes and which in turn influence his or her practice (see Figure 1). Micro refers to the individual level of activity and influence, meso to the department and faculty level, macro to the institutional level, and mega to disciplinary and interdisciplinary communities beyond the institution, typically at national and international levels (Simmons, forthcoming, 2016, 2011, 2009).
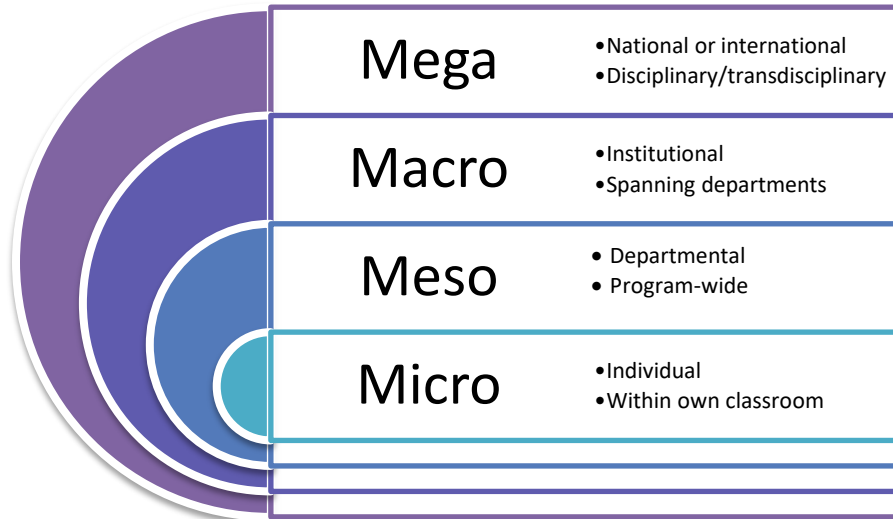

Mega
- National or international
- Disciplinary/transdisciplinary

Macro
- Institutional
- Spanning departments

Meso
- Departmental
- Program-wide

Micro
- Individual
- Within own classroom

Figure 1. SoTL's Ecological System (Simmons, 2011, and adapted from Bronfenbrenner, 1976)

Every field is shaped by communities in which the work of individual scholars is communicated, appreciated, discussed, critically assessed, recognized, and integrated in a larger body of knowledge (Brew, 1999; Rice, 1996; Shulman, 2002). Those communities exist at different, though intersecting, levels. Connections across these levels are not always robust. For instance, Poole et al. (2007) identified a significant gap between the practice of individual SoTL academics (micro level) and the institutional infrastructure that supports that work (meso and macro levels). While Ashwin and Trigwell (2004) noted that not all SoTL scholars seek impact beyond their own courses, Simmons (forthcoming) showed that SoTL scholars frequently express frustration that the impact of their work does not extend beyond their own teaching, despite their best efforts. In addition, Simmons (2016), in her synthesis of Canadian institutional case studies, noted the disconnect between practices at the micro (individual) level and SoTL's institutional impact. Creating infrastructure to support the SoTL within and across each of these levels requires leadership to intentionally cultivate the complex intellectual and social networks (Roxå & Mårtensson, 2009; Williams et al., 2013) that support knowledge creation, dissemination, and application.

Integrating dimensions of leadership with this ecological model, we developed a conceptual framework for the survey (Table 2) that asked participants to identify how they contributed to or experienced support with respect to engagement in the SoTL, connections they made in doing this work, their collaborations, and their involvement in advocacy.

Table 2
Conceptual Framework

	Micro *Individual*	Meso *Department/ Faculty*	Macro *Institution*	Mega *Discipline and interdisciplinary; national and international*
Engagement				
Connection				
Collaboration				
Advocacy				

Given the distributed nature of SoTL leadership and the reluctance of many to describe themselves as leaders (Palmer, 2000), we used a grounded theory approach (Leedy & Ormrod, 2001) to guide the development of a survey that used closed and open-ended questions to invite respondents to share their personal conceptions and lived experiences of the SoTL. While we note responses are therefore subjective and framed by individual's perceptions, the survey was designed to allow respondents' leadership contributions to emerge from their responses.

The survey collected basic demographic information and asked participants whether supporting SoTL was a formal or informal aspect of their roles. To explore the ways in which SoTL is supported (or not), we asked participants how they support SoTL and what institutional factors support or impede SoTL's growth. We also asked whether institutional data are collected about SoTL's impact. We used our conceptual framework to explore connections between participants' activities and the dimensions of leadership as identified by Hannah and Lester (2009). To identify areas of strength and gaps across levels in institutions, we asked participants to provide examples of their activities at clearly defined micro, meso, macro and mega levels. In addition, we asked them who supported their SoTL work (see the Appendix for the survey questions and definitions of dimensions and levels).

After obtaining Research Ethics Board approval, we emailed several academic listservs (The Society for Teaching and Learning in Higher Education (STLHE), the Educational Developers Caucus (EDC), The International Society for the Scholarship of Teaching and Learning (ISSoTL), and SoTL Canada) inviting members to participate in the study.

Results

Respondents (*n*=75) held different primary roles (administrators - 7, educational developers (EDs) - 35, faculty members - 30, students - 2, and other - 1)[1]. Drawing on the responses received, we identified ways faculty, educational developers and administrators construe their SoTL leadership roles and how they can fulfill a vital role in facilitating leadership across and beyond their institutions to create critical social networks for SoTL work (Mårtensson et al., 2012; Williams et al., 2013) and contribute to institutional cultures that support and value that work. We explored their perceptions in four areas: engagement (involving others and ourselves in the SoTL), connections (networking), collaborations (building on connections to work together), and advocacy (promoting the SoTL). Further, we consider how the results can inform how leaders can

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[1]The two student and one "other" responses generated only 5 of 475 records in total, and there were insufficient data to include these groups in the discussion of the results.

build "trading zones," or contexts for exchange of ideas and supports (Galison, 1997, p. 70; see also Huber & Hutchings, 2005) between micro, meso, macro, and mega levels to more effectively integrate the SoTL in academic work (Poole & Simmons, 2013; Simmons, forthcoming).

We mapped participants' responses onto a matrix defined by the conceptual framework developed for the study (Table 2). The completed matrix showed responses regarding supports and challenges for each dimension of leadership (engagement, connection, collaboration, advocacy) and at each organizational level (micro, meso, macro, or mega). We then coded these answers inductively to reveal categories, which were ranked based on frequency. We discussed the categories and, in collaboration, developed them into themes (Neuman, 1997).

Participants took diverse approaches to the ways they provided support for the SoTL and the themes that emerged varied depending on the question. The overarching themes (listed in order of frequency) became a third dimension of the analysis framework: providing resources (reported by 65% of respondents), building culture (12%), creating community (11%), building their own personal capacity (5%), and other (4%). Each theme is elaborated in Table 3.

Table 3

Approaches to SoTL Support Across all Levels (in order of frequency)

Theme	Comprises...	Sample Illustrative Quote
Resources 65% (49 of 75)	Providing literature, workshops, consultations, methods support, grant writing support	I provide research support: SoTL grant application preparation (workshops, one-to-one support); SoTL research methods support (workshops, one-to-one support); research implementation support (ED, formal) I've assisted colleagues in drafting research questions, understanding approaches to analysis, crafting SoTL inquiries, writing up papers. (Faculty, informal)
Culture 12% (9 of 75)	Advocating for a SoTL/teaching-focused institutional culture, getting SoTL language into promotion and tenure process	Championing institutional framework to support SoTL (Administrator, formal) Through advocacy on and off campus for the support of SoTL within and beyond my institutions. (ED, formal)
Community 11% (8 of 75)	Initiating and supporting SoTL groups	Host faculty learning community on SoTL (ED, informal) I am part of a facilitation team for a community of practice on SoTL (Faculty, informal)
Personal Capacity 5% (4 of 75)	Developing the respondent's own SoTL	I am actively involved in researching best educational practices, currently focusing on experiential learning, as well as fully online approaches for PBL. (ED, formal) Reading research; using research (Faculty, informal)
Other 4% (3 of 75)	Formal leadership designation	Respondents simply named their own formal leadership role as how they support others without giving details of how.

Following the mapping, we examined in more detail what was happening within each theme, according to each participant's role, and across each organizational level. Each of the approaches to SoTL support outlined above could be provided at any or all levels (micro, meso, macro, mega) and across any or all leadership dimensions (engagement, connection, collaboration, advocacy). For example, colleagues might engage in SoTL by conducting research at the micro level and advocate at the macro through their actions as a member of an institution-wide teaching and learning committee. They might collaborate with others in their department (meso) and present and publish about SoTL internationally and within their disciplinary conferences and journals (mega). While the data were rich with individual accounts, we mapped these individual responses, coded by themes, as shown in Table 4 to examine patterns of SoTL support.

Insights Arising from the Data Matrix

In this section, we outline insights regarding each of the four key themes—building personal capacity, providing resources, building community, and building culture—which are about the ways in which participants in each role support the SoTL at the micro-meso-macro-mega levels.

Building personal capacity. Building personal capacity was a dominant theme, representing 161 of 475 reports. Respondents referenced developing personal capacity through engaging (52 reports), connecting (51), collaborating (45), and to a lesser extent, advocating (13). Generally, faculty whose SoTL role is formal are more likely to be engaging, connecting, and collaborating to build their personal capacity. Interestingly, it was faculty in informal roles who were more likely to build personal capacity through advocacy. The general trend for EDs was different, with EDs in informal roles reporting more references to building personal capacity through engaging, connecting, and collaborating, raising questions about whether EDs' involvement in SoTL is recognized consistently in their job profiles. Overall, administrators are least likely to be involved directly in building personal capacity, particularly if their roles are formal.

Providing resources. Providing resources was the most common theme, representing 186 of 475 reports. Resources include consultations, providing literature, giving information about conferences and journal submissions, mentoring for specific purposes such as grant submissions, and facilitating workshops. Respondents in formal ED roles were most likely to engage in SoTL by providing resources, pointing to the important role played by EDs in the development of SoTL. Faculty formally responsible for SoTL are more likely (57%) to provide resources by engagement at the department (meso) level, as might be expected. While some faculty informally involved in SoTL provide resources at all levels, percentages are fairly low. These findings lead us to speculate about the importance of formally designating at least some of the SoTL leadership roles played by faculty.

Table 4

Prevalent Themes Across Dimensions of Leadership by Role and Level

Dimension	Role	Engagement				Connection				Collaboration				Advocacy			
		Micro	Meso	Macro	Mega	Micro	Meso	Macro	Mega	Micro	Meso	Macro	Mega	Micro	Meso	Macro	Mega
Personal capacity	Admin, formal (*n*=5)						1 (20%)										
	Admin, informal (*n*=2)	1 (50%)	1 (50%)				2 (100%)	1 (50%)	1 (50%)				1 (50%)	1 (50%)			1 (50%)
	ED, formal (*n*=25)	6 (24%)	4 (16%)	2 (8%)	5 (20%)	2 (8%)	3 (12%)	5 (20%)	9 (36%)	4 (16%)	2 (8%)	1 (4%)	3 (12%)	3 (12%)			
	ED informal (*n*=10)	4 (40%)		2 (20%)	4 (40%)	2 (20%)	1 (10%)	3 (30%)	2 (20%)	3 (30%)	1 (10%)	1 (10%)	3 (30%)			1 (10%)	
	Faculty, formal (*n*=7)	5 (71%)	1 (14%)	1 (14%)	1 (14%)	3 (43%)		2 (29%)	1 (14%)	4 (57%)	2 (28%)	7 (100%)					1 (14%)
	Faculty, informal (*n*=23)	5 (22%)	4 (17%)		5 (22%)	5 (22%)	2 (9%)	3 (13%)	3 (13%)	4 (17%)	2 (9%)		6 (26%)	4 (17%)		1 (4%)	1 (4%)
	Student, informal (*n*=2)	1 (50%)															
	Other, formal (*n*=1)										1 (100%)						
Providing resources	Admin, formal (*n*=5)	1 (20%)	1 (20%)														
	Admin, informal (*n*=2)		1 (50%)	1 (50%)		1 (50%)	1 (50%)	1 (50%)			1 (50%)				1 (50%)	1 (50%)	1 (50%)
	ED, formal (*n*=25)	13 (52%)	12 (48%)	14 (56%)	8 (32%)	3 (12%)	3 (12%)	5 (20%)	4 (16%)	2 (8%)	4 (16%)	3 (12%)	2 (8%)	2 (8%)	3 (12%)	7 (28%)	
	ED informal (*n*=10)	2 (20%)	3 (30%)	3 (30%)	2 (20%)	2 (20%)	1 (10%)	3 (30%)	1 (10%)	2 (20%)	2 (20%)	3 (30%)	1 (10%)	2 (20%)	1 (10%)	2 (20%)	1 (10%)
	Faculty, formal (*n*=7)		4 (57%)	1 (14%)	2 (29%)	1 (14%)		2 (29%)	1 (14%)			2 (29%)	1 (14%)	1 (14%)	1 (14%)	5 (71%)	
	Faculty, informal (*n*=23)	4 (17%)	4 (17%)	5 (22%)	3 (13%)	1 (4%)	2 (8%)	3 (13%)	2 (9%)	1 (4%)		3 (13%)	2 (9%)	1 (4%)	3 (13%)		2 (9%)
	Student, informal (*n*=2)																
	Other, formal (*n*=1)	1 (100%)	1 (100%)														
Creating community	Admin, formal (*n*=5)																
	Admin, informal (*n*=2)										1 (50%)						
	ED, formal (*n*=25)	1 (4%)		1 (4%)		4 (16%)	8 (32%)	13 (52%)	4 (16%)		5 (20%)	7 (28%)	1 (4%)			1 (4%)	
	ED informal (*n*=10)		1 (10%)	1 (10%)			3 (30%)	2 (20%)	1 (10%)		1 (10%)	1 (10%)			1 (10%)		
	Faculty, formal (*n*=7)		1 (14%)	1 (14%)		3 (43%)	2 (29%)	2 (29%)			1 (14%)	2 (29%)	1 (14%)				
	Faculty, informal (*n*=23)			2 (9%)		3 (13%)	5 (22%)	1 (4%)			3 (13%)	3 (13%)	1 (4%)	1 (4%)	1 (4%)	1 (4%)	
	Student, informal (*n*=2)																
	Other, formal (*n*=1)																
Building culture	Admin, formal (*n*=5)	1 (20%)	1 (20%)		1 (20%)												
	Admin, informal (*n*=2)														1 (50%)		1 (50%)
	ED, formal (*n*=25)			2 (8%)										1 (4%)	3 (12%)	9 (36%)	
	ED informal (*n*=10)			2 (20%)												3 (30%)	
	Faculty, formal (*n*=7)			1 (14%)											2 (29%)	3 (43%)	1 (14%)
	Faculty, informal (*n*=23)														2 (9%)	3 (13%)	1 (4%)
	Student, informal (*n*=2)																
	Other, formal (*n*=1)														1 (100%)		

n.b. "Other" from Table 3 not included as no actions were specified. For some interpretations of the data, the raw numbers may be more useful than the percentages.

Colour coding											
0-9%		10-19%		20-39%		40-59%		60-79%		80-100%	

Building community. Perhaps not surprisingly, reports of building community focus overwhelmingly on connection (51 of 91 reports) and collaboration (27 of 91), and at the meso (32 of 91) and macro (42 of 91) levels. This finding is notable because while providing support for networks at the meso level is crucial to moving the SoTL forward (Roxå & Mårtensson, 2009; Mårtensson & Roxå 2016), leadership at the meso level is often seen as a gap (Poole & Simmons, 2013; Williams, et al., 2013). EDs in formal and informal roles reported active involvement in building community (56 of 91), and EDs in formal roles supporting SoTL are strongly involved in creating community, especially at the macro (institutional) level (26 of 42 reports). EDs were key to the macro level of influence and with respect to building community more generally. At the same time, there are opportunities for administrators to be more involved in creating community to support engagement in SoTL. In fact, there are opportunities for all roles to more strongly support collaboration and advocacy to create communities.

Building culture. Overall, reports of building SoTL culture were the least frequent category (37 of 475 reports) across all groups, including administrators. Surprisingly, there was not a single report of connection and collaboration to build culture, regardless of role. While there were some responses about connection in other themes, these were seen as different from building a SoTL culture. While there is work being done by respondents (particularly EDs in formal and informal roles and faculty in formal roles) to provide resources for connection and collaboration, and to a lesser extent to create community through connection and collaboration, we find it significant that no respondents reported working to build culture through connection and collaboration, where McKinney (2012) and Roxå, Mårtensson, and Alveteg (2011) argue it matters most.

Additional leadership observations. A notable result was the low number of responses from administrators that reflected SoTL leadership activity. Among administrators (*n*=7), there was only one instance in which more than one respondent reported leadership in any category in Table 4. Administrators whose SoTL role was informal are more likely to support SoTL across all levels, suggesting that formally designating SoTL leadership among administrators may lag behind the work of individual scholars. Our data reveal opportunities for development in the scope of how administrators support the SoTL. For example, no administrators reported activity with respect to connecting, collaborating, or advocacy regarding providing resources, creating community, or building culture.

Growing the SoTL across the Institution

Our survey posed two additional questions that focus on leadership for supporting the SoTL. We asked what evidence was collected of SoTL's impact and who within the institution supports participants' SoTL leadership work.

Evidence of SoTL impact. Evidence of the institutional impact of the SoTL remains a significant gap according to the literature (Simmons, 2013; Simmons, 2016). While there are examples of collecting strong data in a 2016 special issue of *New Directions for Teaching and Learning* on Canadian institutional SoTL case studies (see in particular Admunsen, Emmioglu, Hotton, Hum, & Xin, 2016), the majority of the authors report that more rigorous data collection is needed. This is reflected in the findings from our study, where 65% of respondents either do not collect data about the SoTL's impact or do not know or gave no response. 25% use grant and publication counts as their sole evidence and only 9% are collecting additional evidence of impact such as tracking SoTL's impact on student learning over time (see Table 5).

Table 5
Evidence of SoTL Impact

# of respondents (%)	Data Collection Method	Participant Comments
49 (65%)	Collect no data or do not know or gave no answer	We do not generally track the impact of SoTL itself. (Faculty, formal) None. They would have to acknowledge it and value it publicly and formally before they would collect any institutional data on it. (Faculty, informal)
19 (25%)	Count grants and publications only	Very little, amount of dissemination. Impact remains with the scholars. We need to do better. (ED, formal)
7 (9%)	Institutional surveys to track student learning, ongoing assessment of SoTL projects, part of internal reviews	With individual cases, we track pre- and post scores of student learning, NSSE scores for departmental or program projects. Larger scale projects are looking at those measures as well as CLASSE results, and measures of effects on critical thinking and teamwork. (ED, formal)

Participants pointed to the need to collect more robust data. It would be interesting to find out whether data are not collected because of perceived difficulty in doing so or whether it pertains to the newness of some SoTL programs or other factors. For example, data could be collected on whether SoTL participation grows over time in departments where peer support is formally provided or on how students who have been in SoTL-influenced courses do over the course of their degrees. Some participants have found ways of tracking the impact of SoTL projects through the effect on student learning over time and some include such data as part of internal and formal reviews.

Support for SoTL. Leadership at all levels is critical in sustaining and growing any initiative within an institution (Hannah & Lester, 2009; Roxå, et al., 2011). SoTL is no different in this regard. As Hutchings et al., (2011) argue, it is leadership to facilitate the integration of SoTL support, practice, and recognition in the cultures, policies, resource allocation, and reward systems in our institutions that will be the next wave in the development of SoTL as a rigorous and sustainable field of inquiry. Accordingly, we asked participants who supported them in supporting others to engage in the SoTL. Many respondents (28, or 37%) felt unsupported, with one noting that "that question made me feel sad." Some participants (18, or 24%) pointed to the importance of community in supporting them, while 16% (21%) identified their managers at various levels and 7 (9%) pointed to the campus teaching and learning centre. These responses came from all roles, as noted in Table 6.

Table 6
Who Supports You in Supporting Others?

Who Provides Support?	# (%)	Participant Quotes
No one/no answer	28 (37%)	The Provost and VP Research say I should be doing this, but there's not much help. No bodies or funding. All off the side of my desk. (Administrator, informal)
		No one really - I feel I am struggling uphill to encourage senior management to value this activity. (ED, informal)
Community	18 (24%)	Mentored by my colleagues here and at other institutions, SoTL Canada. (ED, formal)
		SoTL collaborators, colleagues in the teaching and learning centre (Faculty, formal)
Leaders	16 (21%)	My Dean and Associate Dean Associate Vice President (Academic) Faculty members. (ED, informal)
Teaching and Learning Centre	7 (9%)	The friendly folks in the teaching resource centre. (Faculty, informal)
		The teaching centre, individual facilitators in the program. (ED, formal)
Resources	3 (4%)	What is needed is time. (ED, formal)
Culture	3 (4%)	Recognition from the institution--thanks, grants, titles, showcases for work, inclusion in policy/decision-making. (Faculty, informal)

The responses to this question point to the need to develop a "leadership network" to sustain the SoTL, as well as the more commonly discussed networks of SoTL practice within and across academic units.

Discussion

It is clear from participant responses that faculty members, EDs, and administrators are SoTL enablers, providing leadership across dimensions and levels. Persons in all roles do exercise leadership, though in different ways at different levels. For example, the most common role for EDs vis-à-vis the SoTL seems to be providing resources for others, while for faculty members, the most common role is in building personal capacity. As noted by Ashwin and Trigwell (2004), different persons seek impact of their SoTL work at different levels, but we wonder whether limiting SoTL work to individual impact impedes its growth across institutions.

Academic institutions are complex and loosely coupled organizations (Brown & Duguid, 2001; Wasko & Faraj, 2005). Particularly in this context, these results support the importance not only of distributed leadership (Bennett, et al., 2003; Bolden, 2011; Creanor, 2014), but also of integrating that leadership in a network to bridge the gaps across micro, meso, macro, and mega levels. While some bridges need to be built within and between departments where colleagues may

not be aware of the SoTL contributions of their peers, others need to be built vertically to bring the value placed on the SoTL by individual scholars into institutional culture.

This study also identified a central challenge to the growth of SoTL. While participants acknowledge the key importance of shifting institutional culture, their efforts to support SoTL primarily go towards providing resources. As illustrated in Figure 2, culture and resources can both support and impede the SoTL's growth. If we acknowledge that building community is an important step towards shifting institutional culture (Roxå et al., 2011), why is there such a strong focus on providing resources? One interpretation is that resources can be used to engage people and may, through workshops and other methods of gathering diverse practitioners together, build bridges between disciplinary clusters. Those who provide the resources may in effect act as "traders" (Galison, 1997; Huber & Hutchings, 2005) that forge practice and leadership connections between otherwise isolated clusters in SoTL networks. These connections cross both disciplines and organizational levels in our institutions. At the same time, these results provide stark evidence that a renewed emphasis on creating and sustaining communities beyond leveraging resources will be a key focus for growing the SoTL's impact.
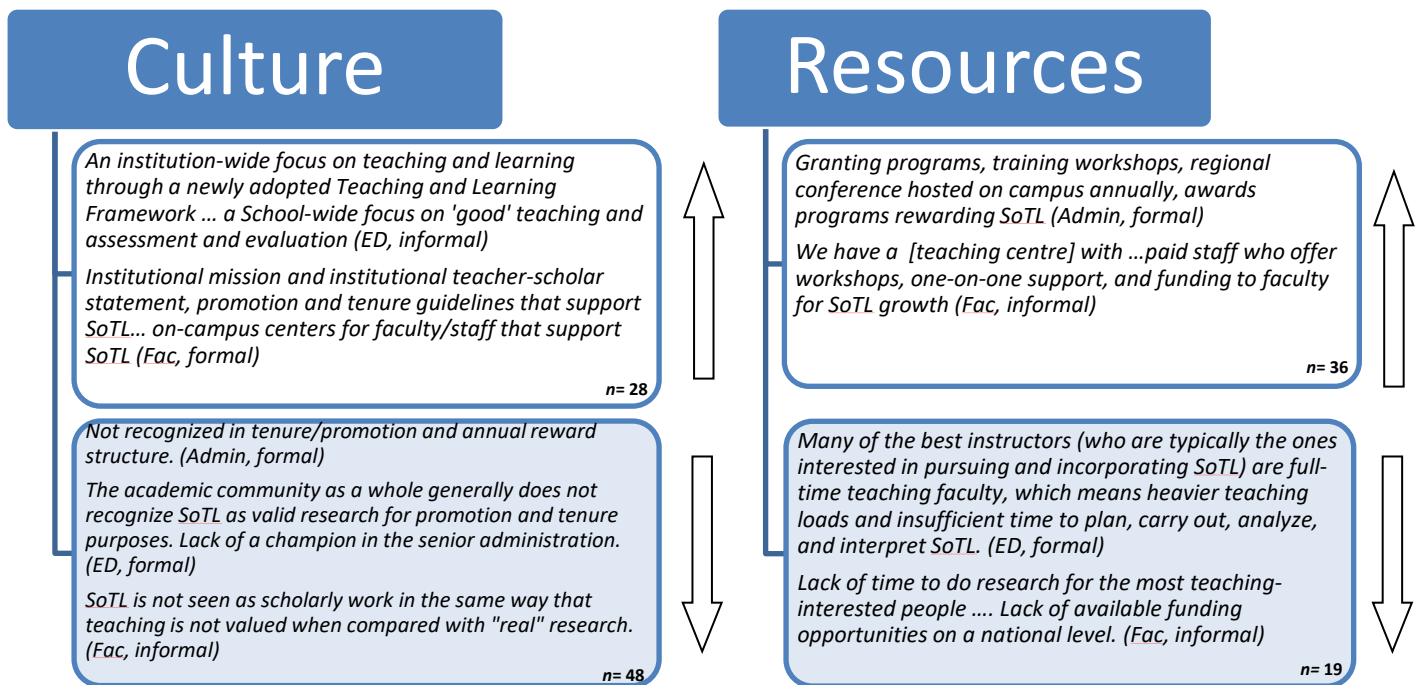
Culture

An institution-wide focus on teaching and learning through a newly adopted Teaching and Learning Framework … a School-wide focus on 'good' teaching and assessment and evaluation (ED, informal)

Institutional mission and institutional teacher-scholar statement, promotion and tenure guidelines that support SoTL… on-campus centers for faculty/staff that support SoTL (Fac, formal)

n= 28

Not recognized in tenure/promotion and annual reward structure. (Admin, formal)

The academic community as a whole generally does not recognize SoTL as valid research for promotion and tenure purposes. Lack of a champion in the senior administration. (ED, formal)

SoTL is not seen as scholarly work in the same way that teaching is not valued when compared with "real" research. (Fac, informal)

n= 48

Resources

Granting programs, training workshops, regional conference hosted on campus annually, awards programs rewarding SoTL (Admin, formal)

We have a [teaching centre] with …paid staff who offer workshops, one-on-one support, and funding to faculty for SoTL growth (Fac, informal)

n= 36

Many of the best instructors (who are typically the ones interested in pursuing and incorporating SoTL) are full-time teaching faculty, which means heavier teaching loads and insufficient time to plan, carry out, analyze, and interpret SoTL. (ED, formal)

Lack of time to do research for the most teaching-interested people …. Lack of available funding opportunities on a national level. (Fac, informal)

n= 19

Figure 2. Culture and Resources as Supports and Impediments to the SoTL.

The relationships between resources and culture can be complex and are mediated by the people involved. As Miller-Young et al. (2017), Roxå et al. (2011), Mårtensson and Roxå, (2016), and Williams, et al. (2013) have demonstrated, the most effective strategies for intentionally building integrated networks—including the ways resources are provided, accessed, and used—will vary depending on the interplay between the respective strengths of individual microcultures and an institution's teaching culture. Our study supports consideration of this interplay—and exploration of ways to engage with individual SoTL scholars beyond providing resources—if the intention is to positively impact teaching culture. While we agree with Ashwin and Trigwell (2004)

that an important aspect of leadership is creating contexts for others to do good work (which arguably is supported by providing resources), we would broaden the scope of leadership to include connecting SoTL scholars to others doing similar work and building a SoTL community through collaboration.

Administrators who reported having informal SoTL leadership roles have an interest in SoTL but were not engaged in community or culture building. Those who have a formal role (including EDs and faculty) are far more likely to do more community building. This suggests it may be critical to SoTL's success that formal roles are assigned such that SoTL is an explicit responsibility. Interestingly, faculty with informal SoTL roles seem to be the ones advocating beyond the institution (through conferences, publications, and other connections), a finding that merits further exploration, especially given the observation that in other dimensions of leadership, assigning formal roles enhances leadership contributions.

We see opportunities for development in the recognition of both leader support and the roles of teaching and learning centres as infrastructure to support the SoTL (see Table 6). The door is open for both groups to become more involved in working with SoTL scholars to determine what support is most needed. This may not be, as our findings have shown, in the form of more resources (workshops, literature, etc.), but rather may be in working together to form stronger community around the SoTL and to advocate for the SoTL to be integrated into the institutional culture, such as in its mission and how SoTL is recognized in career advancement.

Perhaps of greatest concern, based on what we understand about institutional change processes (Hannah & Lester, 2009; Lucas, 1993; Poole, Taylor, & Thompson, 2007; Roxå, et al., 2011; Senge, 2006), is that building culture is the lowest category of activity in all groups—even among administrators (37 of 475 reports). Of particular note is that the culture building activity that is reported falls into the engagement and advocacy dimensions and is not reported at all in the context of building the connections and collaborations that are known to facilitate institutional change (Roxå, et al., 2011). This gap presents an immediate leadership opportunity to influence institutional culture by focusing on building institutional infrastructure for connecting and collaborating at micro, meso, macro, and mega levels.

Final Thoughts

Although we initially conceptualized SoTL "trading zones" (Galison, 1997; Huber & Hutchings, 2005) as the four levels of micro, meso, macro, and mega, we have come to see the importance of focusing on the liminal spaces between these levels as key to growing the SoTL's impact. While SoTL activities may sit at these levels and sometimes span them, the focus of SoTL advocacy must support the linkages between and amongst the levels while still respecting what happens at each level as important in its own right.

Institutional culture stands out as an area requiring significant focus if SoTL is to develop beyond a grass-roots genre of scholarly work to reach its full potential as a form of inquiry that can have a strong impact on the learning of both students and teachers. Whether or not we set out to build culture, we are all involved in contributing to culture; in that sense, we are leaders in terms of creating and sustaining culture. We can be more mindful of these contributions, of being social architects and helping knowledge flow. In this survey, many respondents reported that they did not experience an institutional culture that supported their work. Specifically, SoTL scholars who participated in this study were not supported in learning, risk taking, and perhaps most importantly, in seeing their work valued and as contributing to the teaching and learning landscape at their

institution. Their experiences provide clear direction on areas in which we could build on current strengths and address the gaps identified.

In considering the dimensions of SoTL leadership, what becomes clear is that some layers of leadership are more robust than others. While there is strong growth in agency and leadership at the micro level, there are many—and different—opportunities to enhance leadership at the meso and macro levels. The lack of bridging from one institutional level to the next represents a substantial impediment to SoTL's sustainability and growth. We see a significant role for SoTL leadership to focus on creating these bridges (Simmons, 2013; Mårtensson & Roxå, 2016; Roxå & Mårtensson, 2009).

The results of this study lead to further questions to explore:

- If cultures/administrators are not perceived to be supporting SoTL, what are the underlying causes? What actions are most needed to change that perception? Are there case studies that can inform leadership practices in this context?
- SoTL has grown as a grass-roots movement in Canada, but there is a gap from micro (the individual) to meso (departmental/faculty) levels: How do we bridge it?
- The strong roles of individuals who exercise informal leadership are notable: How can we mitigate the fragility of these leadership roles that often reside with isolated individuals?
- As leaders, we know building community is important: Why do we focus so much on providing resources? What are some exemplary practices for leveraging resources to build connections and collaborations?
- What remains to be done to provide the kinds of SoTL infrastructure from which other forms of scholarship benefit?
- How might SoTL be shown to have an impact on institutional quality such that it becomes an institutional focus at all levels?
- How can we grow a SoTL leadership network across all the levels in our institutions? If this is perchance a developmental stage, how do we "grow up" —and out?

The SoTL has become an established grass-roots movement in Canada (Poole et al., 2007). Despite SoTL's history (Hutchings, et al., 2011; Simmons, 2016) and calls to action (Poole, 2009; Poole et al., 2007; Simmons & Poole, 2016), it is clear that the SoTL predominantly remains a micro-level movement. The SoTL will be best supported when leaders in diverse roles develop capacity, provide resources, create community, and build culture through engagement, connection, collaboration, and advocacy at all levels in our institutions.

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Appendix

Survey

Our survey of EDs, faculty, administrators, and students (*n*=75) asked participants to respond to the following:

1. What is your primary academic role?
   __Educational/academic developer
   __Faculty member
   __Contract faculty
   __Academic administrator
   __Staff (primary role not teaching)
   __Student
   __Other _____

2. Do you have a secondary academic role?
   __Educational/academic developer
   __Faculty member
   __Contract faculty
   __Academic administrator
   __Staff (primary role not teaching)
   __Student
   __Other _____
   __ Not applicable

3. At what type of institution do you work?
   __University
   __College
   __Private postsecondary
   __Other _____

4. In what country do you work?
   _____

5. Is supporting others' SoTL part of your official work or something you do informally?
   __Formal role
   __Informally
   __Not applicable

6. In what ways do you support others' work in the SoTL?
   [answer box]

7. What factors at your institution support SoTL growth?
    [answer box]

8. What factors at your institution impede SoTL growth?
    [answer box]

9. What evidence do you or does your institution collect of the impact of SoTL work?
    [answer box]

10. We are interested in SoTL impact in four areas: *Engagement, Collaboration, Advocacy,* and *Connections* and at four levels: *Micro, Meso, Macro, Mega.*

    Four Areas
    *   *Engagement* refers to the ways in which we involve others and ourselves in the SoTL.
    *   *Connections* are about getting people who are doing SoTL together with others who are similarly engaged – both within and outside the institution.
    *   *Collaborations* build on those connections – they are about helping people develop the synergies that are possible with other SoTL scholars.
    *   *Advocacy* is the ways in which we promote the SoTL at all levels of the institution and beyond.

    Four Levels
    *   *Micro*: individual capacity
    *   *Meso*: department and faculty
    *   *Macro*: institution
    *   *Mega*: discipline and interdisciplinary, national and international impact

Please tick the boxes to indicate at what levels and in what areas your SoTL support work falls (tick as many as are appropriate). Each tick will open a text box where you can provide a brief example.

	Micro	Meso	Macro	Mega
Engagement				
Collaboration				
Advocacy				
Connections				

11. Who supports <u>you</u> in supporting others to conduct the SoTL?