

Faculty Perceptions of and Engagement with SoTL during the Fourth Wave: A 12-year Replication

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Abstract: More than three decades post-Boyer (1990), perceptions persist of the scholarship of teaching and learning (SoTL) as devalued compared to discipline-based research and not rewarded in faculty merit reviews and promotion (Chen, 2015; Gurung et al., 2008; Lanning et al., 2014). Over the past 12 years, a period of time Webb (2020) described as SoTL's fourth wave, SoTL expanded through increased institutionalization and professionalization. Our study replicates and expands the Secret et al. (2011) investigation of faculty perceptions within the same research-intensive institution. Secret et al. (2011) and the current study provide pre and post fourth wave checkpoints to assess faculty definitions of SoTL, direct engagement with SoTL, and what activities should count in formal faculty evaluation (merit raises, awards, promotion). Current findings indicate early career faculty include more activities in their definition of SoTL. Some disciplinary differences in the definition of SoTL were revealed along with lack of clarity on whether SoTL counts as teaching or research. Faculty viewed SoTL as more likely to contribute to annual review and promotion to associate professor, but less valued for tenure, promotion to full professor, and awards. Faculty named lack of time, funding, and collaborators as barriers to SoTL.

Keywords: SoTL, faculty perceptions of SoTL, SoTL in promotion, defining SoTL

Introduction

As the scholarship of teaching and learning (SoTL) expanded into new disciplines and established stronger roots within disciplines with longer SoTL histories, scholars remain concerned about perceptions of their work (Billot et al., 2017; Franks & Pyakachat, 2020). Now more than three decades post-Boyer (1990), perceptions persist of SoTL as devalued compared to discipline-based research and not rewarded in faculty merit reviews and promotion (Chen, 2015; Gurung et al., 2008; Lanning et al., 2014;). Over the past decade, professionalization of SoTL expanded with establishment

of journals and societies, institutes and conferences (Marquis, 2015; Michael et al., 2010), and increased institutional SoTL initiatives and programs (Boose & Hutchings 2016), even within research intensive universities (e.g., Penn State, University of Virginia). Despite these expansions and gains, faculty confusion regarding what constitutes SoTL remains an obstacle (Gurung et al., 2019; Islam et al., 2020; Lanning et al., 2012; McEwan, 2020).

Taking a look back at the past 12 years, a period of time Webb (2020) described as the fourth wave of SoTL, we investigated whether faculty perceptions of and engagement with SoTL changed within a research intensive university context. Secret et al. (2011) found tenured faculty defined SoTL in terms of published work whereas untenured faculty applied a broader definition. The vast majority (82-99%) of respondents supported peer-reviewed SoTL publications as part of a faculty member's research section for merit, promotion and tenure, and awards. The current study replicated the 2011 study to provide a view of changing perceptions of SoTL during the fourth wave and the accompanying expansion both across disciplines and more deeply within disciplines.

Defining SoTL to Reduce Confusion

Studies exploring perceptions of SoTL consistently find confusion as to what qualifies as scholarship focused on teaching and learning versus, for example, adjusting teaching practices based on evidence in the literature (Groccia, 2023; Gurung et al., 2019; Islam et al., 2020; Lanning et al., 2014; McEwan, 2022; Reano et al., 2019). Secret et al. (2011) found early career faculty, in comparison to tenured faculty, more often labeled activities such as developing case studies for a course or updating a course based on student evaluation feedback as SoTL. Divergent views of what qualifies as SoTL appear consistently across the research literature, despite efforts in the literature to reduce faculty confusion by providing clarifying definitions of SoTL (Boyer, 1990; Glassick et al., 1997; Hutchings et al., 2011; Masika et al., 2016; McKinney, 2006).

Bringing together the literature definitions of SoTL, a theoretical and visual model (Kern et al., 2015) helped clarify distinctions among sharing teaching strategies, scholarly approaches to teaching, and actual scholarship. In the Kern model, two dimensions represent the degree to which the effort is (a) systematic versus informal and (b) public versus private. Characteristics of work that make the study of teaching more systematic include undergoing peer-review, following a replicable methodology, and incorporating and building upon past literature and research findings. Similarly, public work gets shared with the broader academic community, or the teaching commons (Huber & Hutchings, 2005), rather than applied solely to the educator's own teaching. SoTL lives in the quadrant where the systematic and public overlap. For example, work may be highly systematic, such as deciding to keep a new classroom activity following a comparison of learning outcomes with a course that did not do that activity, but not public because the teacher does not share the results. Kern et al. (2015) referred to that pattern as "scholarly teaching." On the other hand, work may be highly public but not systematic, such as creating a free, online blog sharing one's perspectives on teaching and learning. Kern et al. (2015) referred to that pattern as "sharing about teaching." Following the Kern et al. model, we developed the following SoTL definition, which we shared with our participants: "SoTL is the study of processes and outcomes involved in teaching and learning; such

studies are systematic, literature-based, publicly shared, and peer-reviewed.” Given this clarifying model and widespread use of the visual in SoTL faculty development since 2015, perhaps common confusion about what counts as SoTL has decreased.

Concerns about Credibility and Promotion

Perhaps related to the widespread confusion about defining SoTL, faculty perception studies revealed concerns about whether research on teaching and learning will be viewed as less credible than traditional disciplinary research (Boshier, 2009; Cook-Sather et al., 2019; Franks & Pyakachat, 2020; Lanning et al., 2014; Walker et al., 2008). Faculty express their worries that SoTL will not be recognized as legitimate research, valued by their evaluators, or counted as scholarship within promotion decisions (Billot et al., 2017; Gansemer-Topf et al. 2022; Gurung et al., 2008; Lanning et al., 2014). The long history of privileging research over teaching (e.g., Chen, 2015) in academia fuels these quite valid concerns. Despite Boyer’s (1990) attempts to codify the scholarship of teaching as a legitimate domain of research, the academic hierarchy persists in conceptualizing research as both distinct from and superior to teaching. Perceptions of and what qualifies as “rigor,” often based on erroneous assumptions, also influence views of SoTL as lower quality than traditional disciplinary research (Cook-Sather et al., 2019; Lanning et al., 2014). In their study of dentistry faculty, Lanning et al. (2014) found faculty cited unclear institutional directives and lack of clarity in promotion and tenure policies as barriers to SoTL. Faculty concerns over credibility, steeped in institutional demands for traditional research and unclear promotion guidelines, may result in lack of motivation to engage in SoTL. In fact, one of the biggest obstacles to growing SoTL is the faculty perception of this research as extra work added to an already high workload (Gurung et al., 2019; Lanning et al., 2014).

The Fourth Wave of SoTL (2012-present)

Webb (2020) reviewed the history of SoTL with helpful descriptions of the major emphasis areas for each wave. Birthed by Boyer’s (1990) incorporation of the scholarship of teaching (SoT) as a worthy form of research, the first wave (1990-1998) was characterized by a focus on teaching and defining SoT (Webb, 2020). The next decade brought the second wave (1998-2004) and advanced theoretical grounding, engaged a wide range of methodologies, and expanded the focus to “learning” and an updated moniker of “SoTL.” During that second wave, SoTL leaders aimed to emphasize the learning side of teaching within the scholarship process which encouraged research design that assessed actual learning beyond teaching-centered studies or student satisfaction surveys. Webb (2020) delineated the third wave (2004-2011) as beginning with the inaugural conference of the International Society for SoTL and Huber and Hutchings’s (2005) call to the teaching (SoTL) commons. As SoTL practice spread across disciplines during the first and second waves, SoTL leaders and researchers identified a need for interdisciplinary spaces to share ideas and make improvements to strengthen the research quality. The third wave served to increase the cross-pollination among disciplines engaged in SoTL.

With a wider range of scholars engaged in SoTL, faculty began to note a lack of resources, support, and recognition for the intensive research they were conducting on teaching and learning.

This led to calls for higher education institutions to fully integrate SoTL into the culture. Publication of *The scholarship teaching and learning reconsidered: Institutional integration and impact* (Hutchings et al., 2011) marked the transition from SoTL's third wave to the fourth wave, 2012-present (Webb, 2020). During this current fourth wave, scholars echoed Hutchings' et al. (2011) call for institutional priorities that promoted and supported faculty SoTL development and recognition of SoTL work within reward systems (Case, 2013; Cruz, 2014; Forrest, 2013; Kern et al., 2015). The fourth wave embraced efforts to institutionalize SoTL via teaching center support for SoTL researchers, expand interdisciplinary research teams, internationalize the field, and launch new peer-reviewed journals (Webb, 2020). Examples of fourth wave SOTL professionalization include the EuroSOTL conference (Abrahamson, 2015) and new journals such as *Scholarship of Teaching and Learning in Psychology* (Gurung & Landrum, 2015) and *Teaching and Learning Inquiry* (Chick & Poole, 2013). The fourth wave witnessed several research universities implementing SoTL initiatives, hiring educational developers with SoTL expertise, and providing funding for SoTL projects (e.g., Penn State University, University of Virginia, and City University of New York). Disciplinary associations also introduced more SOTL initiatives such as the American Association of Occupational Therapy's mentored research communities which resulted in SoTL publications (e.g., Fan et al., 2021; Diamant et al., 2018).

Unfortunately, the fourth wave of SoTL also included a global pandemic that resulted in immediate and widespread shutdown of research labs and access to human participants and archives. For a broad stretch of scholars, access to traditional disciplinary data collection, archives essential to humanities research progress, creative performance spaces, and fine arts studios closed without any accurate prediction of when faculty could return to their scholarship. During the COVID shut-down, with a sudden intense focus on teaching and learning, many scholars entered the world of SOTL as one viable way to engage in some form of research. With all of these changes across the fourth wave both within the expanding field of SoTL and across institutions, how have faculty perceptions shifted?

Why This Study and Why Now?

Looking back across the fourth wave (Webb, 2020) of SoTL since 2011, we recognize interdisciplinary, disciplinary, and institutional changes that potentially shifted faculty perceptions in terms of raising awareness to clarity of the definition, faculty willingness to engage in this scholarship, and even inclusion of SoTL as legitimate research that counts in faculty evaluation (e.g., promotion, awards). We are aware of only one study that has longitudinally evaluated changes in faculty perceptions of SoTL (Gurung et al., 2019). Gurung and colleagues found evidence that some faculty perceptions of SoTL have improved over time; however, their comparison was limited in that their initial survey included only one academic discipline. The Secret et al. (2011) study collected perceptions just prior to the start of the fourth wave and included a variety of academic disciplines. Our study replicates the Secret investigation of faculty perceptions within the same research-intensive institution 12 years later. Our research questions include to what extent have (a) faculty definitions of SoTL, (b) faculty direct engagement with SoTL, and (c) faculty perceptions of what activities should count in formal faculty evaluations (merit raises, awards, promotion) changed in the last 12 years.

Methods

Participants

We recruited potential participants at Virginia Commonwealth University (VCU)—a research-intensive public university—through two mechanisms. First, we emailed all department chairs and unit heads requesting that they forward our recruitment message to their faculty, which included a short description of the study and link to the survey. Second, we posted advertisements about the study to a university-wide activities announcement and to the teaching center newsletter, Twitter, and Facebook pages. It is worth noting that this method departed from Secret et al. (2011), as we were not granted permission by the institution to directly contact all faculty. Participants were eligible to participate if they were employed as tenure-track, non-tenure-track, or adjunct faculty either full or part time. A total of 234 people responded to the survey link, four declined to consent, and 72 did not complete any of the questions, leaving a final sample of 140 faculty. See Table 1 for a full description of the sample characteristics.

Table 1. Demographic information.

	<i>f</i> / <i>M</i>	% / <i>SD</i>
Gender identity		
Cisgender woman	55	50.5
Cisgender man	47	43.1
Nonbinary	2	1.8
Prefer not to answer	4	3.7
Racial identity		
African American or Black	2	1.8
East Asian or Pacific Islander	3	2.7
South Asian or Indian	4	3.6
White or Caucasian	90	82.6
Prefer not to answer	7	6.4
Ethnic identity		
Hispanic or Latinx	4	3.6
Faculty position		
Tenure or tenure-track	51	47.2
Term	52	48.1
Adjunct	5	4.6
Faculty rank		
Instructor	3	2.8
Assistant	36	33.6
Associate	39	36.4
Full	29	27.1

Administrator	37	34.3
Percent effort		
Teaching	40.10	26.53
Research	21.42	20.78
Service	20.64	18.85
Administration	11.49	20.37
Other	6.35	19.49
Credit Hours Taught		
Fall	5.90	5.77
Winter intersession	0.45	2.61
Spring	6.09	6.52
Summer	2.20	3.40
Years at VCU	11.93	10.37
Administrative Unit		
College of Engineering	3	2.9
College of Health Professions	11	10.6
College of Humanities and Sciences	25	24.0
School of Government and Public Affairs	2	1.9
School of the Arts	7	6.7
School of Business	9	8.7
School of Dentistry	4	3.8
School of Education	5	4.8
School of Medicine	22	21.2
School of Nursing	3	2.9
School of Pharmacy	6	5.8
University College	3	2.9
VCU Libraries	3	2.9
VCU Life Sciences	1	1.0
Previous institutions		
Associates-granting (2-year/Community College)	7	6.4
4-year Baccalaureate or Liberal Arts College	16	14.7
Masters-granting	9	8.3
Doctorate-granting or Research University	56	51.4
Other	1	0.9
No previous institution	38	34.9

Materials

We adapted the same survey used by Secret et al. (2011) for this study. Unless noted otherwise, we kept the same response scale as described in Secret et al. (2011). We added or altered questions in order to

gain more nuanced information. The first block of 13 questions addressed faculty's perceptions regarding whether various activities qualify as SoTL. Secret et al. (2011) asked faculty to provide a single rating on a 4-point scale to the activities. We expanded this to ask faculty to rate each activity based on four dissemination methods—published in a peer-reviewed journal, published in a peer-reviewed electronic database, presented at a professional conference, and presented to peers within your academic unit or institution—in case faculty had differential responses to different dissemination methods. Secret et al. (2011) also lumped qualitative and quantitative data-driven studies together; we opted to separate the two such that participants rated each independently in case they had different perceptions of these types of study. The next portion of the survey asked participants to review five vignettes (see Appendix 1) and indicate whether the product described should count towards promotion from assistant to associate professor, promotion from associate to full professor, tenure, annual review for merit-based raises, and award considerations. We also asked the most appropriate location for the item within a faculty member's curriculum vitae: teaching, research, or service. Next faculty provided the number of SoTL products they had produced. Secret et al. (2011) asked about “publications” and grants; we also asked participants to differentiate peer-reviewed journal articles, book chapters, books, conference presentations, and grants. We then added questions about faculty's perceived support towards SoTL from various sources (faculty colleagues, departmental administrators, college or school administrators, university administrators, and academic discipline outside the university) and perceived barriers towards completing SoTL work in order to inform policy regarding how to promote SoTL work. The survey closed with a set of 15 demographic questions. Participants spent a median of 12 minutes completing the survey.

Procedure

The institutional IRB approved all research procedures. Participants completed an online survey hosted through Qualtrics. They first saw an information sheet and then indicated their consent to proceed with the survey. All participants completed questions in the same order. Participants could take as long as they wished to complete the survey and they were allowed to leave and return to the survey if necessary. Participants did not receive any incentive or compensation for their time.

Data Analysis

We summarized data with means and standard deviations for continuous variables and frequency and percentage for categorical variables. We used repeated-measures ANOVAs to examine differences within participants' ratings with partial eta-squared as the measure of effect size. When there were differences for multiple groups (e.g., faculty rank, college/school), we used post-hoc tests corrected for family-wise error rates using the Tukey HSD method. We used chi-square for group comparisons of frequency data within the survey (e.g., faculty rank) and as a comparison to Secret et al. (2011).

Results

What Activities Are Considered SoTL?

Collapsing across activities, we examined if faculty perceived the dissemination method to have an impact on whether something counts as SoTL. Using a repeated-measures ANOVA, publishing in a database ($M = 3.04$, $SD = 0.67$, $F(1,139) = 26.73$, $p < .001$, $\eta_p^2 = .16$) and presenting to peers at your own institution ($M = 2.86$, $SD = 0.71$, $F(1,139) = 37.76$, $p < .001$, $\eta_p^2 = .21$) were considered less likely to count as SoTL than publishing a manuscript in a peer-reviewed journal ($M = 3.18$, $SD = 0.63$) or presenting at a professional conference ($M = 3.11$, $SD = 0.64$).

We then collapsed the four dissemination method ratings for each SoTL activity into a single average. Faculty considered certain activities to be more indicative of SoTL than others, as might be expected ($F(12,1500) = 109.47$, $p < .001$, $\eta_p^2 = .47$). Figure 1 shows the estimated marginal means and standard errors for the 13 activities. Non-overlapping error bars indicate statistically different means. There were very few differences across college/school grouping once we corrected for error rates of multiple tests using the Tukey HSD method. Of note, art and general education faculty ($M = 3.88$, $SD = 0.19$) were more likely to consider qualitative studies to be SoTL than faculty in the professional schools ($M = 3.38$, $SD = 0.53$, $p < .05$). Faculty in the school of medicine ($M = 3.47$, $SD = 0.77$) were more likely to consider the dissemination of the development of a new course to be SoTL than were faculty from the humanities and sciences ($M = 2.72$, $SD = 1.03$, $p < .05$) and art and general education ($M = 2.54$, $SD = 0.99$, $p < .05$). There were also some differences across faculty rank. Assistant professors were more likely than full professors to consider qualitative studies ($M_{\text{Assist}} = 3.76$, $SD_{\text{Assist}} = 0.31$, $M_{\text{Full}} = 3.44$, $SD_{\text{Full}} = 0.59$, $p < .05$), developing course materials ($M_{\text{Assist}} = 3.36$, $SD_{\text{Assist}} = 0.66$, $M_{\text{Full}} = 2.78$, $SD_{\text{Full}} = 1.02$, $p < .05$), and disseminating blog posts ($M_{\text{Assist}} = 2.86$, $SD_{\text{Assist}} = 0.85$, $M_{\text{Full}} = 2.19$, $SD_{\text{Full}} = 1.00$, $p < .05$) to count as SoTL. Both assistant and associate professors were more likely to consider reflective essays ($M_{\text{Assist}} = 3.58$, $SD_{\text{Assist}} = 0.53$, $M_{\text{Assoc}} = 3.40$, $SD_{\text{Assoc}} = 0.65$, $M_{\text{Full}} = 2.92$, $SD_{\text{Full}} = 0.97$, $p < .05$) and review papers ($M_{\text{Assist}} = 3.64$, $SD_{\text{Assist}} = 0.48$, $M_{\text{Assoc}} = 3.50$, $SD_{\text{Assoc}} = 0.53$, $M_{\text{Full}} = 3.07$, $SD_{\text{Full}} = 0.89$, $p < .05$) to be SoTL than full professors.

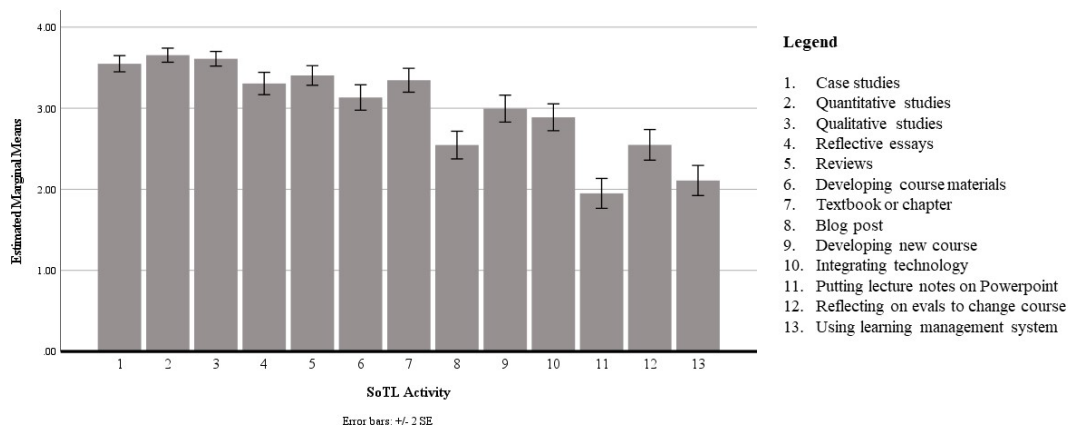


Figure 1. Faculty assessment of to what degree activities qualify as SoTL.

Secret et al. (2011) collapsed faculty ratings of these variables into a dichotomous indication of whether an activity was considered SoTL or not. In order to facilitate comparison, we similarly collapsed our ratings based upon the midpoint of the scale (i.e., counts as SoTL ≥ 2.50). Table 2 shows the percentage of faculty who considered an activity to be SoTL for the two samples. Generally, faculty views of more traditional scholarly products (e.g., journal publications, textbook chapters) did not change over time; however, less typical products became more likely to be considered SoTL in our more recent cohort.

Table 2. Comparison of what activities faculty considered to be SoTL.

	2011	2021	<i>p</i>
1. Case studies of teaching and learning	89%	96%	.65
2. Quantitative, data-driven, classroom-based studies	98%	97%	.95
3. Qualitative, data-driven, classroom-based studies	--	96%	--
4. Reflective essays on teaching	85%	90%	.70
5. Reviews of the pedagogic literature	88%	93%	.76
6. Developing case studies or problem sets for use in your classroom	57%	83%	.04
7. Authoring a textbook or textbook chapters	85%	83%	.89
8. Posting a blog about teaching practices	38%	57%	.04
9. Developing a new course	49%	76%	.02
10. Integrating a new technology into your teaching	37%	70%	.001
11. Putting your lecture notes on PowerPoint	12%	28%	.004
12. Reflecting on course evaluations and making changes to your teaching based on those evaluations	23%	55%	<.001
13. Using a learning management system	17%	37%	.003

SoTL Products

Of the participants who answered, 52.8% had authored at least one peer-reviewed journal publication on SoTL (median = 1, range = 0-31), 25.0% had published a book chapter (median = 0, range = 0-50), 6.9% had published a book (median = 0, range 0-5), 62.4% had a conference presentation (median = 2, range = 0-40), and 32.0% had authored a grant (median = 0, range = 0-8). Most of those products were empirically-based rather than conceptual. SoTL production was not different across academic disciplines or faculty ranks. Secret et al. (2011) had only asked about journal publications (53%) and grants (23%), and these values were statistically equivalent to the current percentages.

Impact of SoTL Work

We examined the impact of SoTL work on important outcomes (promotion, tenure, merit raises, consideration for awards) using cases of five different SoTL products. Faculty evidenced differences in

their ratings of the importance of the outcomes for each vignette (Vignette 1 $F(4,484) = 3.67, p < .01, \eta_p^2 = .03$; Vignette 2 $F(4,460) = 5.83, p < .001, \eta_p^2 = .05$; Vignette 3 $F(4,444) = 5.96, p < .001, \eta_p^2 = .05$; Vignette 4 $F(4,444) = 5.01, p < .001, \eta_p^2 = .04$; Vignette 5 $F(4,444) = 7.73, p < .001, \eta_p^2 = .07$). Table 3 displays the means, standard deviations, and standard errors for each outcome for each vignette. Generally, the pattern was the same across vignettes, with the product considered more important for the promotion from assistant to associate rank or annual merit raises and less important for promotion from associate to full, tenure decisions, or award considerations. As might be expected, faculty use of social media (Vignette 5) was less important for all outcomes than the other vignettes, which were roughly comparable in importance. There were no differences across academic disciplines or faculty ranks.

Table 3. Faculty assessment of the importance of outcomes of SoTL work by vignette.

		M	SD	SE
Vignette 1. Data-driven classroom-based published study	Promotion from assistant to associate	3.65	0.63	.056
	Promotion from associate to full	3.53	0.75	.067
	Tenure	3.54	0.76	.069
	Annual review for merit raises	3.64	0.63	.056
	Award considerations	3.49	0.74	.067
	Where does it belong – Teaching section	2.90	0.95	.087
	Where does it belong – Research section	3.48	0.70	.063
	Where does it belong – Service section	1.68	0.79	.073
Vignette 2. Case study series publication	Promotion from assistant to associate	3.46	0.70	.065
	Promotion from associate to full	3.27	0.78	.072
	Tenure	3.26	0.80	0.75
	Annual review for merit raises	3.37	0.72	.067
	Award considerations	3.26	0.80	.075
	Where does it belong – Teaching section	2.84	0.99	.094
	Where does it belong – Research section	3.02	0.97	.091
	Where does it belong – Service section	1.90	0.85	.081
Vignette 3. Educational	Promotion from assistant to associate	3.58	0.69	.064
	Promotion from associate to full	3.46	0.78	.073

administration publication	Tenure	3.46	0.74	.069
	Annual review for merit raises	3.50	0.67	.062
	Award considerations	3.38	0.83	.078
	Where does it belong – Teaching section	2.59	1.00	.094
	Where does it belong – Research section	3.06	0.98	.093
	Where does it belong – Service section	2.13	0.96	.092
Vignette 4. Data- driven classroom- based national presentation	Promotion from assistant to associate	3.55	0.71	.066
	Promotion from associate to full	3.39	0.79	.074
	Tenure	3.41	0.80	.075
	Annual review for merit raises	3.47	0.69	.065
	Award considerations	3.38	0.84	.079
	Where does it belong – Teaching section	3.37	0.86	.082
	Where does it belong – Research section	3.20	0.88	.083
Vignette 5. Faculty to student social media	Where does it belong – Service section	1.86	0.92	.089
	Promotion from assistant to associate	2.23	0.88	.082
	Promotion from associate to full	2.03	0.85	.080
	Tenure	2.05	0.84	.079
	Annual review for merit raises	2.25	0.91	.085
	Award considerations	2.19	0.93	.086
	Where does it belong – Teaching section	2.75	1.00	.093
Where does it belong – Research section	1.66	0.69	.066	
Where does it belong – Service section	1.89	0.92	.087	

We also asked faculty where the products in the five vignettes would best be placed on a faculty member's CV (see Table 3). The first three products had a slight edge towards being placed in the research section of a CV, but placing them in the teaching section was also acceptable. Faculty had a slight preference for placing the data-driven presentation regarding classroom instruction methods in

the teaching section, but the rating for research was also high. The ratings for faculty social media use with students was generally low, but the teaching section was considered the most appropriate.

Secret et al. (2011) combined promotion across different ranks and tenure in a single rating. Thus, we averaged these three ratings for the purpose of the following analysis. As can be seen in Table 4, faculty perceptions of the merit of these five example SoTL products for promotion/tenure, annual reviews, and award consideration did not substantively change relative to 2011.

Table 4. Comparison of the impact of SoTL work.

	2011	2021
Data-driven classroom-based published study		
Promotion/Tenure	95%	92%
Annual Review	99%	95%
Award Consideration	87%	90%
Case study series publication		
Promotion/Tenure	90%	90%
Annual Review	93%	90%
Award Consideration	75%	86%
Educational administration publication		
Promotion/Tenure	93%	88%
Annual Review	95%	90%
Award Consideration	82%	83%
Data-driven classroom-based national presentation		
Promotion/Tenure	91%	90%
Annual Review	92%	90%
Award Consideration	78%	85%
Faculty to student social media		
Promotion/Tenure	27%	29%
Annual Review	38%	40%
Award Consideration	27%	37%

Support For and Barriers to SoTL

Faculty indicated that they generally felt supportive attitudes towards SoTL work from their colleagues, administrators, and academic discipline (see Table 5) with average ratings all above the midpoint of the scale (i.e., 3.00). We asked faculty if perceptions towards SoTL had changed since they arrived at the university ($M = 11.93$ years, $SD = 10.37$), and 47.2% indicated that it had improved, 44.3% indicated that it had not changed, and 8.5% indicated that it had become less valued. Faculty who had been at the university longer (≥ 10 years) were more likely to indicate that perceptions towards SoTL had changed since they arrived ($M_{\geq 10} = 3.68$, $SD_{\geq 10} = 0.86$; $M_{< 10} = 3.22$, $SD_{< 10} = 0.90$; $t(96) = 2.61$, $p < .05$, $d = .88$). We also asked about the value of SoTL relative to other disciplinary research for promotion, and most faculty (57.4%) indicated that it was less valued, a third said it was

valued the same (32.7%) and only 9.9% felt that it was more valued. Faculty were slightly more sanguine about the value of SoTL relative to other research for performance evaluation; here 44.5% said it was less valued, 46.5% said it was valued the same, and 9.1% said it was more valued. Interestingly, for faculty who had held an appointment at another institution before coming to the university ($n = 49$), more faculty (36.8%) felt that SoTL was more valued at their current university relative to their previous institution, with 38.8% saying it was valued the same, and 24.4% saying it was valued more at their previous institution.

Table 5. Support towards SoTL.

	M	SD	SE
Faculty colleagues	3.90	0.99	.098
Department administrators	3.67	1.10	.109
College or school administrators	3.24	1.18	.117
University administrators/units	3.25	1.11	.110
My academic discipline outside of VCU	3.76	1.13	.112

Faculty also noted a number of barriers towards engaging in SoTL work (see Table 6). Most frequently, faculty described lacking the time to engage in SoTL relative to their other work demands and lack of funding. Faculty were relatively less concerned about SoTL's perceived value for annual review or promotion, although some did note it as a barrier.

Table 6. Frequency of barriers towards SoTL.

	<i>f</i>	%
Perceived legitimacy of SoTL work	41	29.3
SoTL not recognized or considered for annual review/merit raises	24	17.1
SoTL not recognized for promotion or tenure	23	16.4
Lack of time and difficulty balancing one's work in SoTL with professional obligations	68	48.6
Lack of study design and methodology training	26	18.6
Lack of funding	50	35.7
Lack of collaborators	25	17.9
Other	14	10.0

Discussion

Interpretation of Results

The nature of SoTL continues to evolve as does higher education itself (Sharp, 2023). Beginning with Boyer's influential work in 1990 through today, the characterization of SoTL has moved from scholarly teaching to the exploration and application of pedagogical methods (Boyer, 1990; Glassick et

al., 1997; Hutchings et al., 2011; Masika et al., 2016; McKinney, 2006; Webb, 2020). Much work has been done, nationally and internationally, to advocate broadly for the legitimacy of SoTL as evidence-informed teaching supports institutional goals of research productivity and student success (Case, 2013; Bernstein, 2013; Franks & Payakachat, 2020; Henry et al., 2021). The purpose of this investigation was to benchmark the status of SoTL at an urban research-intensive university within the context of contemporary higher education during the fourth wave of SoTL as labeled by Webb (2020). We compared the current study's findings and those obtained 12 years earlier. We gathered faculty perceptions of what professional activities constitute SoTL, faculty participation in SoTL, and how SoTL is applied towards faculty evaluation.

The current faculty and those studied previously considered activities that were peer-reviewed and shared formally through publication or professional conference to be examples of SoTL. The current cohort seems to have a broader interpretation of what is considered SoTL. For example, 75% of the current cohort indicated that disseminating a new course was SoTL versus 49% of the 2011 cohort and 70% of the current cohort indicated that incorporating technology into your teaching was SoTL compared to 37% of the 2011 cohort. Several authors differentiated scholarly teaching from SoTL, specifying that the latter consists of systematic analysis and public sharing of ideas (Hutchings & Shulman, 1999; Kern et al., 2015; Rigwell et al., 2000; Shulman, 1993;). The current faculty cohort made a different distinction. In part, this difference could be due to new modes of distribution that were not popular or available at the time of the previous study (e.g., sharing one's syllabus through a peer-reviewed electronic repository). However, this difference could also indicate that the current cohort of faculty are overinclusive in their definition of SoTL, which may counteract efforts within the discipline to establish SoTL as equivalent to other disciplinary research.

The perceptions of both cohorts for what counts as SoTL across disciplines were fairly consistent, with only two small differences noted. Specifically, faculty in art and general education were more likely to consider a qualitative study to be SoTL, which probably reflects their greater familiarity with that type of scholarly methodology. Faculty in the school of medicine were more likely to consider disseminating a new course to be SoTL, which may reflect that they place greater value on the contribution of that product within their educational context, given that medical faculty often have additional clinical responsibilities that may limit the amount of time they have available to prepare courses. There were also differences by faculty rank. Assistant professors of the current cohort were more likely to consider qualitative studies and non-traditional activities such as developing course materials and blog posts as SoTL compared to full professors. Assistant professors of the previous cohort were more likely to consider developing case studies and making changes to teaching based on students' evaluations SoTL compared to full professors. Collectively, junior faculty made few distinctions between scholarly teaching and SoTL. Without a consistent and common definition of SoTL, developing and interpreting faculty evaluation criteria for promotion, merit and/or awards will remain a challenge. One solution might be to embed training in SoTL in graduate programs so that faculty start from a common place when considering what qualifies as SoTL rather than developing their own definition as their career progresses.

Our current findings, as well as those 12 years earlier (Secret et al., 2011), support the notion that more work needs to be done to bring clarity to the practice of SoTL. Other authors reported on

varying opinions of what qualifies as SoTL despite efforts to define it (Gurung et al., 2019; Islam et al., 2020; Lanning et al., 2012; McEwan, 2020). Reano et al. (2019) found an improvement in graduate students' abilities, across all disciplines, to recognize main elements of SoTL immediately following a brief 2-hour workshop. A longitudinal study by McEwan (2020) reported an improvement in faculty members' understanding of what constitutes SoTL though it was not consistent among all participants of the same faculty development program. Case (2013) and Forrest (2013) provided examples of faculty development initiatives to support SoTL activities.

Regarding faculty experience with SoTL, we inquired about the number and types of publications, external funding, and differences with SoTL activity across disciplines and faculty rank. The current survey asked faculty about a greater number of experiences, where presentation at a professional meeting was the most common. About half of the current cohort and the previous one had at least one SoTL publication, which were mostly empirical-based versus conceptual. Both cohorts indicated similar experience with receiving SoTL grants. In the previous cohort, faculty in professional schools had the most publications and faculty in humanities and sciences had the least number of publications. Associate and full professors had more grants than assistant professors, not surprising given more advanced career stages. Overall, Secret et al. (2011) suggested that differences among disciplines and faculty rank may be due to varying cultural norms regarding the value of SoTL and interpretation of promotion and tenure guidelines. Although our current findings indicate no differences in SoTL experience among disciplines or faculty rank, survey outcomes do not suggest sweeping changes in cultural norms as a result of the fourth wave of SoTL. About fifty percent of the current cohort's perceived attitudes towards SoTL had improved since they arrived at their current university. However, the other fifty percent thought positive views of SoTL remained the same or decreased. Relative to disciplinary research, most faculty indicated SoTL was less valued for the purpose of promotion and tenure. For those faculty who previously held positions at another institution, less than half indicated their current university valued SoTL more than their previous institution. These data reinforce the need for clarifying promotion and tenure guidelines for both faculty and promotion and tenure decision-makers. Conceptual gains in the SoTL literature may not be translating to policy at academic institutions.

The current and previous cohort tended to place the same sample vignette as a SoTL product in both the "teaching" and "research" sections of the promotion portfolio. Generally, the current cohort indicated the product was more important for the promotion from assistant to associate professor or annual merit raises and less important for promotion from associate to full professor. Faculty are less inclined to engage in SoTL activities when its prestige and value are inconsistent (Asarta et al. 2018; Kern et al. 2015; Webb 2020). Gansemer-Topf et al. (2022) reported no difference in the engagement of SoTL after reviewing 10 years (2010-2019) of curriculum vitae submitted for successful promotion and tenure review. Although SoTL efforts continue to mature and gain acceptance across higher education, institutional barriers persist (Asarta et al. 2018; Gansemer-Topf et al., 2022; Webb 2020). In addition to our current cohort's concern about the lack of legitimacy of SoTL, limited time, funding, training, and collaborators were recognized as barriers. Others have reported similar barriers towards faculty members' sustained engagement of SoTL (Gurung et al., 2019; Lanning et al., 2014; Scott 2018).

Limitations

Survey research is based on self-reported data and influenced by the respondent pool. Self-reported data may be inaccurate due to respondents' lack of recall, desire to provide socially acceptable answers and/or misinterpreting what a survey item is asking. Capturing the perceptions of only a portion of the intended respondent pool may not fully represent the opinions of the entire pool. For example, faculty less interested or familiar with SoTL may be less inclined to complete our survey. Our study design attempted to mitigate these limitations. Survey responses were anonymous. The survey items of the current study were mostly duplicated from the one used by Secret et al. (2011). Due to current university policy, we were not able to directly contact faculty via email which may have impacted the representativeness of our sample. Our findings may not be generalizable due to the limited respondent pool and self-selection bias, where the latter represent the most polarized perspectives about this specific topic. Further, these data come from a single institution; faculty from other institutions with different policies, procedures, and cultures may have different perceptions of SoTL.

Implications and Future Research

Webb (2020) named 2012 to the present as the fourth wave of SoTL maturation, where the focus is on institutional support and challenges of SoTL. Case (2013) and others (e.g., Forrest, 2013; McEwan, 2020) advocated for university teaching centers, recognizing that intentionally bringing faculty together to explore teaching innovations has the potential to move teachers from consumers of the teaching literature to SoTL scholars. Forrest (2013) noted that teaching centers provide opportunities for junior and senior faculty and those across disciplines to dialogue about pedagogical approaches, helping to elaborate the definition of SoTL within an institution. Hiring educational developers with SoTL experience and funding SoTL research also helps advance foundational and common university strategic initiatives such as student success and retention (Case, 2013; Forrest, 2013; Webb, 2020). During the fourth wave, the establishment of professional development programs further institutionalized SoTL by building capacity amongst faculty scholars (Case, 2013; Webb, 2019). Disciplinary researchers moved from reflective teaching to studying specific questions within their area of expertise (Webb, 2020). The professionalization of SoTL included the emergence of journals devoted to promoting SoTL and discipline-specific initiatives providing avenues for the dissemination of new knowledge (Marquis, 2015; Michael et al., 2010; Sharp, 2023).

The findings of this study suggest some additional research directions. First, it will be important to investigate to what degree this pattern of findings holds true across other types of institutions. There is reason to believe that institutions that place more emphasis on teaching (e.g., liberal arts colleges) may have more favorable views of SoTL as it more closely aligns with institutional priorities (Gurung et al., 2019). Second, we found very few disciplinary differences, as our codification of discipline was by necessity broad. A more nuanced analysis of different disciplines might detect differences that this study did not.

The last few years of the fourth wave demonstrated a sudden shift in university practices with the onset of the COVID-19 pandemic. Overnight, faculty were converting in-person didactic

instruction to remote learning often lacking experience and resources necessary for effective online teaching. Faculty created simulations, demonstrations, and other alternative teaching approaches when physical spaces such as art studios, research laboratories, and patient care clinics were shut down (DeMatthews et al., 2020; Grover et al., 2023; Hung et al., 2021). An opportunity that came from the pandemic was the systematic study of teaching innovations aimed at engaging students to ensure learning outcomes (Maurer, 2022). The physical closure of educational spaces and limited access to research materials afforded faculty time and motivation to reflect, collaborate, and publicly share their SoTL products (Coleman, 2023). Data-driven instruction is particularly important at this time within higher education. As university leaders grapple with ways to foster student success and research productivity, SoTL scholars' knowledge and skills could be leveraged to create meaningful curricular refinement (Maurer, 2022).

Appendix A

Survey Vignettes

1. An article published in *Advances in Physiology Education* describes the results of a study of undergraduate students in 12 courses at 8 different institutions. The students were surveyed to determine the prevalence of 13 different misconceptions (conceptual difficulties) about cardiovascular function. *Advances in Physiology Education* is an online, peer-reviewed journal published by the American Physiological Society.
2. A series of virtual case studies that focus on obtaining informed consent and patient motivation relative to managing patients with depression. The case studies were published on MedEdPORTAL, a peer-reviewed online inventory of educational materials.
3. A paper published in *Academic Leadership* provides historical perspective, definition, and implications for intellectual property, copyright, and fair use in education legislation. *Academic Leadership* is an online peer-reviewed journal that publishes articles by faculty and administrators from all disciplines and units in the academy.
4. A study compared two general chemistry courses taught in the same semester by the same instructor. One section was taught using standard lecture format, while the second section was taught by substituting one lecture with a break-out session involving peer led group work. Student progress in the two sections was compared based on test results. The results of the study were presented at the most prestigious national chemistry conference.
5. Over the course of the semester, a faculty member blogs about their experience using WhatsApp for student collaboration and Facebook to communicate with students.

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