Teaching and Learning Enhancement Fund

TLEF Project – Final Report

Report Completion Date: (2020/06/30)

1. PROJECT OVERVIEW

1.1. General Information

Project Title:	Empowering Students Through Self-Regulated Learning: Fostering Students' Self-Awareness as Learners and Capacity for Academic Success.		
Principal Investigator:	Acting Principle Investigator: Stefania Burk, Associate Dean – Academic, Faculty of Arts		
Report Submitted By:	Olivia Jenkinson, Project Coordinator (Report prepared by Silvia Mazabel & Olivia Jenkinson)		
Project Initiation Date:	2019/05/01	**Project Completion Date:**	2020/05/30
Project Type:	☐ Large Transformation ☒ Small Innovation ☐ Flexible Learning ☐ Other: [please specify]		

1.2. Project Focus Areas – *Please select all the areas that describe your project.*

☒ Resource development (e.g. learning materials, media)

☐ Infrastructure development (e.g. management tools, repositories, learning spaces)

☒ Pedagogies for student learning and/or engagement (e.g. active learning)

☐ Innovative assessments (e.g. two-stage exams, student peer-assessment)

☒ Teaching roles and training (e.g. teaching practice development, TA roles)

☐ Curriculum (e.g. program development/implementation, learning communities)

☒ Student experience outside the classroom (e.g. wellbeing, social inclusion)

☐ Experiential and work-integrated learning (e.g. co-op, community service learning)

☐ Indigenous-focused curricula and ways of knowing

☐ Diversity and inclusion in teaching and learning contexts

☐ Open educational resources

☐ Other: [please specify]

1.3. Project Summary

This project offered support to instructors for enhancing 'self-regulated learning' (SRL) in undergraduate classrooms across the Faculty of Arts (FoA), Faculty of Science (FoS), and Vantage College. Support was offered in the form of financial resources to employ student assistants, the provision of ongoing coaching from an SRL pedagogical expert, and a set of workshops that provided a theoretical and practical introduction to SRL.

The goals of this project were two-fold;

1) To introduce SRL-promoting interventions across a broad spectrum of classes, aiming to enhance student's ability to take ownership of their own learning, and adjust their behaviors to different disciplinary contexts.

2) To test a model of support, referred to as 'Innovation Teams' within the project. To evaluate the model's effectiveness for future extensions of this work across campus, and as a possible structure for other professional development endeavors centered around thematic areas.

The project commenced in April 2019 with two workshops delivered by the SRL pedagogical coach. These workshops provided a theoretical grounding to SRL, along with inspirational examples of SRL-promoting classroom practices from different disciplines, and time to brainstorm and discuss these concepts with colleagues from different academic areas and complementary campus initiatives.

Over the summer, each faculty member was encouraged to form an Innovation Team composed of a combination of; a student assistant, the SRL pedagogical coach, interested colleagues, teaching and learning experts, or disciplinary pedagogical coaches. Six teams were formed and each Innovation Team constructed their own schedule of how and when to interact with each other to meet their individual goals and needs throughout the year.

The outcomes from each Innovation Team, and the effectiveness of this model of support, were very positive for students, faculty and other campus partners involved in the project with reported benefits varying by context across the project. Significant insights were gained in relation to which resources are required to introduce the SRL framework to faculty and teaching professionals effectively. Specific characteristics from different learning environments have also been identified as ideal contexts for these types of initiatives to thrive (refer to section 3.3 for a summary of impacts achieved and to section 4 for impact on teaching and professional practice).

Data and testimonials from project partners reveal positive impacts on students, ranging from attitudinal shifts and improvements regarding academic performance, to enhanced awareness about themselves as learners in relation to tasks and the learning context (refer to section 3.3 for a detailed description). In line with other SRL focused studies, the lasting impacts of the work done during this one-year period may not be apparent for some time, and are not easily quantifiable.

The interest from faculty members to further engage with SRL concepts and practices beyond the scope of this project signifies the value they perceived was added to their teaching practice through the introduction of SRL principles and activities. This project enhanced faculty's teaching practice which will have sustained impact on students overtime. Several Innovation Teams have received Behavioural Research Ethics Board (BREB) approval to use the data collected to publish about their experience, and other faculty members are planning how they will continue exploring these concepts in classes next year. A significant wealth of knowledge and experience was gained across a network of faculty, teaching and learning professionals, student assistants, and staff from complementary campus services, which represents the primary asset built from this small TLEF. A commitment to share our experience, with peers both internally and externally to UBC, is the basis for plans to continue and expand this work.

1.4. Team Members – *Please fill in the following table and include **students**, undergraduate and/or graduate, who participated in your project.*

Name	Title/Affiliation	Responsibilities/Roles
Dr. Sunaina Assanand	Former Associate Dean, Student Success, Faculty of Arts	Original Principal Investigator
Dr. Stefania Burk	Associate Dean Academic, Faculty of Arts	Acting Principal Investigator
Dr. Sara Harris	Associate Dean Academic, Faculty of Science	Representing the Faculty of Science's support of the project
Dr. Deborah Butler	Professor, Faculty of Education	SRL Design Lead/Expert Consultant
Silvia Mazabel	PhD Candidate and SRL Expert, Faculty of Education	SRL Pedagogical Coach
Olivia Jenkinson	International Learning Officer, Faculty of Applied Science	Project Coordinator
Dr. Gillian Gerhard	Senior Educational Consultant, CTLT	Teaching and learning consultant
Sue Hampton	Educational Consultant, CTLT	Teaching and learning consultant
Dr. Laila Ferreira	Lecturer, Arts Studies in Research and Writing, Faculty of Arts / Vantage College	Faculty lead of Innovation Team
Dr. Kerry Greer	Senior Instructor, Undergraduate Chair - Department of Sociology, Faculty of Arts	Faculty lead of Innovation Team
Dr. Katherine Lyon	Instructor, Department of Sociology, Faculty of Arts / Vantage College	Faculty lead of Innovation Team
Dr. Costanza Piccolo	Instructor, Department of Mathematics, Faculty of Science	Faculty lead of Innovation Team
Dr. Christine Goedhart	Science Education Specialist, UBC Skylight, Faculty of Science	Pedagogical coach lead of Innovation Team
Dr. Georg Rieger	Instructor, Department of Physics and Astronomy, Faculty of Science	Faculty lead of Innovation Team
Dr. Jess McIver	Assistant Professor, Department of Physics and Astronomy, Faculty of Science	Peer collaborator on Innovation Team
Jennifer Walsh Marr	Lecturer, Academic English Program, Vantage College	Faculty lead of Innovation Team
Leah Marks	Registered Clinical Counsellor, former Academic Advisor, Faculty of Arts	Former Project Coordinator
Samuel Wong	Undergraduate student	Student assistant on Innovation Team
Nicole Malette	Graduate student	Student assistant on Innovation Team
Rhea Storlund	Graduate student	Student assistant on Innovation Team
Dan Kim	Undergraduate student	Student assistant on Innovation Team
Sean Cooper	Graduate student	Student assistant on Innovation Team
Katie Faulkner	Graduate student	Student assistant on Innovation Team
Kevin Wong	Undergraduate student	Student assistant on Innovation Team

1.5. Courses Reached – *Please fill in the following table with **past**, **current**, and **future** courses and sections (e.g. HIST 101, 002, 2017/2018, Sep) that have been/will be reached by your project, including courses not included in your original proposal (you may adapt this section to the context of your project as necessary).*

Course	Section	Academic Year	Term (Summer/Fall/Winter)
BIOL 121	All sections	2019/20	Fall & Winter
SOCI 100	306	2019/20	Fall
ASTU 204A	V03, V07, V08	2019/20	Fall
WRDS 350	3	2019/20	Fall
PHYS 117	V01, V02	2019/20	Fall
SOCI 101, 102	V01	2019/20	Fall & Winter
PHYS 118	201, 202	2019/20	Winter
MATH 180	109, 102	2019/20	Winter
WRDS 150	04P, 05Q, 07P	2019/20	Winter
BIOL 140	2A1-2A4, 2B1-2B4, 2D1-2D4, 2F1-2F4, 2G1, 2G2, 2I1-2I4, 2J1-2J4, 2L1-2L4	2019/20	Fall & Winter
MATH 110	001, 003, 004	2019/20	Winter
VANT 140	V04	2019/20	Fall & Winter
LLED200	V06, V08, V10	2019/20	Fall & Winter

2. OUTPUTS AND/OR PRODUCTS

2.1. *Please **list** project outputs and/or products (e.g. resources, infrastructure, new courses/programs). Indicate the current location of such products and provide a URL if applicable.*

Product(s)/Achievement(s):	Location:
Workshops: Two workshops (90 minutes each) to introduce SRL principles, pedagogical practices and inspirational examples. Collaboration time was built in to support initial planning for each Team.	Workspace *Access has been organized for tlef.admin@ubc.ca. If additional access is required, please contact olivia.jenkinson@ubc.ca.
SRL Innovation Teams Projects Project Summaries by Course: This folder includes a description of each Innovation Team's actions, findings and reflections to contextualize Team's work as inspirational examples. Collection of Exemplar SRL Classroom Innovations: This folder contains specific activities and tools designed within this project to support student engagement in SRL. These tools are meant to be used as inspirational examples for others to tailor to their specific teaching and learning contexts. SRL Guide for Sociology 100 Instructors: This resource was developed by the Sociology 2 Team to inform other instructors in their department about SRL, why it is relevant to support student engagement in SRL and how to do it in the context of a particular course. For example, it presents how to incorporate SRL in syllabi and assignments	

2.2. Item(s) Not Met – *Please list intended project outputs and/or products that were not attained and the reason(s) for this.*

Item(s) Not Met:	Reason:
Website describing the project, and sharing SRL findings	After further discussion about this deliverable that was accounted for in the project budget, it was decided that a dynamic resource would be more helpful than a static repository. Therefore, the project is focusing on the people and existing structures that could work with faculty members in more formative ways. Responsibility for the ongoing management of the webpages was also uncertain.
Administration of the 'Perceptions of Competence and Control" (PoCC) survey for all courses at the start and end of term	Significant disruption caused by COVID-19 pulled instructors focus to quickly adapt their courses to online delivery. During this time of transition, some surveys were not distributed.
Consideration of ongoing use of the support model, or extension into a large TLEF project	Due to changes in academic leadership, the continued strategic importance of SRL at a faculty level is something that is still in discussion. Future investment of resources across complementary services, and coordination of an ongoing model of support that is faculty-led, still needs to be determined.

3. PROJECT IMPACT

3.1. Project Impact Areas – *Please select all the areas where your project made an impact.*

☒ Student learning and knowledge

☒ Student engagement and attitudes

☒ Instructional team teaching practice and satisfaction

☐ Student wellbeing, social inclusion

☐ Awareness and capacity around strategic areas (indigenous, equity and diversity)

☐ Unit operations and processes

☐ Other: [please specify]

3.2. What were you hoping to change or where were you hoping to see an impact with this project? – *Please describe the intended benefits of the project for students, TAs, instructors and/or community members.*

Intended benefits to students

An overarching purpose of this project was to equip students to 'take ownership of their own learning.' Each faculty member set specific goals relevant for students in their courses, and sought to meet them through designing SRL Innovations. **Table 1** summarizes the focus and SRL innovations of each team:

Table 1.

SRL Innovation Teams (Courses)	Goals	Summary of SRL Innovations*
Biology (BIOL 140/BIOL 121)	Help first-year students to develop study strategies, assignment preparation strategies, and attitudes that improve their ability to	Planning and reflection surveys linked to a major assignment (BIOL140) and exams (BIOL 121)

	effectively regulate their own learning. (SRL targets: motivation, metacognition and strategic action)	
Physics (PHYS 117/PHYS 118)	Support students in decision making around problem solving and studying, and build student confidence as learners. (SRL targets: motivation and strategic action)	Scaffolding task interpretation in class and providing forward facing feedback after tests
Math (MATH 180/MATH 110)	Engage students in effective math problem solving while raising awareness of the importance of engaging in adaptive studying routines and habits. (SRL targets: metacognition and strategic action)	Face to face workshops with explicit instruction about SRL, reflections/wrappers, progress monitoring, growth mindset messages.
Writing (WRDS 150/WRDS 350/ ASTU 204A/ VANT 140/ LLED200)	Support students to develop an awareness of their own learning in social learning contexts through collaborative work. Support students to recognize the expectations of different learning situations and contexts, and better meet them. (SRL targets: metacognition and strategic action)	Explicit mention of SRL, reflections before and after assignments, in-class scaffolds for students to become more strategic (e.g., peer review)
Sociology 1 (SOCI 101/SOCI 102)	Support new university students in navigating the learning norms taken for granted within sociology at UBC. (SRL target: metacognition)	Explicit instruction about metacognition and deep learning, participatory lectures, guiding worksheets, peer discussions, choice in major assignments.
Sociology 2 (SOCI 100)	Giving students opportunities to craft their own experiential learning and exploring connections between post-secondary experience and career paths. (SRL targets: strategic action and motivation)	Choice and involvement in decision making, reflections, mapping out plans for learning.

* Refer to the folder titled SRL Innovation Teams' Projects located in the Workspace folder for a detailed description of each team's SRL innovations (Project Summaries by Course) and examples of activities and tools designed within this TLEF project (Collection of Exemplar SRL Classroom Innovations).

Intended benefits to faculty

Our project aimed to enhance faculty teaching practices by exposing them to theory and research about SRL as a teaching and learning framework (i.e., workshops and individual coaching with SRL pedagogical coach), and inviting them to (re)design and trial SRL-promoting practices in their courses. In this way, they could: (a) enrich their knowledge about SRL; (b) gain experience in adapting existing tasks and creating new activities that fostered self-regulated learning; and (c) ignite an interest to continue this work in future courses and collaborations.

Intended benefits to campus partners

The hope for campus partners from complementary student services, (including academic advising and peer support programs) and teaching and learning professionals from CTLT and UBC Skylight, was primarily capacity building. It was intended that some of our campus teaching and learning professionals could use the SRL Innovation Team model of support, or aspects of it, in future capacity building initiatives within their units. Similarly, we sought to enhance their understanding about specific SRL principles and practices as a framework to consider in professional development initiatives. The intentional inclusion of a variety of campus partners was to promote a broader understanding about specific SRL principles and practices, so that this framework could be infused across an ecosystem of settings where student interactions are taking place.

Intended benefits to student assistants

Although not the primary focus, the student assistants who were hired as part of this project would have significant exposure to SRL concepts, and in some instances, gain experience co-creating classroom interventions. From this exposure, it was hoped that these students would become more effective self-regulated learners themselves.

Intended contribution to teaching professional development

We designed and implemented a model of professional development that paired capacity building and sustained support through Innovation Teams for faculty to bring SRL innovations to their classrooms. In this first attempt at implementation, we sought to identify areas of strengths and limitations to continue shaping it to be more useful and generative for enhancing teaching and learning across campus.

3.3. Were these changes/impacts achieved? How do you know they occurred? – *What evaluation strategies were used? How was data collected and analyzed? You are encouraged to include copies of data collection tools (e.g. surveys and interview protocols) as well as graphical representations of data and/or scenarios or quotes to represent and illustrate key themes.*

Impact on Students

To evaluate impact on students enrolled in courses where SRL supports were infused, we analyzed data from a brief survey (Perceptions of Competence and Control - PoCC), records of classroom-level outcomes, and an interview with Innovation Teams' members.

The PoCC Survey is a brief survey that measures student sense of competence and control (i.e., confidence, self-efficacy, and success attributions) about specific learning activities (refer to questions in attached *PoCC General Survey).* Each Innovation Team tailored the survey to their contexts and specific tasks. Its implementation varied from course to course to match each Innovation Teams goals, but in most cases the survey was administered at the start and end of the course through Qualtrics. In a few courses (e.g., PHYS118, MATH110) this survey could not be implemented or records were not accessible to include in this report due to disruptions to the term caused by COVID-19. The pandemic also had an impact on the number of students who responded to the surveys at the end of Winter Term 2 which limited data analysis and interpretation.

Table 2 presents survey respondents per Innovation Team. In this report, we are including findings for those Innovation Teams for which we have available data. Given the situated nature of the survey, it was analyzed on a case by case basis (for an example, refer to attached PoCC Analysis by Course) and we present an overall summary of those findings in this section.

Table 2.

SRL Innovation Team	Course/Term	PoCC Respondents (n)		
		Start of Course	Mid-course	End of Course
Biology	BIOL 140 Term 1	386	N/A	422
	BIOL 121 Term 1	155		17
	BIOL 140 Term 2	395		412
	BIOL 121 Term 2	558		396
Math	MATH 110 Term 2	Not available		151
Writing	ASTU 204A, LLED200, VANT 140, Terms 1 and 2	117	128	34
	WRDS 150, Term 2	66	N/A	8
Sociology 1	SOCI 102 Terms 1 and 2	90		36

We also evaluated impact on students through records of classroom-level outcomes taken throughout the project in Innovation Team meetings or via e-mail; and through an interview with Innovation Team members. This was a semi-structured interview conducted via Zoom or e-mail with teaching (n= 6) and non-teaching team members (n=2) at the end of the project (refer to attached End of Project Interview Protocols). The SRL pedagogical coach and project coordinator listened to these interviews and extracted themes.

Findings

A cross-Innovation Team analysis of impact on students suggests students enrolled in participating courses gained, as hoped, in the areas of motivation, metacognition, and strategic action. Some of these gains were domain-specific; others were gains that might be beneficial across domains. Faculty acknowledged the potential intersection of multiple variables, including SRL innovations, in student outcomes and wondered whether and how the outcomes for students will sustain in the long-term. **Table 3** presents faculty perspectives on student outcomes along with examples of SRL pedagogical practices they linked to these outcomes. Findings are organized in relation to different aspects of SRL that Innovation Teams were aiming to enhance through their innovations: student motivation, metacognition, and strategic engagement with activities.

Table 3.

SRL Dimension	What did faculty observe?	How? Examples
Motivation	• Increased level of enthusiasm, engagement, and participation in class and in assignments. *"More awareness and understanding that all contribute to learning in the classroom. And this included me [instructor]."* (LF, Writing)	• Opportunities to discuss and share personally meaningful reflections about their work, their understanding of course materials, or learning experience. • Creating a classroom atmosphere where students were considered partners in knowledge formation. • Involving students in decision making about their assignments.
Metacognition	• Enhanced quality of reflective discourse about their learning experience. • Enhanced awareness about themselves as learners in relation to tasks and the learning context. • Enhanced awareness about others as learners in relation to collaborative tasks.	*"… there were more layers to it* [reflection] *than before, both descriptive and analytical."* (KL, Sociology 1) *"I would expect this* [modeling, partnering with students in knowledge making] *to have an impact on how they view themselves and their own performance, abilities and potential for growth. The more important outcome is them feeling empowered and seeing that they have growth potential than a short term increase in their grade."* (GR, Physics) *"Students were more conscious about others in relation to how they talked about group work. They recognized different situations that impacted their learning, they talked differently about group work and how it affected them, the way in which they managed collaborative work."* (LF, Writing)
Strategic Action	• Students expressed a need to change their study habits or adapt the way they engaged with tasks. • Adaptive engagement with tasks and realization of how specific activity features support them in developing effective strategies. • Increased progress monitoring and engagement in help-seeking as an effective strategy.	• Exposure to SRL supportive tasks (e.g., planning and wrapping tools, reflection about performance). *"A student said she was not enjoying the reflections because she didn't have much to reflect on as her work was correct and the reflections focused on errors. Another student said she actually enjoyed them and it was useful for her to reflect on her errors."* (CP, Math) A group of students approached their instructor as a collective to discuss what they had missed in their small group assignment. They incorporated the instructor's

	• Strategic engagement with course materials	feedback and were successful on their subsequent group writing task. • Modeling and scaffolding effective strategies from problem solving *"… the midterm that shows a huge difference between our section and the other section in terms of writing their thoughts on multiple choice questions."* (GR, Physics)

Outcomes in relation to attitudes towards learning (i.e., task value, success attributions, confidence and competence) align with faculty observations of shifts in these areas.

- Task Value: On average, surveyed students across courses rated 'getting a good grade' on course-related activities (e.g., assignment writing, midterm) to be slightly more important than other task features/opportunities (e.g., learning how to write, study or solve problems, using rubrics, learning about instructor expectations). Nevertheless, these other features were also deemed important for students and findings were consistent over time. For courses where students were asked to rate task value at the end, a visual inspection of patterns indicated slight gains over time in the level of importance assigned to different task features/opportunities to develop skills. In some courses (i.e., Writing and Math Innovation Teams), students tended to rate SRL related tasks as 'productive' and 'fun' rather than as 'boring' or 'useless.' This is consistent with faculty reports (across Innovation Teams) on student comments that SRL supportive activities implemented in their courses were helpful. Confidence and competence: On average, surveyed students at the start of the courses reported feeling somewhat confident about particular skills like assignment/exam writing or lecture note taking. In some courses (i.e., BIOL 140; BIOL 121 Term2; WRDS 150) ratings of confidence about specific skills remained stable overtime. In other courses (i.e., SOCI102; BIOL121 Term 1; VANT140; ASTU 204A, LLED200), a visual inspection of patterns indicated small gains overtime in confidence about academic writing, lecture engagement, and midterm writing. Similarly, small gains in ratings of competence about general (e.g., *I'm good at writing, I'm a good student*) and specific skills (e.g., connecting and coming up with ideas in writing; evaluating answers to practice questions; following formatting instructions) for students at the end of these courses were also observed. The latter aligns with faculty insights about observed improvements in domain specific skills like:
    - Higher quality in written expression (e.g. students showed being more comfortable writing first person reflection/opinion pieces drawing from research/new content; better structured and more complete written assignments; display of student thinking and understanding in midterms).
    - More sophisticated analysis, and solving of complex problems in Math and Physics.
- Success attributions: The majority of students reported effort, use of effective strategies, and task difficulty as relevant in defining whether they would or would not be successful. Students recognize that success is related to the interaction between what they can control and features external to them which shows metacognitive awareness. Findings in relation to changes overtime for success attribution are mixed. For instance, students in BIOL140 tended to link their success less to effort and effective use of strategies and more to task difficulty at the end of the term which is opposite to what the Innovation Team expected given the SRL innovations they implemented. In the Writing Team courses, student ratings of success attribution remained stable over time, and in BIOL 121 student tended to attribute success more to task difficulty (e.g., I'll be successful if exams are easier) than to other items at the end of the term (I'll be successful if I try hard).

SRL Innovation Teams continue to analyze data gathered during the project (e.g., linking course performance and course-level assessments, in depth analysis of surveys) thus fine grain findings in relation to impact on students at the course level are expected to arise.

Impact on teaching and professional practice

To understand whether and how different Innovation Team members' (i.e., instructors/pedagogical coaches/CTLT partners; n=8) practice was influenced through their participation in this project, we conducted individual semi-structured interviews at the end of the project (see attached document *End of Project Interview Protocols*). The SRL pedagogical coach and project coordinator listened to these interviews and extracted themes. Refer to section 4 of this document for a description of gains and changes in teaching practice for participating faculty.

Impact on student assistants

At the end of the project we interviewed student assistants (UGA/GAA; n=5) via email to understand how participating in this project had influenced their experience as learners and as members of the UBC community (see attached document *End of Project Interview Protocols*). Notes from Innovation Team meetings were also used to evaluate the impact the project had on student assistants.

Student assistants (SA) were drawn to this project to enhance their knowledge about teaching and learning, and build their capacity and skills for future teaching and research positions. Both goals were achieved as it is presented in **Table 4.**

Table 4.

Reported Gains	How?	Examples
Enhanced SAs understanding about their own learning as a result of learning about SRL principles.	Engagement in personal reflection about themselves as learners Adaptive engagement with learning	*"I changed the way I view my progress when completing large tasks, like research, making myself feel more productive while trying new things and helping me to guide myself when I get stuck."* *"I am now better at stopping a task that I am not making progress after struggling with it for an appropriate amount of time to find new strategies to approach it."*
Specific knowledge (i.e., the SRL framework) about how other students learn and ways to empower them through teaching. Awareness of the meaning and value of SRL as a skillset that is important to teach to engage students in and beyond the classroom.	SA experience supporting instructors in the development and implementation of SRL focused activities enabled them to recognize when and how different activities or instructor-student interactions were aligned with SRL, and how to make these meaningful for students.	*"Interacting with the students, watching their progress, and discussing the reasons behind each of the activities with them were all very influential in terms of 'buying in' to this learning model … when I was able to talk to some students about why we were doing what we were doing, they seemed to enjoy those discussions and were more open in their reflections later."* A student produced a handbook of SRL practices by looking at existing first-year course syllabi from an SRL lens. Exposure to different syllabi designs taught her how to tweak them to fit new teaching practices.
Knowledge about teaching practice	SAs participated in course/ task planning discussions, and supported faculty in designing activities.	In a team meeting, the SA expressed he realized the relevance of fitting learning objectives to assessment and feedback practices.
Skills for future teaching/research positions	SAs were involved in activities that required them to acquire or further develop specific skills.	Knowledge about the ethics of research, completing a BREB application, data analysis methods, and collaborative work.

*Quotes are anonymous to respect student assistants' privacy.

Contribution to teaching professional development:

We first evaluated the model of support (i.e., SRL Innovation Teams) half-way through the project when we surveyed instructors via email to understand whether and how the model of support was being helpful, and how to improve it. This evaluation was used to adjust the support offered. A second instance of evaluation was done in our exit interviews with Innovation Team members.

Many insights into the successes of this model of capacity building and sustained support were gained:

- Project partners appreciated the varied sources of support available to them (i.e., workshops, SRL pedagogical coaching, and student assistance). They were able to engage with the resources in their individual Innovation Teams in a way that made sense to them, at the frequency and times they needed in response to the development of their ideas, and for formative adjustments to their approaches.
- Ongoing access to the SRL pedagogical coach was highlighted as a necessity for many teams to continue building their understanding of SRL principles beyond the workshops and as a point of reference to translate these understandings to their context. This was also highly appreciated by non-teaching partners. For example, our CTLT partner mentioned how she is embedding ongoing/tailored pedagogical coaching within structures that are already in place.
- Faculty reported positive changes to teaching practice (see section 4 of this document for a detailed description) and attributed them to opportunities the model offered to learn about and discuss SRL theory and research tied to their teaching practice; and to intentionally engage in designing, implementing and adapting SRL supportive practices in the context of a real course. Faculty expressed these changes in teaching practice would sustain over time which will continue to impact students.
- A major theme emerging from faculty and non-teaching partners was the power of peer collaboration embedded in the model. Collaboration was particularly useful for idea sharing, accountability, motivation, and contextual translation of concepts. For example, the Biology Team lead (a non-faculty partner) highlighted the collaboration with instructors as an aspect to continue embedding in her professional practice.
- The overall success of the model of support is also evidenced by the repository of Innovation Teams Projects and the Collection of Exemplar SRL Classroom Innovations that were designed during the project (refer to section 2.1 of this document).

A deeper understanding of the time and resources required for this model to be effective was a key theme that faculty members spoke to during their exit interviews.

- The model of support gave autonomy to team leaders to structure the Team's interaction throughout the year to suit their individual work cycle, time availability and context. However, they found the overall timeline of the project did not always match their workload. Faculty suggested that embedding a longer planning/ piloting period (e.g., during the summer terms or making it a two year project) would be ideal.
- Faculty highlighted that to further inform their teaching practice it was relevant to design/use classroom specific assessments tools and inquire students about the usefulness of the SRL innovations to inform their teaching practice.
- Both faculty and campus partners agreed that more clarity on the roles and responsibilities of different members in the team is necessary to enhance productivity. For example, it was identified that having a teaching faculty member as leader for the team would allow for maximum impact. Even though it is possible to lead an Innovation Team as a teaching and learning expert, this can result in lower levels of buy-in and communication barriers with instructors who are implementing the classroom interventions.
- Specific characteristics from different learning environments, for example multi-section courses, have also been identified as being ideal contexts for these types of professional support to thrive. Refer to section 5 of this document for identified sustainment strategies and challenges to sustainability for this model of support.

We have attached a document titled *SRL Innovation Teams Model - Review* for a description of how the model was adapted within the project, and for further details about its strengths and limitations as perceived by faculty and campus partners.

3.4. Dissemination – *Please provide a list of **past** and **upcoming** scholarly activities (e.g. publications, presentations, invited talks, etc.) in which you or anyone from your team have shared information regarding this project.*

All faculty and non-faculty staff who completed exit interviews have expressed their interest in sharing their experience and findings at different events and venues (e.g., Celebrate Learning Week, the Skylight Supper Series in the FoS, the First-Year Educators' Symposium). However, given the expansive adjustments being focused on in response to the COVID-19 pandemic, no formal commitments have been made at this time.

Four faculty members have received approval from BREB to continue with their project beyond this TLEF project with the purpose of engaging in scholarly activities (i.e., publications and presentations) within their fields. The Biology Innovation Team is already engaged in the validation of the tools they developed through the project, and intend to present their experience at BC Bio (an annual meeting for members of the Biology Higher Ed teaching and learning community in BC), and at the UBC Biology Teaching & Learning Annual Retreat. Similarly, the Physics Innovation Team is planning on submitting an article to the Physics Teacher Journal, and are hoping to share their experience and collaborate with future instructors of PHYS 118. The Writing Innovation Team has one paper accepted at local conference within their field and are preparing two manuscripts for submission.

Faculty engaged in this project have also expressed interest in collaborating with colleagues within their departments as well as units across campus (e.g., student diversity and international students), to continue bringing supports for SRL to undergraduate courses.

4. TEACHING PRACTICES – *Please indicate if **your** teaching practices or those of **others** have changed as a result of your project. If so, in what ways? Do you see these changes as sustainable over time? Why or why not?*

Overall, faculty expressed their teaching practice stretched as a result of their participation in this project. Two main aspects of the model of support used in the project contributed to these changes: (a) access to learning about and discussing SRL theory and research tied to their teaching practice (i.e., workshops, recommended literature, direct interaction with the SRL pedagogical coach, and collaboration with colleagues); and (b) the opportunity of intentionally engaging in the design, implementation and adaptation of SRL supportive practices in the context of a real course.

Our data analysis indicated changes in teaching practices in three areas: (a) perspectives about students; (b) increased sense of competence about teaching and learning; and (c) new appreciation for specific teaching practices.

a) Perspectives about students

"At the workshop presentation I figured we had done nothing like that before, we were focused on content and how to deliver it but not on how do we bring students into the course, how do we respect their individuality or their backgrounds. I hadn't actively designed anything around that." (GR, Physics)

Some faculty mentioned that having a deeper understanding of SRL as a teaching and learning framework enriched their perspectives of students as learners in and beyond the classroom. Faculty enriched their appreciation for students taking ownership over their learning (*"Let them* [the students] *in on the design of their success."* JWM, Writing) which influenced their thinking around setting learning goals for students, course/assignment design, and directed their attention to understanding the joint responsibility between instructors and students in learning. For instance, some faculty are now more interested in understanding how students orient themselves to the course material as part of a long-term life project, and not only in relation to the specific course. For example, LF (Writing) mentioned her *"teaching has become even more democratic in that way, meaning that I have to design these learning situations so that they* [students] *can get the most out of it."* This way of thinking about students guided and will continue to guide the design of assignments in their courses. The implementation of SRL supportive innovations (e.g., reflection) enabled faculty to feel more connected to their students and enhanced their understanding of students as holistic beings. Some faculty highlighted that they learned about student beliefs, their understanding of the world beyond the subject matter, and their feelings about studying and learning.

b) Increased sense of competence about teaching and learning

"I came in not really knowing what to expect and it was only after a month into the course that I started to see the power of this approach. I learned SRL helps build confidence so I see it as an opportunity to support them [students] in moving on beyond this course and persist in their careers and goals." (JM, Physics)

Faculty expressed feeling more knowledgeable about teaching and learning because they were 'forced' to think beyond their own context and be more intentional about how to engage students in learning how to learn their subject matter (*"I really had a feeling that this was another layer on top of my instruction. It required reading and talking about stuff which was not about math…."* CP, Math). Despite the alignment of the SRL framework with faculty's pedagogical principles (e.g., active learning, inclusive teaching) some faculty felt challenged about having to translate SRL principles to content delivery, learning and assessment in their courses with no recipe to follow. Nevertheless, the project offered them the time and space to 'experience' the framework in action and at the end of the project they expressed having learned a lot about bringing supports for SRL into courses. For example, LF mentioned she had become more intentional about things she had been doing intuitively, and GR, (Physics) said: "*Not a 100% sure I'll be able to write down how to do this again, but I think roughly speaking going forward I have a much better idea of what to do".* Overall, faculty thought the SRL framework and the support they received were valuable to make these changes.

c) New appreciation for specific teaching practices

"I knew before that there was more to teaching a course than delivering content but I focused more on the ways to deliver it, like nice learning activities and getting students to discuss...but we are role models, we are teaching them how to be expert learners in the context of physics." (GR, Physics)

Faculty engagement in reflective and responsive teaching renewed appreciation for specific teaching practices like modeling, partnering with students in the process of learning, and guiding student engagement through enthusiasm and validation. For instance, one faculty member mentioned having a more concrete perspective in terms of the instructor as a model: *"You're always on, you're modeling the thought process, the attitudes, the way you're treating your colleagues, the way in which you're digesting and approaching what other people are saying to you. I had never appreciated that until I had this lens* [SRL] *to really focus my attention on the cues that I'm giving."* (JM, Physics) Another faculty member mentioned: *"I realized students need us to be very enthusiastic when they are willing to answer, we need to validate their thoughts and ideas, we need to internalize that they are trying to use the resources (whether they are using them correctly or not), but we are there to teach them that the resources are there and guide their engagement."* (GR, Physics)

Changes in professional practice for non-faculty members of the project

Two members of Innovation Teams whose work is related to faculty professional development also reflected on how having participated in this project invited them to think how the model of support or the SRL teaching and learning framework could make sense in their professional practice. Both of them identified and borrowed aspects of the model of support to inform their practice and have been thinking about how to embed it within structures they already have in place. One of them mentioned the project "*helped me understand a bit better what are some things that are important in a team, inclusion, people need to feel they are included like they have a voice, having more regular communication is important. And these things I knew before, but having the experience really solidified the importance of being inclusive and having regular, clear communication."* (CG, Biology)

Are these changes sustainable over time?

"I have that lens [SRL] for pretty much everything now, thinking about the other, modeling, guiding. I will definitely continue. I have no idea what I'll be teaching next year but for sure I'll test this out in other courses." (JM, Physics)

Faculty were realistic about the time, effort and commitment involved in teaching for SRL, but all who participated in the exit interviews said they are looking forward to adapting the SRL supportive teaching practices they designed throughout this project to future teaching opportunities. Some of them mentioned that the way in which they operationalized SRL during this project might not fit other courses. Nevertheless, they are intentionally focusing more on aspects of teaching they were not focusing on before, like bringing a growth mindset attitude to the classroom, and identifying opportunities for supporting SRL within their courses. Moreover, they are willing to enrich their current knowledge about SRL supportive practices through collaborations with colleagues, exploring the literature, and sharing their experience of teaching for SRL within and beyond their units. Faculty and non-faculty members mentioned will continue exploring the model support and suggested ideal scenarios and adaptations to make it work for them, their colleagues, and students.

5. **PROJECT SUSTAINMENT** – *Please describe the sustainment strategy for the project components. How will this be sustained and potentially expanded (e.g. over the next five years). What challenges do you foresee for achieving the expected long-term impacts listed above?*

Sustainment strategies:

Continuing efforts from project members

All faculty members who participated in exit interviews indicated that they are continuing to infuse their work with SRL principles and practices in some manner, and would be happy to serve in a mentorship capacity, or share their experience in future iterations of SRL professional development initiatives. Several faculty members expressed enthusiasm towards presenting as a project at upcoming campus-based initiatives, including; the CTLT TLEF Showcase, at the UBC Skylight Supper Series, and the First-Year Educators Symposium. Changes to teaching practice will have sustained impact on students over time.

Resources

A repository of SRL-promoting classroom exemplars, video recordings of the two workshops that were offered by the SRL pedagogical coach and Deborah Butler (Faculty of Education partner), and an SRL Guide for SOCI100 instructors are also available for continuing and expanding this work.

Potential Community of Practice/Mastermind

Variations of a Community of Practice (composed of partners from this project and other interested colleagues) are being considered as a possible vehicle for continuing to build our campus community's competence in the SRL teaching and learning framework. This model was suggested by two faculty leads, KL and JWM, in the end-of-project interviews. An advantage of using a community-based system for sustainability is the diversity of perspectives that can be accessed, and having multiple points of accountability. Existing communities are also considering how they might take up the SRL framework. E.g. Teaching Development Program for new faculty at CTLT. We could continue to have capacity building in SRL embedded in CTLT, Skylight, and other support settings, or consider having a short-term project with an SRL pedagogical coach to continue building capacity until this becomes more embedded into ways of working.

Learning Environments with scalability potential

Over the course of this project several faculty members identified that multi-section courses could be a compatible context to implement an Innovation Teams model of support due to the many faculty members who could gain experience with and exposure to SRL concepts. Built-in peer collaboration was highlighted as one of the key influencers of success in our project. It secures efficient and focused time investment where faculty's efforts are intertwined with their course planning in meaningful ways, and where faculty are learning with and from each other to bring SRL pedagogical practices to life in the contexts where they are working. An advantage offered by multi-sectioned courses is that teams of people can collaborate on situating SRL practices in a discipline, spreading the work and amplifying their practice rather than each instructor having to do it entirely on its own. As JWM (Writing Team) expressed: *"There can be tag teaming for resource development.'*

The way that Vantage College engages teaching teams was also identified as a potentially highly compatible context to target for continued and expanded initiatives to introduce more faculty members to the SRL framework within an Innovation Teams model of support.
To ensure scalable results, targeted environments should be prioritized where faculty members can gain exposure to SRL principles and practices without the need for a significant time investment. Therefore, teaching teams and places where peer-collaboration already exists would be a recommended strategy.

Challenges for sustainability:

Scalability of model of support without access to SRL pedagogical expert

One challenge that has become apparent from the original plans for sustainability with this project is the inherent level of tailoring that each individual context requires. Although an array of campus partners were involved in this small TLEF and have gained exposure to SRL concepts, this does not replace the expertise provided by an SRL pedagogical coach. It will take a collective commitment from staff and faculty members from across the university to come together to share

knowledge and their experience implementing SRL activities in the classroom to continue expanding our competence with this teaching and learning framework. Ideas to overcome this challenge include: introducing SRL to multi-section courses, building a larger repository of SLR classroom exemplars for an array of disciplines, and engaging previous project participants as mentors.

Time commitment

It is important to consider the time needed for instructors to develop an understanding of SRL, customize try and adapt classroom innovations, trial, adapt, and then analyze and make meaning of the outcomes: *"Takes time, needs to be done a few times to understand how to do it."* (CP, Math) The time commitment needed from faculty members to deeply learn from participating in a professional development activity like this is significant. Questions were raised about the ways that instructors can be both acknowledged for their work, and how their schedules can be modified to reflect and accommodate this involvement. Ideas about possible ways to recognize the efforts of faculty members included; issuing an award or certificate, titling one's involvement with a project of this nature as a 'fellowship', or release from teaching time.

Without establishing a way to recognize the contributions of faculty members, the sustainability and equitable access to a project of this nature is compromised. An example of this is to consider how a teaching instructor in the early stages of their career who is on-contract at UBC would likely encounter significant barriers to participate in professional development activities due to constraints of time and resources.

During the exit interviews, several faculty members suggested that the one-year length of the project was insufficient time for the learning curve stimulated by this project to take place. Could a two-year model of support mitigate any of these time challenges?

Additionally, the role that colleagues in complementary services and teaching and learning professionals play could be investigated to see how their unique position can be leveraged to support this work. Perhaps these colleagues have more time to commit towards coordinating these continuing efforts than faculty members. Insight about the importance of the position of the team-lead in correlation to the instructors delivering the content in class was gained from the experience of one Innovation Teams from our project that was structured with a teaching and learning professional as the team-lead. Where the team-lead is at all removed from the teaching team, feelings of disconnection, miscommunication, and lack of buy-in from other instructors may occur.

Leadership changes

Our project experienced many changes of leadership throughout this process at several different levels, and ongoing commitment to this project needs to be evaluated by faculty members and staff who are new to these concepts. Doubts have been raised about the viability of continued efforts being faculty-led in the future, due to the possibility of staffing changes that may come with shifting priorities. Discussions still need to be had about which department is most equipped to lead the continuation of this effort.

Existing structures, such as CTLT and UBC Skylight in the Faculty of Science, were intentionally integrated into this project from the commencement with the goal of assessing how these units could potentially provide continuity by bridging different faculties, and bringing together multiple teaching and learning professionals involved with SRL.

Impact of COVID-19

Several discussions which were originally planned to take place before the end of the project have been postponed to prioritize the transition to online learning. COVID-19 also disrupted some of our final evaluation pieces of the project.