TLEF Project – Final Report

Report Completion Date: (2022/07/18)

1. PROJECT OVERVIEW

1.1. General Information

Project Title:	Blending first-year Geography courses: provide students with flexibility while innovating multiple delivery and engagement methods
Principal Investigator:	Siobhán McPhee
Report Submitted By:	Siobhán McPhee and Mike Jerowsky
Project Initiation Date: May 2019	**Project Completion Date:** June 2022
Project Type:	☐ Large Transformation ☒ Small Innovation ☐ Flexible Learning ☐ Other: [please specify]

1.2. Project Focus Areas ddd– *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. Final Project Summary

This project was designed to address the gap in courses being offered at UBC by focusing on blended learning as an innovative approach to teaching and learning. Previous development and assessment of courses taught at Vantage College showed a need to adapt a blended learning approach at a wider scale across first-year Geography courses. Specifically, a blended approach helped to address the growing demand from students for regular and flexible course offerings. Additionally, we capitalized on technological trends and the wealth of resources currently available at UBC to curate digital tools and design interactive forms of support/assessment. The Geography Department has been taking an active role in facilitating blended and online courses - GEOG 121 and 122 acted as pilots for the department. Assessment of these courses, as well as the dissemination of best practices and lessons learned during this project, will be used to guide the implementation of blended learning approaches across future course offerings.

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
Siobhán McPhee	Assoc. Professor of Teaching / Geography Department Assoc. Dean, Equity, Innovation & Strategy / Faculty of Arts	Principal Investigator and Project Lead
Micheal Jerowsky	PhD Candidate / UBC Geography	Graduate Research Assistant
Phoebe Telfar	BA / UBC Geography	Undergraduate Research Assistant
Ramudi Samarasekera	BFA / UBC Visual arts and Geography	Undergraduate Research Assistant

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)
GEOG 121	299	2020-2021	Winter
GEOG 122	V01	2020-2021	Winter
GEOG 121	101	2021-2022	Fall
GEOG 121	101	2022-2023	Fall
GEOG 121	102	2022-2023	Fall
GEOG 122	201	2022-2023	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:
Redesigned GEOG 121 and 122 courses to facilitate blended learning.	
Developed scaffolded assignments to allow students to demonstrate learning through multiple mediums.	GEOG 121 Canvas webpage GEOG 122 Canvas webpage
Created and curated videos and podcasts that helped students to engage with learning materials, assignments, and the voices/stories of diverse communities.	GEOG 121 Tapestry webpage GEOG 122 Tapestry webpage
Created virtual assistants to aid students in avoiding plagiarism, reading academic papers, and choosing a term paper assignment.	Voiceflow: Plagiarism Voiceflow: Reading an Academic Paper Voiceflow: Choosing Your Term Paper
Created an augmented tour of Downtown Vancouver to support course learning objectives.	Echoes Tour of Downtown Vancouver
Created a video to support students using Microsoft Teams.	Introduction to Microsoft Teams
Open, interactive access to educational artefacts were made available through Tapestry.	GEOG 121 Tapestry webpage GEOG 122 Tapestry webpage
Reported to Geography faculty on the student experience of the pilot offering of GEOG 121.	
Engaged geography undergraduates in the creation and delivery of blended courses.	
Facilitated student feedback on blended approaches through the development of a survey instrument in Qualtics.	Entry Survey Exit Survey

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:
Delivered workshops to Geography and other Faculty of Arts departments on the experience of designing and delivering a blended course.	These are forthcoming and being scheduled for future dates.
Provide community members with the opportunity to impact student learning through virtual guest-lectures and assignments.	These were postponed due to the COVID-19 pandemic but can be implemented in future iterations of these courses now that face-to-face contact is possible once more.

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 <u>benefits of the project</u> for students, TAs, instructors and/or community members.*

The intended benefits of this project were as follows:

1. Enhance and operationalize blended pedagogical approaches to teaching by capitalizing on technological trends and the wealth of resources and expertise available at UBC.

2. Enrich student engagement through the incorporation of multiple means of delivery and assessment.

3. Increase educational access for students who face barriers to participation due to the structured nature of UBC Timetables and difficult commuting times.

4. Provide a more hands-on approach to teaching and learning in large classes in Geography by engaging students through direct experiences and focused reflection.

5. Promote and facilitate experiential learning within large, first-year Geography classes through the creation and curation of learning materials, as well as the scaffolding of interactive assignments used to assess student learning.

6. Provide community members and broader members of society with the opportunity to directly impact students' learning through the delivery virtual guest-lectures and assignments.

7. Institutionalize a blended learning approach to facilitate active learning.

8. Engage students as producers of knowledge as well as consumers through the application of classroom knowledge and approaches.

9. Create a successful framework that can be adapted by other Geography faculty and across the Faculty of Arts more broadly.

3.3. Were these changes/impacts achieved? How do you know they occurred? – *How did you measure changes/impacts? (e.g. collected survey data, conducted focus groups/interviews, learning analytics, etc.) Describe what was learned from this process. 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.*

Assessment of a blended learning approach and associated technologies/learning materials was conducted through the analysis of entry and exit survey data collected during the pilot GEOG 121 course, offered in Fall of 2021. Enrolled students were primarily in their first and second year of university with high levels of previous experience using a variety of educational technologies to facilitate lectures, exams/quizzes,

virtual meetings, discussion sections, and when communicating with professors or TAs.

Four tools, in addition to Canvas, were used to facilitate a blended approach to learning in GEOG 121 and to provide multiple means of delivery and assessment.

- **Microsoft Teams** provided a platform for students to collaborate through chat, document sharing, and document creation.
- **Tapestry** was used to encourage self-directed learning as students explored interconnected concepts, supplementary content, and quiz activities in a non-linear fashion.
- **Echoes** was used to facilitate exploration and immersion through a self-directed field trip of Downtown Vancouver. This tool used location-triggered augmented reality and audio to provide guidance to students while in the field.
- **Voiceflow** offered students individualized support through interactive chat bots and decision trees as they navigated concepts like academic honesty and how to read research papers. It was also used to help students decide on their term paper topic.

These tools were assessed by students based on five dimensions: (1) Ease of use, (2) Engagement, (3) Personal responsibility for learning, (4) Time management, and (5) Whether students would use the tool again. Results were very favorable as illustrated in figure 1.
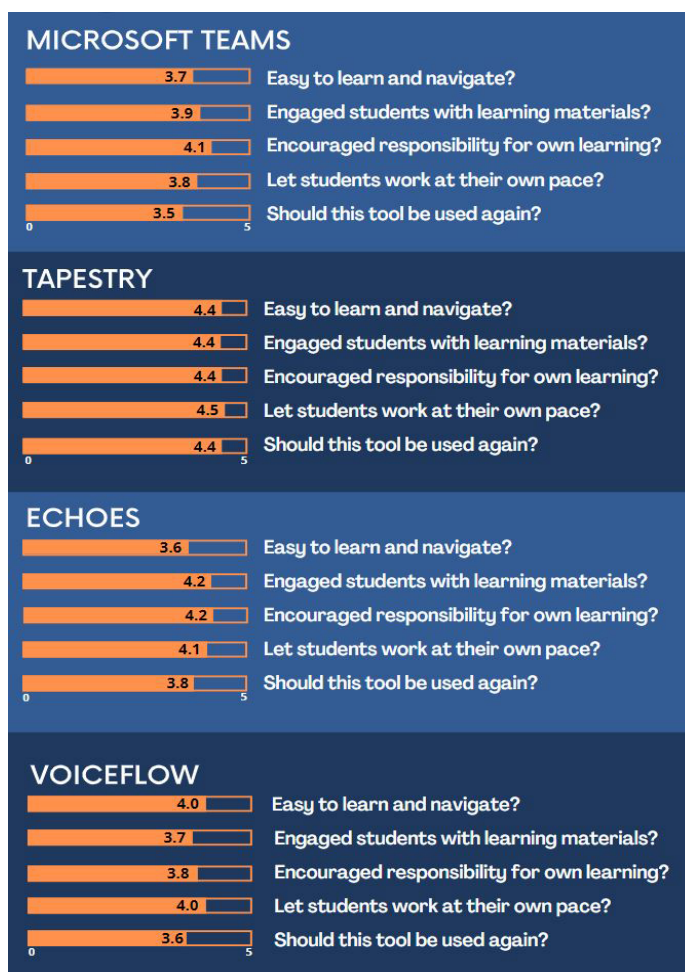

Figure 1 - Exit Survey Assessment of Technologies

Regarding the enrichment of student engagement, 86% of students indicated that the pilot course gave them a greater sense of responsibility for their own learning, motivating them to complete assignments and reflect on course materials. Indeed, one of the intended benefits of this project was to engage students as producers of knowledge, not merely as consumers of it. As one student explained, the approach used in this course did just that:

> "It [the course] created space for me to truly learn, reflect, integrate, and apply the material I was learning rather than just regurgitate material when answering exams. I also appreciated how thoughtful the course was as the material and readings were woven so well together and helped me see a different way of learning…."

Meanwhile, 83% of respondents felt that there was a good balance between synchronous and asynchronous components of the course. Open-ended survey responses indicated that the self-paced learning in the pilot course was extremely important to academic success and students' ability to access the course. Some illustrative comments from students include:

> "… As someone who works outside of class, it is nice to only have 2 hours of live activities a week. It allowed for flexibility while still remaining an engag[ing] course."

> "The Tapestry modules and group activity gave me more flexibility with my time. If there were three lectures a week, I might have felt like the course was going too fast."

> "I feel there was a good balance between asynchronous and synchronous engagement. There was an even distribution between learning on our own time with the resources given and also collaborating with our peers and being able to discuss and express our ideas from within the lecture, discussion classes, or activity groups."

Some students also felt that the way this blended approach was used helped them to develop better time-management skills overall, a valuable skill as they continue their education:

> "I learned to organize my time and pace myself based on the deadlines which I feel were fairly flexible."

The blended approach and tools used in the pilot course also promoted experiential learning while connecting students with their peers and broader community. The self-directed tour of Downtown Vancouver is a good example of this as one student illustrated in their response to the exit survey:

> "I loved having a group to talk to every week, and it was great to go on the walking tour together and interact in person. Even though it's an online course, I didn't have the feeling[s] of detachment and isolation…."

Engaging new students in hands-on learning using technologies is also important as this can help them to develop new skills as they seek employment in the future. Several students expressed an interest in developing skills with new learning technologies that they felt were here to stay for the foreseeable future. One such student explained the following in the entry survey:

> "Future workplaces [will] be a blend[ed] for the foreseeable future, better to have experience with as many programs and instruments as possible."

While the COVID-19 pandemic did not allow for the filming and development of virtual guest-lectures in the pilot course, several videos, podcasts and interactive materials were created and made accessible to students through Canvas and Tapestry. Several students also pointed out how these materials and the collaboration available through discussion sections, Microsoft Teams, and interactive learning materials on Tapestry helped them to *"… connect with different people and listen to other perspectives"* more than they would have otherwise.

Teaching and learning goals were clearly achieved in this project, but equally important is how the development of a blended approach to GEOG 121 and 122 has provided a successful framework that can be reproduced within other courses in Geography or across the Faculty of Arts. The Canvas and Tapestry websites produced during this project provide a clear roadmap for interested faculty who may wish to adapt or revisit their own courses and approaches. Workshops with Geography faculty and other departments in the Faculty of Arts will be provided in the future as schedules permit. Additionally, lessons learned from this project have been disseminated more broadly through a conference presentation at UBC and in an upcoming piece in The Conversation on how blended classrooms can help to support students.

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. Be sure to include author names, presentation title, date, and presentation forum (e.g., journal, conference name, event).*

- Jerowsky, M., Samarasekera, R., Telfar, P. (2021). Using Blended Pedagogies in a First Year Geography Course: Facilitating Self-Directed, Experiential Learning and Collaboration. University of British Columbia Tech Expo, virtual. [conference presentation]
- McPhee, S., Jerowsky, M., Samarasekera, R., Telfar, P. (2022). Blended classrooms can help to support the educational needs of students. The Conversation. [upcoming]
- Workshops for Geography and other Faculty of Arts departments on the experience of designing and delivering a blended course. [upcoming]

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?*

Yes, the teaching practices of the team members responsible for this project, and others, have continued to evolve and grow throughout the development of a blended approach to teaching GEOG 121 and 122. As the courses developed during this project were intended as pilots that would inform the Department of Geography's shift towards more flexible offerings, this change was both expected and welcome. Specifically, this project has informed teaching practices in the following ways:

- An improved understanding of how a blended approach can increase the accessibility of course offerings for students while enhancing collaboration and experiential learning was gained from this project. The balance of synchronous and asynchronous activities resonated well with students and instructors in this project, and its overall structure will inform future iterations.
- A better understanding of the strengths and weaknesses of the educational technologies that were used in the pilot course will inform their future implementation. For example, Microsoft Teams was not as easy to implement and use as first thought, and this was exacerbated by unforeseen complications surrounding privacy restrictions as well as technical issues related to software and hardware. The lessons learned will allow for smoother implementation of these tools moving forward.

- Flexible, interactive forms of assessment and support were created during this project – these will inform future development. For example, the individualized support created using Voiceflow can be easily redeveloped for any tutorial that follows a hierarchical decision-tree model. Meanwhile the templates used to create interactive modules and quizzes can similarly be repurposed for different courses.
- While digital tools were well received in this course, they were also a source of stress for a minority of students who were concerned that learning to use these would require additional time and effort. Also, some technical issues were directly related to the quality of hardware students were using to access online learning resources. Moving forward, we must be careful that these learning resources are easy to use and accessible by a wide variety of devices to ensure that digital inequity does not develop for students with fewer resources at their disposal.
- While the technologies and tools used in this project were valuable, one should ensure such tools are directly connected to the learning objectives of the course they are supporting. One should not adapt their course to use a specific tool – in a successfully blended classroom, digital tools should enhance learning rather than restrict it.
- The survey instruments and subsequent feedback provided by students were incredibly valuable and reinforced the need for an iterative development of blended courses moving forward.

The development and curation of learning materials, interactive assignments, and course design of GEOG 121 and 122 will allow course-level changes to be sustained over the long-term. Whether these changes are disseminated and continue to evolve at the departmental or faculty levels is dependent on continued interest, investment, and development. The development of a best practices document and future workshopping will help facilitate this.

Further, the broader context surrounding this project should be kept in mind. First, elements of the blended approach to these courses have been in development by faculty over the past six years within the Geography courses offered at Vantage College, and through research carried out under the SoEL, SoTL, and most recently a CTLT Research Associates grant program. This project is a continuation of such work, not its culmination. Second, the shift to emergency remote teaching due to pandemic restrictions over the course of this project drastically increased the call for online learning technologies and blended learning approaches across the entire university. This demand is unlikely to decrease anytime soon due to the large investments in technology, infrastructure, and labor that the university has made.

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?*

The TLEF allowed us to curate and develop tools, learning materials, and support documentation that continue to be relevant. These can be utilized in future iterations of GEOG 121 and 122. As stated above, these can also be used to develop blended approaches for other courses in Geography or the Faculty of Arts; however, this depends heavily on the continued investment of time and financial resources by the Department of Geography and Faculty of Arts.

The promotion and dissemination of best practices when designing and implementing blended courses will be sustained though departmental workshops and documentation. This will promote these practices more broadly and engage faculty in continued discussion on this topic. The goal is to help encourage an institutional culture that is supportive of blended approaches to learning and teaching.