



# TLEF Project – Final Report

Report Completion Date: (2019/09/27)

## 1. PROJECT OVERVIEW

### 1.1. General Information

<b>Project Title:</b>	Improving the Assessment of Evidence Informed Health Care Competence: A Five Step Approach		
<b>Principal Investigator:</b>	Alison Greig		
<b>Report Submitted By:</b>	Alison Greig		
<b>Project Initiation Date:</b>	April 2016	<b>Project Completion Date:</b>	September 2019
<b>Project Type:</b>	<input type="checkbox"/> Large Transformation <input checked="" type="checkbox"/> Small Innovation <input type="checkbox"/> Flexible Learning <input type="checkbox"/> 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**

Considerable attention has been placed on the importance of improving the teaching of evidence informed health care (EIHC) skills across all professions at undergraduate and postgraduate levels. Beginning in 2014-15, the West coast Interprofessional Clinical Knowledge Evidence Disseminator (WICKED) team developed and evaluated five interactive online modules to teach EIHC to UBC health professional students. These modules continue to be used across three health professional programs (Physical Therapy, Occupational Therapy and Family Practice Medicine). This process identified a gap in reliable and valid tools for assessing EIHC competence. This subsequent project developed a set of assessments that assess student competence in EIHC across all five steps of the EIHC model. The assessments were designed so that each step can be implemented individually or as a complete set. These assessments fully assess students’ competence in EIHC can enhance student learning and assist instructors to better prepare and train students to be effective EIHC practitioners in future clinical practice

**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
Charlotte Beck	Reference Librarian, Woodward Library	Contributions to development and review of question items for assessments
Diana Dawes	Clinical Professor, Department of Physical Therapy	Contributions to development and review of question items for assessments; data collection for validation study
Martin Dawes	Professor, Department of Family Practice	Contributions to development and review of question items for assessments
Alison Hoens	Clinical Professor, Department of Physical Therapy	Contributions to development and review of question items for assessments
Shayna Rusticus	Postdoctoral Fellow, Department of Physical Therapy	Contributions to development and review of question items for assessments; implementation of assessments on LMS; data collection for validation study
Master of Physical Therapy (MPT Students)		Data collection of assessment results (n=190); focus group feedback (n=26)
UBC Family Practice Residents		Data collection of assessment results (n=20); focus group feedback (n=8)



**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)
PHTH 526		2016/2017/2018/2019	Spring
PHTH 566		2016/2017/2018/2019	Summer
RSOT 519		2016/2017/2018	Fall
RSOT 527		2016/2017/2019	Spring



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:
“Step 1: Ask” Assessment	<a href="#">Consent and assessment 1</a>
“Step 2: Access” Assessment	<a href="#">Assessment 2</a>
“Step 3: Appraise” Assessment	<a href="#">Assessment 3</a>
“Step 4 and 5: Apply and Assess” Assessment	<a href="#">Assessment 4</a>

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:
Validation of Assessments	We have yet been unable to recruit sufficient numbers of “experts in EIHC” to complete the assessments and inform the validation of the tools. Recruitment is ongoing, and it is expected that this final goal of the project will be completed.

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: [Assessment of competence]

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.

This project realized the development of a set of assessment tools, which are being used to assess student competence in all five steps of being an EIHC practitioner. The tools have met the aims of the project including providing a flexible and more authentic approach to assess EIHC competence. The new



assessments provide feedback to instructors and programs regarding the overall EIHC competencies of a student cohort, and have contributed to guiding changes in the teaching of EIHC. Furthermore, these assessments not only provide an indication of student competency, but also give feedback to students on where they are strongest and where they may need additional learning/practice.

An intention of this project was to conduct a validation study with the new assessment tools using a known groups design. It was planned to use a convenience sample of approximately 100 participants, representing two different EIHC skill levels: first year health professions students (with little EIHC experience) compared with experts (with high levels of EIHC experience). While data were collected for the first year health professions students, it has been challenging to identify and recruit participants in the expert group.

**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.*

Four assessments, with marking rubrics, were developed to measure knowledge, skills and attitudes related to Evidence Informed Health Care (EIHC). The four assessments were designed to align with the steps of EIHC: Ask, Acquire, Appraise, Apply and Assess. The final two steps (Apply and Assess) were combined into one assessment. The assessments include multiple choice questions, check boxes, matching, scenario-based short answers and rating scales. All questions, apart from short answers are automatically marked, and scoring can be made instantly available to the learner or accessible directly to the instructor.

Twenty students participated in the first pilot of assessments 1 and 2, with the average time for completion of each step being 12 minutes. Fourteen students completed the first 3 assessments and the adapted Fresno, and the results of the newly developed assessments were compared with student results on the adapted Fresno. Minor revisions were made to the assessments, incorporating the feedback, before further testing. Focus groups were administered with 26 students/family practice residents. More than 300 students/residents have completed the assessments.

Experts are currently completing the assessments, and the analyses for validity and reliability continue. The range of scores from students/residents demonstrates there is no floor or ceiling effect. The scores per learner were as instructors expected. The instructors were very positive in their feedback of the scoring and did not ask for any changes in either the assessments or the scoring rubric, just requested that they should be able to use them again.

**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.*

**Greig A, Dawes D, Ross C, Dawes M, Rusticus S.** Development of online assessments to measure evidence based practice competence. Proceedings of the Lilly Conference on Teaching for Active and Engaged Learning; 2018 Feb 22-25; Anaheim, USA.



**Greig A, Dawes D, Ross C, Dawes M, Rusticus S.**

Development of a set of online assessments to measure evidence based practice competence. Accepted for presentation at the Ottawa - International Conference on Medical Education (ICME); 2018 Mar 10-14; Abu Dhabi, United Arab Emirates.

Dawes D, Beck C, Dawes M, Rusticus S, **Greig A.** Development of Online Assessments to Assess Evidence Informed Health Care (EIHC) Competence. Accepted for presentation at the EBHC International Joint Conference; 2019 Nov 6-9; Taormina, Italy.

**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?*

There is a demand for these assessments from instructors across the three health professional programs, in part because the assessments include all five steps of EIHC and partly because the marking is much easier than the previous instruments they have used. This is a change from the previously used modified Fresno assessment, which although a validated tool, was cumbersome to mark and was limited to assessing only the first three steps of EIHC.

**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 outputs of this project are easily sustained, as they are administered using Qualtrics, which is an online survey tool supported at UBC. The assessments are easily transferable to other assessment software (e.g. ExamSoft, Canvas, etc). As the validation piece of the project is still underway, the team is committed to carrying out this process.