



Small TLEF Project – Final Report

Report Completion Date: (YYYY/MM/DD)

1. PROJECT OVERVIEW

1.1. General Information

Project Title:	Integrative Breast Pathology (IBP)		
Principal Investigator:	Diana Ionescu		
Report Submitted By:	Joyce M. Leo		
Project Initiation Date:	Jan 2016	Project Completion Date:	Oct 2016

1.2. Project Summary

Diagnosis of breast cancer involves collaboration from multiple specialties. The traditional undergraduate medical curriculum has paid little attention in assisting learners to develop the skill to integrate knowledge involving multiple disciplines, especially on the topic of breast cancer diagnosis. To foster the skill of multi-disciplinary learning for junior medical trainees, the Integrative Breast Pathology (IBP) project aims to integrate knowledge involved during the diagnostic process and to develop an integrative learning approach to Breast Pathology.

The IBP contains two components: the on-line self-learning modules and the clinical case conference. The content of the self-learning modules joins together knowledge from the disciplines of Histology, Pathology and Radiology, and features the spiral learning design to accommodate learners at various levels of competency and to revisit the various levels at different stages of learning. The format consists of a concise statement followed by one multiple-choice question. By completing a level of questions, learners are provided with a brief list of recommended reading material generated from the results as a self-assessment tool. Upon completion of the self-learning component, learners join the clinical case conference. Archived cases are presented as learning material to foster skill in correlating clinical information with laboratory findings and interpreting diagnostic reports. At the end of the conference session, learners' feedback were surveyed and used to optimize the IBP structure.

Per the feedback from pilot learners, positive impacts were reported on fostering learning integration and across disciplinary communication. Extension of the integrative approach to other subspecialties for cancer diagnosis is recommended.

1.3. Team Members – (Please fill in the following table and include students, undergraduate or graduate, who participated in your project).

Name	Title/Affiliation	Responsibilities/Roles
Joyce Leo	Clinical fellow	Content development
Kuo-Hsing Kuo	Associate Professor	Content development
Malcolm Hayes	Professor	Content consultant
Gregory Naus	Professor	Content development



1.4. Student Impact – 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 impacted by your project, including any 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)
Old curriculum (class of 2018 & Prior)			
FMED 427		2015 & Prior	Winter
New curriculum (class of 2019 & Later)			
MEDD 411		2016 & Later	Winter
MEDD 412		2016 & Later	Winter

2. PROJECT EVALUATION

2.1. Project Outcomes – Please list the intended outcomes or benefits of the project for students, TAs and/or instructors.

The general objective is to promote the integrative approach of learning.

For learners, the intended outcome is to foster abilities to efficiently interpret diagnostic correlations and treatment managements.

For preceptors, the intended outcome is to encourage developing concise and integrative content.

2.2. Findings – Briefly describe the methods and findings of your project evaluation effort: to what extent were intended project outcomes achieved or not achieved?

The project will be evaluated by both end users (students) and learning facilitators (pathologists). Students who sign up for the Breast Pathology Block will use the learning modalities designed by the IBP project as the primary learning tool. After two weeks of on-site learning, the users will be invited to assess the IBP on four aspects: 1) practicality of learning objects, efficiency of delivery, 3) timing of curricular arrangement, and 4) content adequacy. The pathology preceptors will assess learners’ knowledge competency and interactivity during clinical case discussions.

The evaluation of the project is in the pilot stage due to the limited number who signed up for the Breast Pathology Block. We will still continue recruiting students and hope to have a meaningful result.



2.3. Dissemination – *Please provide a list of scholarly activities (e.g. publications, presentations, invited talks, etc.) in which you or anyone from your team have or intend to disseminate the outcomes of this project.*

- i. **Kuo, KH.**, Leo, J.M., Ionescu, D, Hayes, M, , (2017) 'Integrative Breast Pathology' Canadian Conference on Medical Education, May, 2017, Winnipeg
- ii. Leo, J.M., Naus, G, Ionescu, D, Hayes, M, **Kuo, KH**, (2016) 'Integrative Teaching of Breast Histology in Clinical Case-Based Learning', Abstract ID #8542, Experimental Biology 2016, April 2-6, San Diego
- iii. <http://www.interactive-pathology.com/>

3. 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?*

Students who sign up for electives of the Breast Pathology, the BC Cancer Agency site in specific, will use the module as the learning modality.

4. PROJECT SUSTAINMENT – *Please describe the sustainment strategy for the project components. How will your work be sustained and/or potentially expanded (e.g. over the next five years)?*

The project contains two components, the on-line self-directed learning module (www.interactive-pathology.com) and the case conference session. The self-learning website has established and offered access for students, and the use of the server as well as domain name has been secured for 5 years. There will be no additional cost for the module. In terms of the case conference session, it has already been included in the new curriculum. In short, the project will be self-sustainable over the next five years.