**Affordable Learning Georgia Textbook Transformation Grants**

**Final Report for Mini-Grants**

# General Information

Date: 8/12/2018

Grant Round: **10**

Grant Number: **M10**

Institution Name(s): Kennesaw State University

Guangzhi Zheng, Associate Professor, gzheng@kennesaw.edu

Zhigang Li, Assistant Professor, zli8@kennesaw.edu

Project Lead: **Guangzhi Zheng**

Course Name and Course Number: **IT 5443 Web Technologies and Application Development**

Final Semester of Project: Summer 2018

***If applicable to your project:***

Average Number of Students Per Course Section: 30

Number of Course Sections Affected by Implementation of Revised Resources: 3

Total Number of Students Affected by Implementation of Revised Resources: 91

# 1. Project Narrative

This project is to enhance an ALG round 1 grant on a web development course that was first implemented in Spring 2015. Three years had passed in the last development. Given the fast-moving nature of the IT field, many of the open resources used in the original course needed updating and revising. Also, the adjustment of our MSIT program requires more coverage in other relevant topics beyond programming. The course that was initially developed in round 1 had 7 modules that covers: web introduction, HTML, CSS, JavaScript, DHTML, PHP, and common content management systems. The plan for this transformation was to expand the course to 12 modules with updates to the existing topics and coverage of new topics such as security, usability, web analytics, web 2.0, and mobile web.

The course content was updated in spring 2018 and implemented in spring 2018 and summer 2018. Feedback information was collected in spring 2018. The feedback gathered from this transformation is consistent with the results we’ve seen in the round 1 implementation as well as other ALG projects the investigators have worked on. Students welcomed the use of open online resources instead of expensive textbooks that are often obsolete or outdated at the time of purchase. Students also indicated that the resources used in the course are supportive to the achievement of the learning objectives of the course and prefer to continue using the open and free online resources in the future.

One of the challenges students encountered appear to be the “scatteredness” due to the nature of these resources. Further guidance from the instructor will likely help students to connect the dots and see the “big picture”. As with any other courses in the IT field, this course will continue to be maintained and updated on a yearly basis. Improvements will continue to happen based on student feedback.

Feedback result summary (5 is strongly agree):

|  |  |
| --- | --- |
| **Score** | **Statements** |
| 4.21 | [The open and free web resources selected by the instructor (including websites, articles, reports, video clips, etc.) were well selected and essential to learning the subjects.] |
| 4.09 | [The open and free learning materials developed by the instructor (including study guides, lecture notes, examples, videos, labs, and tutorials) provide useful information and knowledge.] |
| 4.21 | [The open and free learning materials used in this class are more up to date compared to a potential textbook.] |
| 4.00 | [The open and free learning materials used in this class provide wider coverage and perspectives compared to a potential textbook.] |
| 3.79 | [The open and free learning materials used in this class have better delivery format compared to a potential textbook.] |
| 3.85 | [I would like to use open and free learning materials rather than a paid textbook in a graduate course like this one.] |
| 4.26 | [I will continue to use open and free learning materials when learning web technologies and application development subjects.] |

Selected positive comments:

* I appreciate the fact that free learning materials are available for students in the graduate program. I would encourage all professors to take advantage of this resource. Thank you.
* I am a strong supporter of using open and free learning materials. I believe that it improves the quality of education, reduces student debt, and increases the flexibility of the professors compared to traditional textbooks.
* Using test books assigned to course makes the learning process more effective.
* Most of the materials are available online, I don't see the benefit as I can get access to the resources myself without attending class.
* This use of open and free learning is great, but it also requires much upkeep with the changing of availability of resources. I believe some of these resources once found need to be archived locally (with respective rights and references) Otherwise, I like the fact I'm using, researching, and writing about current material so when I graduate, I can be up to date with materials and industry and not ten years behind with text books.

Some comments provide insights how we use the open materials and improve the instruction:

* The material wasn't the issue, it was what to pull out of the material. More direction would be much appreciated, especially in an entry level course.
* Would be beneficial to have more supplemental knowledge from professor than what was given, class felt more driven by the web knowledge than the professor.
* Open and free learning material have been very beneficial however the amount of information is extensive and sometimes seems harder to follow along with than a textbook.

# 2. Materials Description

A total of 12 modules were developed for a general introduction of web technologies and basic development. These include one module of introduction, 7 modules of basic web programming and development (HTML/CSS/JavaScript at the client side, and PHP at the server side), and 4 modules related to web technologies (user experience, security, web 2.0, and mobile web).

This course IT 5443 is an expansion of the earlier course IT 5302 from 7 modules to 12 modules. For each module, a study guide document is provided to learners to guide their study. The study guide includes learning outcomes, tasks, and resources. Some modules include lecture notes, examples, and labs.

# 3. Materials Links

[**http://it5443.azurewebsites.net**](http://it5443.azurewebsites.net)

# 4. Future Plans

Our intention is to keep the courses updated at least once a year in spring. All course materials will be hosted under the domain <http://it5443.azurewebsites.net> and continuously updated. The hosting service for this site also hosts student works for practices and projects.