**Affordable Learning Georgia Textbook Transformation Grants**

**Final Report for Mini-Grants**

# General Information

Date: 12/21/2018

Grant Round: 11

Grant Number: M9

Institution Name(s): Georgia Highlands College

Team Members (Name, Title, Department, Institutions if different, and email address for each): **Katie Bridges, Instructional Designer, Division of e-Learning, (kbridges@highlands.edu) Dr. J. Sean Callahan, Associate Professor of Psychology/Executive Liaison for Diversity Initiatives, (**[**scallaha@highlands.edu)**](mailto:scallaha@highlands.edu))

Project Lead: J. Sean Callahan

Course Name(s) and Course Numbers: PSYC 1101

Final Semester of Project: Fall 2018

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

Average Number of Students Per Course Section: 26

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

Total Number of Students Affected by Implementation of Revised Resources: 80

# 1. Project Narrative

*Describe the course of your revision or ancillary creation project, including*

* *A summary of your project’s purpose, plan, and timeline.*
* *The original works which were revised or added to, with links.*
  + *For example, if you revised an open textbook, give the title, author, and link.*
* *A narrative description of how the project’s plan was carried out.*
* *Lessons learned, including anything you would do differently next time.*

The goals of this ancillary component are to create a set of materials and mechanisms that 1) require students to engage the OER materials in ways that support the cognitive processes involved in mastering content in introductory level social science courses and 2) helps support and streamline the assessment and grading process for instructors.

The deliverables associated with this project include Multiple Choice Questions Generator (MCQG) instruction guide for faculty that outlines purpose and potential of the components, an instructional video for students that provides “how-to” and “tips” for creating effective, high-scoring questions, a rubric with criteria and levels, and the rubric file to upload to D2L.

**Purpose and Potential**

The basic idea: Students would choose two terms/concepts/theories from the readings. They would create different types of multiple choice questions for each term. The questions are based on the revised Bloom’s Taxonomy (Anderson, et. al, 2001). Question types engage the first three levels of the cognitive process dimension and include: 1) remember, 2) understand, and 3) apply. Each question type requires a deeper engagement/understanding of the material. "Remember" questions only require a verbatim recall of the definition of the term from the textbook and plausible distractors for the choices. "Understand" questions require students to define the term in their own words within a context. "Apply" questions require students to create a scenario and briefly analyze the scenario with the term they have chosen. These questions are the most difficult to generate because students have to have grasped the information in a way that allows them to demonstrate how to properly apply the concept and show how it may work in the real-world.

Timeline:

October 2017-- Conceptualize rubric criteria and levels. Create draft of rubric. (Instructor of Record)

November 2017-- Build rubric in D2L (IOR), Test rubric for operability in D2L (IOR, Instructional Designer)

December 2017-- Begin development of instruction guide for students. Develop instruction and options for use guide for instructors. (IOR, ID)

January 2018— Complete instruction guides—Pull from other content areas for generalization.

March 2018—Draft script for instructional video. Begin work on short instructional video for guide, using Softchalk software. (IOR)

Mid-May 2018—Complete instructional video

Summer 2018--Pilot test Multiple Choice Question Generator and Rubric (IOR)

Late Summer 2018—Make any necessary revisions to rubric and logic chain (IOR, ID)

August 2018--Full implementation of rubric in courseload (IOR)

This work is a revision and expansion of the work of Senzaki, Hackathorn, Appleby, & Gurung (2017) https://www.researchgate.net/publication/318710925\_Reinventing\_Flashcards\_to\_Increase\_Student\_Learning

Procedures for Mini-Grant

The Multiple Choice Question Generator was used as Major Graded Assignment in 3 sections (one (1) face-to-face and two (2) web-based) of PSYC 1101 Introduction of General Psychology. Each course 3-4 different chapters of the eight chapters covered in the semester. The conditions are as follows:

|  |  |
| --- | --- |
| Course | Assigned Chapters |
| PSYC 1101 M2 | 2, 8, 12, and 16 |
| PSYC 1101 W5 | 6, 11, and 16 |
| PSYC 1101 W4 | 6, 11, and 16 |

Table 1. Chapter Assignments by Course

Each chapter assigned was considered a Major Graded Assignment and had specific due dates throughout the semester. As a way to encourage student to study, due dates for these assignments were usually scheduled 2-3 days before an exam. For detail instructions regarding delivery of the MCQG, see Instructions and Tips for Multiple Choice Question Generator. Student submissions were received through the assignment “drop box”, graded using the rubric and provided feedback on their work.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Course | Number of Students in Course | Student Attempts per Assignment | Student Attempts per Assignment | Student Attempts per Assignment | Student Attempts per Assignment |
| PSYC 1101 W4 | 23 | 13 | 13 | 17 | N/A |
| PSYC 1101 M2 | 28 | 24 | 24 | 28 | 21 |
| PSYC 1101 W5 | 29 | 18 | 18 | 18 | N/A |
| Total | 80 | 55 | 55 | 63 | 21 |

Students created a total of 183 questions. Although many of the questions were not “exam ready”, in a preliminary analysis, we located 20 questions that were written well enough to appear on an exam. This analysis focused on questions created for the Applying/Analyzing/Evaluating level, which one-third (roughly 60) of the total questions submitted. The fact that we were able to use one-third of the questions that reflect the upper-levels of thinking skills is an indicator of success for the project.

# 2. Materials Description

* *Describe all the materials you have created or revised as part of this project. These descriptions may be used in the* [*GALILEO Open Learning Materials*](https://oer.galileo.usg.edu/) *repository in the official description field.*

Deliverables are listed below:

Instructions and Tips for Multiple Choice Question Generator- This is a guide with detailed instructions for students. It describes the assignment and the format for submission, provides background information on Bloom’s Revised Taxonomy, and provides examples of multiple choice questions appropriate for each level being assessed.

Quick Guide-Example for Formatting- This reinforces the importance of formatting with a visual aid. Student submissions should be formatted in a way that allows the D2L Question Convertor to convert the question to csv. format. This is important for uploading the questions as well organizing them by key term/topic for retrieval later.

MCQG Rubric-Word docx. of rubric designed to assess questions. The document is editable.

Instruction Manual for Installing D2L Question Import Tool- Step-by-step instructions for installing the Import Tool to your computer.

# 3. Materials Links

* *If you are hosting your materials in places other than GALILEO Open Learning Materials, please provide these links in this section. Otherwise, leave blank.*

# 4. Future Plans

* *Describe any planned or actual papers, presentations, publications, or other professional activities that you expect to produce that reflect your work on this project.*
* *Describe any plans to revise or add to these materials in the future.*

If there is still time, we plan to submit this project as a proposal to present the OER conference in Athens in April 2019.

This project became much more complex and nuanced as the semester progressed. There are many moving parts to it and much more work to do. This pilot phase set the stage for a deeper, more focused exploration of the potential of the MCQG. The attention in the pilot was focused partly on generating as many questions as possible. The plan (and hope) was that there would be enough student generated questions to begin replace the OpenStax Psychology test bank that had been posted on the internet. Grading the newly added assignment along with other Major Graded Assignments and discussion posts proved burdensome. In the future, instructors may want to reduce the number of MGAs or discussions assigned to students. MCQG was a novel way to engage course material for many students. A great deal of time was spent clarifying details in the instructions, creating products (e.g. Example of Format) to address misconceptions, reminding students to read the instructions and resubmit assignments that didn’t meet specified criteria.

Because so much time was invested in facilitating and maintaining the assignment, the next phase in the project involves testing to see if MCQG actually improves student learning compared to other traditional activities (e.g. discussion posts). This phase will establish control and experimental groups to measure the impact and difference, if any, the teaching strategy has on student learning. We plan to submit the proposal for a mini-grant in the near future to continue this research.

Students tended not to stray from the examples provided in the instructions. This pattern is most likely due to the emphasis placed on formatting in the instructions. However, this lead to many of the questions, particularly for the “Understanding” level, seemed to be underdeveloped. The example provided to students demonstrated a fill-in-the-blank format. As a result, question stems at this level lacked context and details. Updating To increase creativity and depth, “Instructions and Tips for MCQG” to include different examples/templates for student questions.

There needs to be a tool or strategy that helps streamline the process of mining the student questions for test items that are “exam ready” and organizing them into a searchable database. This revision would support the maintenance of the project. Using the MCQG increased the amount of grading to complete in a semester. To have to keep grades updated and provide feedback to students can be a challenge. Having to create a final exam that includes student questions should not be a cumbersome process.