

Affordable Learning Georgia Textbook Transformation Grants

Final Report for Mini-Grants

General Information

Date: December 20, 2019

Grant Round: 13

Grant Number: M69

Institution Name(s): South Georgia State College

Team Members (Name, Title, Department, Institutions if different, and email address for each):

Project Lead: Kathryn M Dye, Ph.D., Assistant Professor of Biology, School of Sciences,
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Course Name(s) and Course Numbers: Introduction to Biology I, BIOL 1010

Final Semester of Project: Fall 2019

If applicable to your project:

Average Number of Students Per Course Section: 24

Number of Course Sections Affected by Implementation of Revised Resources: ~8 per semester

Total Number of Students Affected by Implementation of Revised Resources: depending on instructors at least 50 but as many as 190.

1. Project Narrative

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

- *A summary of your project's purpose, plan, and timeline.*
 - *Create elaborative chapter reading guides and retrieval exercises for Openstax Concepts of Biology Unit 1 The Cellular Foundation of Life (Chapters 1-5).*
 - *Deliverables:*
 - *Five elaborative chapter reading guides*
 - *Five 3-part retrieval exercises aligned with each of the elaborative chapter reading guides*
 - *"How to" learning module designed to help students get the most out of the above materials*
 - *Timeline:*

- March - April 2019: Complete initial drafts of reading guides and retrieval exercises for Chapters 1-3, reflect on format and utility.
 - April 2019: Create “how to” module. Offer completed chapters to students currently taking Biol 1010 as an extra credit assignment to prepare for their final exam, as part of assignment ask students to provide feedback.
 - May 2019: Revise Chapters 1-3 based on student feedback and make plan to complete Chapters 4 & 5
 - June – July 2019: Complete initial drafts of reading guides and retrieval exercises for Chapters 4 & 5, reflect on format and utility.
 - The below were not possible due an unexpected MOU issue. I used past feedback on a much less developed version of the exercises to help edit and a colleague’s feedback.
 - Early August 2019: adjust syllabus and course to include the reading guides and retrieval exercises
 - August-October 2019: implement exercises in course, asking for feedback from students on their use.
 - November 2019: Analyze student feedback, consider any appropriate adjustments to materials.
 - December 2019: Prepare and submit final report.
- *The original works which were revised or added to, with links.*
 - Openstax Concepts of Biology, Unit 1 The Cellular Foundation of Life (Chapters 1-5): <https://openstax.org/details/concepts-biology>
- *A narrative description of how the project’s plan was carried out.*
 - I used past materials, student performance and feedback to develop the elaborative materials. I also used my experience facilitating a Chancellor’s Learning Scholars Faculty Learning Community to help improve the format of the reading and retrieval activities. Specifically, I participated in a book club where we read Sandra McGuire’s *Teach Students How to Learn*. This book greatly inspired the reflection and planning activities meant to develop metacognition and a growth mindset in the handouts. I remade the “How To” handout to reflect what I learned from her book.
- *Lessons learned, including anything you would do differently next time.*
 - During creation of these materials I was reminded of the fact that it can be difficult plan long term. I had planned to teach several sections of the course these materials were created for, but due to an unforeseen change in the understanding of our Entry Programs MOU, we had to cut BIOL 1010 from our offerings this fall. We have now received approval and will be adding it back in during academic year 2020-2021. Additionally, I didn’t keep notes about my process as I was creating the handouts. I tracked the actual handout content, but not my impressions. In the future, I will keep a detailed account of my process.

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](#) repository in the official description field.*
 - OpenStax Concepts of Biology Chapter 1 Introduction to Biology Guide and Practice Activity
 - OpenStax Concepts of Biology Chapter 2 Chemistry of Life Guide and Practice Activity
 - OpenStax Concepts of Biology Chapter 3 Cell Structure and Function Guide and Practice Activity
 - OpenStax Concepts of Biology Chapter 4 How Cells Obtain Energy Guide and Practice Activity
 - OpenStax Concepts of Biology Chapter 5 Photosynthesis Guide and Practice Activity
 - Each chapter reading activities includes:
 - Guided chapter preview, based on Sandra McGuire’s metacognitive reading strategies, with reflection and planning prompts
 - Engaging questions and prompts to help students work through the chapter content while maintain engagement, including suggested areas for breaks
 - Three progressively more difficult retrieval activities based on Bloom’s taxonomy. The first activity focuses on knowledge, the second focuses on understanding, and the third focused on applying the content. Each activity includes tips and tricks for learning the content.
 - Each activity includes a reflection activity where they can address any remaining questions they have, with suggestions on how to get help. A chance to evaluate their current use of the handout and to consider new strategies. And last, a final planning prompt with a reminder to continue practicing the content even when the class has moved on to new topics.
 - A “How To” guide with a basic outline of what each worksheet includes and how to use those activities. Also included are suggestions for how to use these worksheets to develop effective study strategies and habits.

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.*
 - I have begun work with a colleague who also teaches this course, but with a different lecture style. We hope to use the activities in both of our courses and

to do a simple SOTL project that we would like to present to results from at the USG Teaching & Learning 2021 conference. Depending on the data, a paper would accompany that work.

- *Describe any plans to revise or add to these materials in the future.*
 - I hope to continue creating worksheets that correspond with the rest of the BIOL 1010 course material and possibly also for BIOL 1020, the second course in the Introductory Biology sequence. Obligations to my campus' Momentum Approach and role as lead PI for our USG STEM IV grant, have slowed my plans to continue this work, but I hope to be able to come back to it this coming summer.