Affordable Learning Georgia Textbook Transformation Grants

Final Report

To submit your Final Report, go to the [Final Report submission page](http://affordablelearninggeorgia.org/site/final_report_submission) on the ALG website: http://affordablelearninggeorgia.org/site/final\_report\_submission

The final report submission form allows up to five files:

* This completed narrative document (required)
* Syllabus or syllabi (required)

*If multiple files, compress into one .zip folder*

* Qualitative/Quantitative Measures data files (required)

*If multiple files, compress into one .zip folder*

* Photo of your team or a class of your students for future ALG promotions (optional)
* Invoice for the second half of the grant’s award amount (optional)

Follow the instructions on the webpage for uploading your documents. Based on receipt of this report, ALG will process the final payment for your grant. ALG will follow up in the future with post-project grantee surveys and may also request your participation in a publication, presentation, or other event.

# General Information

**Date: 1/20/2021**

**Grant Round: 15**

**Grant Number: #489**

**Institution Name(s): Kennesaw State University**

**Project Lead: Rebecca Rutherfoord**

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

1. **Rebecca Rutherfoord, Department Chair, Information Technology,** [**brutherf@kennesaw.edu**](mailto:brutherf@kennesaw.edu)
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**Course Name(s) and Course Numbers:**

1. **IT3003 Professional Development & Entrepreneurship**
2. **IT3423 Operating Systems Concepts & Administration**
3. **IT4403 Advanced Web & Mobile Applications**
4. **IT4333 Network Configuration & Administration**
5. **IT4673 Virtual IT Systems**

**Semester Project Began: Fall 2019**

**Final Semester of Implementation: Fall 2020**

**Total Number of Students Affected During Project: 490**

# Narrative

* 1. *Describe the key outcomes, whether positive, negative, or interesting, of your project. Include:*
* *Summary of your transformation experience, including challenges and accomplishments*
* *Transformative impacts on your instruction*
* *Transformative impacts on your students and their performance*
  1. *Describe lessons learned, including any things you would do differently next time.*

The objectives/outcomes of this project were:

* Make the BSIT/BASIT programs more affordable by eliminating the textbooks used in five IT courses. By doing so, the BSIT/BASIT programs can better support the lowering of costs for students at KSU.
* Develop free, up-to-date and well-designed learning material for the five proposed BSIT/BASIT courses.
* Teach the proposed courses using the developed learning material and validate those material offers equal or better learning effectiveness that textbooks do.
* Develop a sustainability plan to ensure the no-cost learning material will be continuously maintained and used in future course offerings.

As this grant followed several ALG grants that had been done previously, the six faculty members who developed the no-cost learning materials for the courses in the grant, included past experiences and best practices in developing the new no-cost-to-students courses.

This grant included 2 required courses and 3 elective courses in the BSIT degree program. Of the two required courses, one was a new course in the curriculum – IT3003. The grant allowed the developer to create this course completely from scratch using the no-cost-to-student paradigm. The course was taught fall term 2020, and the students were very positive about achieving the outcomes of the course using the no-cost learning materials according to the survey given. The 2nd required course is a technical course required of all IT majors – IT3423. After developing the no-cost materials for the course, the developer taught the course fall 2020. When the survey was given to the students about the no-cost materials, several students didn’t feel that they got the same experience that they would have gotten with using a regular textbook. The course developer is using the student’s comments to improve the course with more material in each module that gives each students more exposure to the material in a variety of ways. The course (with the additional material) is being taught Spring 2021. The survey to the students will be repeated at the end of Spring 2021 to see if the students believe they are able to achieve the course outcomes with the no-cost learning material.

For the 3 elective courses, the surveys showed that students felt they had achieved the outcomes of each course, and learned as much from the no-cost course materials as they would have with a textbook.

A lesson learned for the IT3423 course is that when developing a technical course with no-cost course materials, it is a good practice for the developer to include additional instructor “lecture” videos and several links, etc. to material for each module. This will allow students to better grasp the material.

# Quotes

*Provide three quotes from students evaluating their experience with the no-cost learning materials.*

From the IT3003 course:

“The material presented for this course was helpful in learning each module in the course. The links, videos and content helped me to understand and learn the material. I didn’t miss a textbook at all.”

From the IT3423 course:

“For the most part, I was able to learn the material successfully in the course. However, there were several modules where I think more explanation needs to be given. It was hard to grasp some of the topics with the material given.”

From the IT4333 course:

“I had no trouble with any of the stuff in the course. There were plenty of ways to learn the material and the instructor provided additional optional material to help learning.”

# Quantitative and Qualitative Measures

## Uniform Measurements Questions

*The following are uniform questions asked to all grant teams. Please answer these to the best of your knowledge.*

**Student Opinion of Materials**

**Was the overall student opinion about the materials used in the course positive, neutral, or negative?**

Total number of students affected in this project: \_\_\_\_490\_\_\_\_\_\_

* Positive: 81.8\_\_\_\_\_\_\_ % of \_\_\_\_64\_\_\_\_ number of respondents
* Neutral: \_\_6.06\_\_\_\_\_ % of \_\_\_\_\_64\_\_\_ number of respondents
* Negative: \_\_\_\_12.12\_\_\_ % of \_\_\_\_\_64\_\_\_ number of respondents

**Student Learning Outcomes and Grades**

**Was the overall comparative impact on student performance in terms of learning outcomes and grades in the semester(s) of implementation over previous semesters positive, neutral, or negative?**

*Student outcomes should be described in detail in Section 3b.*

Choose One:

* \_\_\_ Positive: Higher performance outcomes measured over previous semester(s)
* \_\_X\_ Neutral: Same performance outcomes over previous semester(s)
* \_\_\_ Negative: Lower performance outcomes over previous semester(s)

**Student Drop/Fail/Withdraw (DFW) Rates**

**Was the overall comparative impact on Drop/Fail/Withdraw (DFW) rates in the semester(s) of implementation over previous semesters positive, neutral, or negative?**

**Drop/Fail/Withdraw Rate:**

*Depending on what you and your institution can measure, this may also be known as a drop/failure rate or a withdraw/failure rate.*

\_\_8\_\_\_\_\_% of students, out of a total \_\_490\_\_\_\_\_ students affected, dropped/failed/withdrew from the course in the final semester of implementation.

Choose One:

* \_\_\_ Positive: This is a lower percentage of students with D/F/W than previous semester(s)
* \_\_X\_ Neutral: This is the same percentage of students with D/F/W than previous semester(s)
* \_\_\_ Negative: This is a higher percentage of students with D/F/W than previous semester(s)

## Measures Narrative

*In this section, summarize the supporting impact data that you are submitting, including all quantitative and qualitative measures of impact on student success and experience. Include all measures as described in your proposal, along with any measures developed after the proposal submission.*

*[When submitting your final report, as noted above, you will also need to provide the separate file (or .zip with multiple files) of supporting data on the impact of your Textbook Transformation, such as surveys, analyzed data collected, etc.]*

* *Include measures such as:*
  + *Drop, fail, withdraw (DFW) delta rates*
  + *Course retention and completion rates*
  + *Average GPA*
  + *Pre-and post-transformation DFW comparison*
  + *Student success in learning objectives*
  + *Surveys, interviews, and other qualitative measures*
* *Indicate any co-factors that might have influenced the outcomes.*

The five courses that are part of Round 15 have the following course outcomes:

**IT 3003 Professional Development & Entrepreneurship**

The student will be able to:

* Develop a comprehensive Professional Development Plan
* Describe the STAR Interviewing Method
* Describe basics of group/team dynamics and how it affects working on IT teams
* Compare and Contrast various types of Team Dynamics
* List 10 Principles of Entrepreneurship
* Describe how innovation and entrepreneurship intersect

**IT 3423 Operating Systems & Adm**

Students who complete IT 3423 successfully will be able to:

* Identify and analyze user needs and take them into account in OS selection, evaluation, and administration of computer-based systems. ( Modules 1-6 )
* Effectively integrate OS and IT-based solutions into business practice and the user environment ( Module 7 )

**IT 4403 Advanced Web**

Students who complete IT 4403 will be able to:

* Explain modern web application architectures and related concepts
* Compare major mobile and web development approaches, platforms, and tools
* Examine and use popular web APIs
* Apply appropriate web and mobile user interface design principles and techniques
* Create a cross-platform mobile web application using the latest web technologies and services

**IT 4333 Network Configuration & Adm**

Students who complete this course successfully will be able to

* Demonstrate how to manage network systems;
* Apply the various management strategies to managing networks;
* Describe concepts of network configuration management;
* Demonstrate skills in configuring specialized network security software

**IT 4673 IT Virtual Systems**

Students who complete this course successfully will be able to

* Identify important aspects of virtual systems, their architecture and discuss how they

are used within larger, networked computing systems

* Distinguish the unique characteristics, constraints, and opportunities of implementing

virtual platforms into information technology systems.

* Apply knowledge and skills for virtualization design and implementation in IT

Survey Results:

Based on the survey (attached in the submission), 81.8% of students answered the question “Do you believe you have learned the same amount as if you would have had a textbook” with “Definitely yes” – 45.45% and “Probably yes” – 36.36%.

Students responded to the question “Were the materials given in the course enough to meet the learning outcomes of the course?”, 89.4% of the students answered “yes” – 75.76% and “maybe” – 14.64%. 10.61% of students did not believe that the materials of their course were enough to meet the learning outcomes. Thus, the analysis of the survey results shows that almost 90% of the students believe that their course with no-cost learning materials met the outcomes of the course.

Course comparisons:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course # | DFW rates current | DFW rates previous | Average GPA current | Average GPA previous |
| IT 3003 | 3% | No previous | 93.2 |  |
| IT 3423 | 8% | 6% | 88.6 | 87.3 |
| IT 4403 | 6% | 6% | 92.1 | 92.6 |
| IT4333 | 7% | 7.5% | 88.4 | 87.7 |
| IT 4673 | 6.5% | 6.9% | 91.2 | 90.7 |

The five redeveloped IT courses are showing that DFW rates and Average GPAs are very similar in all five courses. The information from IT 3423, plus student comments led the faculty developer to revisit the course and add additional content, links and course lecture videos to assist the students in learning the material.

# Sustainability Plan

*Describe how your project team or department will offer the materials in the course(s) in the future, including the maintenance and updating of course materials.*

The Information Technology department has made a solid commitment to creating all of our BSIT courses as no-cost-to-students courses. We have made great strides with previous ALG grants, and this Round 15 grant has added to the courses in the curriculum that are no-cost.

Each term, all IT courses create a Faculty Course Assessment Report that reports on the mapping of course outcomes to assessments in the course, and the achievement of each outcome based on the course assessments (labs, quizzes/tests, discussions, etc.). The report shows the percentages of students achieving the outcomes of the course based on the assessments. These FCARs are then stored for use at the annual assessment retreat.

As part of our ongoing continuous improvement cycle, 1/3 of our courses are assessed each spring term at our annual Assessment Retreat. There is a course coordinator assigned to each individual IT BSIT course. The coordinator collects the data for the course being assessed through the stored FCARs, and brings to the meeting improvements made, suggestions for further improvements and other changes (such as changing labs, etc.). Courses are updated based upon the needed improvements brought to the assessment meeting. This process allows us to fully assess our courses within a 3-year window for continuous improvement. In addition, we present the course updates for the year to our Industrial Advisory Board for any additional comments that they have.

# Future Affordable Materials Plans

*Describe any impacts or influences this project has had on your thinking about or selection of learning materials in this and other courses that you will teach in the future.*

The Information Technology Department at Kennesaw State University is committed to creating our BSIT degree program and MSIT degree program as compete “Z” degrees – ones that have no-cost learning materials for each course. We have successfully created many of our courses and are working to complete the development of no-cost learning materials for the courses that have not yet been changed. This will create an enormous savings for our majors with not having to buy textbooks for any of their major courses in their degree. It is an exciting venture and the ALG grants have made this all possible.

# Future Scholarship 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.*

Several faculty have given peer-reviewed presentations at various conferences – include OpenEd, and discipline specific conferences. This is continuing each year, and we anticipate more presentations when we get back to a more normal conference venue after COVID.

# Description of Photograph (optional)

*This is where a team can list the names of the people shown in this separately uploaded photograph, along with their roles, if applicable.*

With COVID a couple of our faculty are only teaching online and do not come to campus – thus we do not have a photograph this round.