

Affordable Learning Georgia Textbook Transformation Grants

Interim (Draft) Final Report

To submit your Interim (Draft) 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 interim 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)

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: 5/18/2020

Grant Round: 13

Grant Number: 406

Institution Name(s): Georgia Gwinnett College

Project Lead: Yi Ding

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

Yi Ding, Associate Professor, School of Science and Technology, yding1@ggc.edu

Madhushri Banerjee, Associate Professor, School of Science and Technology,
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Yaquan Xu, Associate Professor, School of Science and Technology, yxu@ggc.edu

Course Name(s) and Course Numbers: Introduction to Information Systems, ITEC 2201

Semester Project Began: Fall 2019

Final Semester of Implementation: Spring 2020

Total Number of Students Affected During Project: 225

1. Narrative

A. Describe the key outcomes, whether positive, negative, or interesting, of your project.

Include:

- *Summary of your transformation experience, including challenges and accomplishments*

Through this transformation project, we developed 9 chapters of zero cost to student textbook learning materials for 9 sections of ITEC 2201 students to use in Fall 2019 and Spring 2020. Please see the ITEC 2201 course material link at <https://commons.ggc.edu/yding1/connect/>.

In total, 222 students have used those learning materials. We enjoyed the development process and was able to achieve what we originally proposed to achieve at the beginning of this project: a customized, engaging, and inexpensive text material solution for our introduction to IS/MIS course. Students who used those materials were asked to complete an assessment survey to evaluate the impact of using those materials. The results of the survey (as shown in section 3) indicate that most students favor our customized text materials.

This project gives us an opportunity to integrate the up-to-date information in the fields into our classroom teaching. With our customized materials, Instructors no longer had the feeling of “trim the foot to fit the shoe” as they typical had when the traditional textbooks were used. Students also felt those material were more aligned with the current practices in their fields as indicated by a student’s quote “It helped me learn a lot for my future field.”

Through the development of this project we encountered several challenges. One is to get our IRB approval for our assessment survey to evaluate the impact of using the low to zero-cost text materials. Some technical glitches in our IRB online system caused our IRB application was mishandled and got delayed dramatically from summer 2019 to the late part of fall 2019.

The second challenge that we encountered is the switch to online teaching at the second half of Spring 2020. This change has affected the students course drop rate and failure rate.

- *Transformative impacts on your instruction*

The project helped us much better aligned our teaching materials with our hands-on activities as well as with the up to date practice in the field.

- *Transformative impacts on your students and their performance*
Overall, students have benefited from those learning materials not just economically but also intellectually. Our course outcome goal assessment as shown in Table 1 of this report that students have maintained their performance levels on those course outcome goals compared with the results of previous years.

B. Describe lessons learned, including any things you would do differently next time.

We would introduce more assessments across the semester to help us collect and analyze data to have better understanding of students learning needs. This could help us further customize our teaching materials to better fit with students learning needs.

2. Quotes

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

The following are student answers to the course evaluation question ***“What I found most valuable about this course was:”***

- “Materials from Professor, Lecture and assignments”
- “I found everything we learned valuable. I will be able to apply it further on in my college career”
- “The course material”
- “The links to websites for us to study and review material”
- “The resources are always available”

3. Quantitative and Qualitative Measures

A. 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: 225

- Positive: 77 % of 188 number of respondents
- Neutral: 19 % of 188 number of respondents
- Negative: 4% % of 188 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)
- ☐ Neutral: Same performance outcomes over previous semester(s)
- ☐ Negative: Lower performance outcomes over previous semester(s)

We collected the course outcome goal assessment data across 2017, Fall 2018, and Fall 2019. We didn't have Spring 2020 data as our school didn't collect it. The main reason is that our school felt the Spring 2020 data would be way too skewed and of little use due to the switch to online teaching.

Also, this comparison can be biased due to the data from Fall 2018 is somewhat different from the data of Fall 2019. First, we only had one member taught this course in Fall 2018. Second, there were multiple sections taught by part time teachers who didn't report their results.

Although in average the Fall 2019 has 88% rate of meeting course outcome goals and is 1% higher than Spring 2019, the conclusion of whether this implementation achieved better result can't be decisively determined. Therefore, we believe more studies and assessments would be needed through the future revision of the project.

Table 1

ITEC 2201 Program Goal Assessment			
2017	82%	86%	85%
Fall 2018	86%	89%	87%
Fall 2019	88%	88%	87%

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.

17.8 % of students, out of a total 225 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)
- ☐ 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)

Although our DFW rate in total seemed to be higher than the previous semesters, failure rate of the implementation semester seemed to get improved compared to the previous semester, spring 2019.

To further explain this, we broke down our numbers into categories of withdraw and failure in separate by separate semesters starting Fall 2018.

In Fall 2018 we have only one faculty out of this team taught this course. The sample size can be too small to provide any meaningful comparison.

In Spring 2019 we have two faculties out of this team taught this course. Although the withdraw rate was lower than the implementation semesters, the failure rate of Spring 2019 is much higher than the implementation semester.

Also, Spring 2020 we switched to online class for the second half of the semester. The withdraw deadline was put off May 1st. Students who were not comfortable with online teaching or didn't have the necessary technologies ready for the online learning withdrew from the class. That might explain we have higher withdraw rate than the previous semesters.

Also, both Fall 2019 and Spring 2020 had significant higher number of student population than the previous semesters used for the comparison. We believe more studies and assessment were needed to draw the final conclusion.

Semester	Withdraw Rate	Failure Rate	Total Students
Fall 2018	7%	7%	46
Spring 2019	1%	12%	81
Fall 2019	8%	8%	123
Spring 2020	10%	9%	102

B. 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.*

We used the following measures to assess the impact of this project on student success and experience

- The Class Climate survey to collect students' feedback about the impact of no-cost materials to their course completion.
- The number of ITEC 2201 sections taught by team members and number of students enrolled and completing the course
- Data on dropout, fail, and withdrawal rates in experimental group
- Pre-and post-transformation DFW comparison
- Self-reported survey data to measure students' use of zero cost learning materials, perceived quality, usefulness, satisfaction, as well as intention to use/recommend to others to use.

- Course outcome goal assessment data across different semester

Co-factors that might have influenced outcomes

- Switch to online teaching in the middle of Spring 2020 due to Covid-19
- Inconsistent teaching assignment to members of the team across different semesters
- Inconsistent number of student population who were involved in the comparison across different semesters
- The lack of the assessment data from instructors who didn't adopt the zero-cost learning material
- The lack of the assessment data from part time instructors who taught this course over the semesters
- Student population difference across different classes (weekend classes vs night shift classes vs week-day classes).

4. 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.

Since the course materials are developed with the Desire2Learn Brightspace system, the access to the materials in the future will be mainly through D2L, which is the learning management system used by all future ITEC 2201 and BUSA 3100 courses. The maintenance and updating of the course materials will be managed by the team through D2L as well. We originally planned to make the materials accessible in public through GGC wiki website. However, the GGC wiki website has been down since January 2020. We don't know when this will be back. Currently, we are still looking for an ideal replacement. Once we find the replacement, we will make those materials available in public.

Since we received a NCE, we will continue our work on the project until the end of the NCE period and will submit the final report then.

5. 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.

This project helps us realize that so many sources of learning various subjects in IT fields were readily available online for free. The quality of those sources is often considered to be at par with the textbook level or even more updated than the textbook. We found many subjects covered in some higher level ITEC courses such as ITEC 3200, 3700, 4150, 4200, 4210, etc. can use the free online learning materials to help deliver the quality learning experiences to our ITEC students. This project opens our minds and helps us reflect our

current textbook based pedagogies and inspires us to explore new approaches to supplement or even replace the use of expensive textbook for class teaching.

6. 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.

Apply for the revision of ALG in a pure online learning environment

Study the impact of online learning on the use of ALG materials.

Do more analysis to assess and understand the correlations/determination relationships among factors such as use of ALG material, learning performance, quality of material, intention to recommend to other students to use.

Add CURE into ALG extension as CURE will encourage student use library and online systems more to find out materials freely available for them to further their learning on subjects.

We can also examine the impact of ALG on the CURE outcome. We assume compared to the traditional textbook learning system, an online based ALG system could shorten the learning steps for a student study the related IT subjects and often inspire them to research and develop self-learning skills.

Develop assessment of ALG impact on higher courses require ITEC 2201 as prerequisite

7. 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.

From left to right: Yi Ding, Project Director; Madhushri Banerjee, Co-PD; Yaquan Xu, co-PD.

