**Textbook Transformation Grants Round Two:**
**Final Report Summary, June 2016**

### Background

The Affordable Learning Georgia (ALG) Textbook Transformation Grants are intended to pilot different approaches in USG courses for textbook transformation including adoption, adaptation, and creation of open educational resources (OER) and/or identification and adoption of materials already available through GALILEO and USG libraries. The grants help support the release time, materials, instructional design, library research and materials identification, and professional development needed for faculty to transform their use of learning materials.

In Spring semester 2015, 78 proposals for the Round Two Request for Proposals (RFP) were received from 25 USG institutions. Of these, 27 proposals from 16 USG institutions were awarded grants, replacing commercial textbooks in 40 courses for an estimated 24,540 students annually, saving students an estimated $5,025,079 on textbook costs per year.

Round Two projects are comprised of four No-Cost-to-Students projects, five OpenStax Textbooks projects, one Course Pack Pilots project, and seventeen projects in the new Transformations-at-Scale category, encompassing multi-course, multi-campus, and department-wide transformations. Implementations were delivered in these 40 courses, 24 of which were in the list of the top 50-enrolled USG lower-division courses. This list has since been updated to the top 100 USG undergraduate courses.

All grant projects and the course numbers affected are included in the List of Round Two Grantees:
http://www.affordablelearninggeorgia.org/about/textbook_transformation_grants_round_2_grantees

List of the Top 100 USG Undergraduate Courses:
http://www.affordablelearninggeorgia.org/find_textbooks/alg_top_courses

As required for compliance, all project teams submitted final reports at the end of their final semester, where all implemented materials were taught within the course. Final reports included quotes from students and professors, data on student performance, drop/fail/withdraw rates, and measures of student perceptions of course materials. Including savings estimates, this data meets all four requirements of the Open Education Group's standard COUP Framework, measuring cost, outcomes, usage, and perceptions in each implementation.

### Highlights

Students affected by the Textbook Transformation Grants were mostly positive about the savings and access they provide, while instructors found that their projects were important experiences in informing their instructional knowledge and methods. All project teams plan on using more affordable materials in the future, with 26 out of 27 teams using and/or improving the same materials implemented in the

project. Students often remarked on the advantage of using diverse materials selected by their instructors over a single textbook with a single author or group of authors. Teams reported largely positive or neutral comparative performance and retention data compared to previous semesters, control groups, and/or instructor and departmental averages with a commercial textbook, all while saving students $1,731,824 total within the time of the project, mostly within only their final semester of instruction.

This summary report addresses the following topics:

- Analysis Challenges and Report Changes
- Grantee Experiences
- Savings
- Student Satisfaction
- Student Performance, Retention, and Progression
- Lessons Learned
- Conclusions

## Analysis Challenges and Report Changes

Challenges in performing the overall analysis of final report data from the 27 different projects included the diversity of comparative data used to determine outcomes. Variation occurred with the number of semesters of data used and whether averages calculated were department-wide or instructor-specific. Confounding factors when measuring efficacy included changes in personnel, differences in student composition between Fall and Spring semesters, enrollment shifts, and organizational complications due to institutional consolidations.

The norming of any data submitted in Round One Final Reports for the previous Round One Final Report Summary was challenging due to a diversity in measures and presentation of findings. In Round Two, three uniform questions about student perceptions, student learning outcomes, and drop/fail/withdraw rates were added to the Final Report requirements as supplementary to the summary of all research conducted. This measure increases accuracy in the summary report, as it puts interpretations of qualitative findings, evaluations of statistical significance, and analysis of confounding factors completely in the hands of the teams conducting the research instead of within Affordable Learning Georgia.

## Grantee Experiences

Round Two project teams had unanimously positive experiences in implementation processes and teaching with affordable materials. All 27 teams are planning to use affordable materials in the future, as indicated in the Sustainability Plan or Future Plans sections of the final reports. Of these 27 teams, 26 teams plan on using and/or revising the same resources implemented within the project in the future, with only one team seeking out different open and affordable educational resources.

These findings are the best indicator that grants to support OER and alternative low-cost material adoption activities are valuable tools in building sustainable low-cost learning materials practices among faculty.

**Round Two:**

**$569,900**
awarded to grantees

**7,340**
students affected

**$1,731,824**
saved during projects

Teams saw the grant project experience as enhancing their teaching and learning skills and pedagogy, often remarking that the ability to select a diverse range of materials enabled them to craft the class itself more toward desired learning outcomes than with a single commercial textbook.

These experiences have also led to the current or future production of scholarship around implementing affordable materials in the classroom. 22 teams have already conducted or will conduct scholarly work, such as writing articles and presenting at state, national, and international conferences, regarding their experiences within the grant project.

*"Eliminating a textbook and moving to all curated readings and custom authored content has been very freeing for instruction. We are no longer bound to the content and perspective of a singular textbook, which means we have the flexibility to mold the course to our learning objectives in a more specific way." -Dr. Deanna Cozart, University of Georgia*

*"Our positive experience with the ALG transformation grant is permeating to other areas in our institution, and we are actively promoting the adoption of OERs in other disciplines like Psychology, Sociology, Chemistry, [and] Biology." -Dr. German Vargas, College of Coastal Georgia*

### Savings

During Round Two projects, 40 grant-supported courses were taught to 7,340 students and saved these students an estimated $1,731,824 in student textbook costs in relation to their commercial equivalent, the purchase of a new printed commercial textbook.  These figures reflect an accuracy in the annual estimates originally made, since each project's Final Semester was different and there are three semester blocks measured – Fall, Spring, and Summer.

Therefore, the student savings return on the grant investment is high, as it was in Round One. With all teams indicating that these materials or other affordable materials will be used in future semesters, a high sustainability of these student savings is anticipated over at least the next academic year, leading to an even higher return on this one-time award as time passes.

## Student Satisfaction

The final reports also provided diverse qualitative and quantitative student satisfaction measures and testimonials, including open-ended student survey responses, scored student evaluation responses, quotes from students, and experiences within faculty narratives.

Teams reported that students were highly satisfied with the affordability and ease of access with open textbooks and affordable materials, with 88% of students on average either having a positive or neutral perception of the resources in comparison to a traditional commercial textbook.



**STUDENT SATISFACTION RESPONSES**

Negative 12%

Neutral 16%

Positive 72%
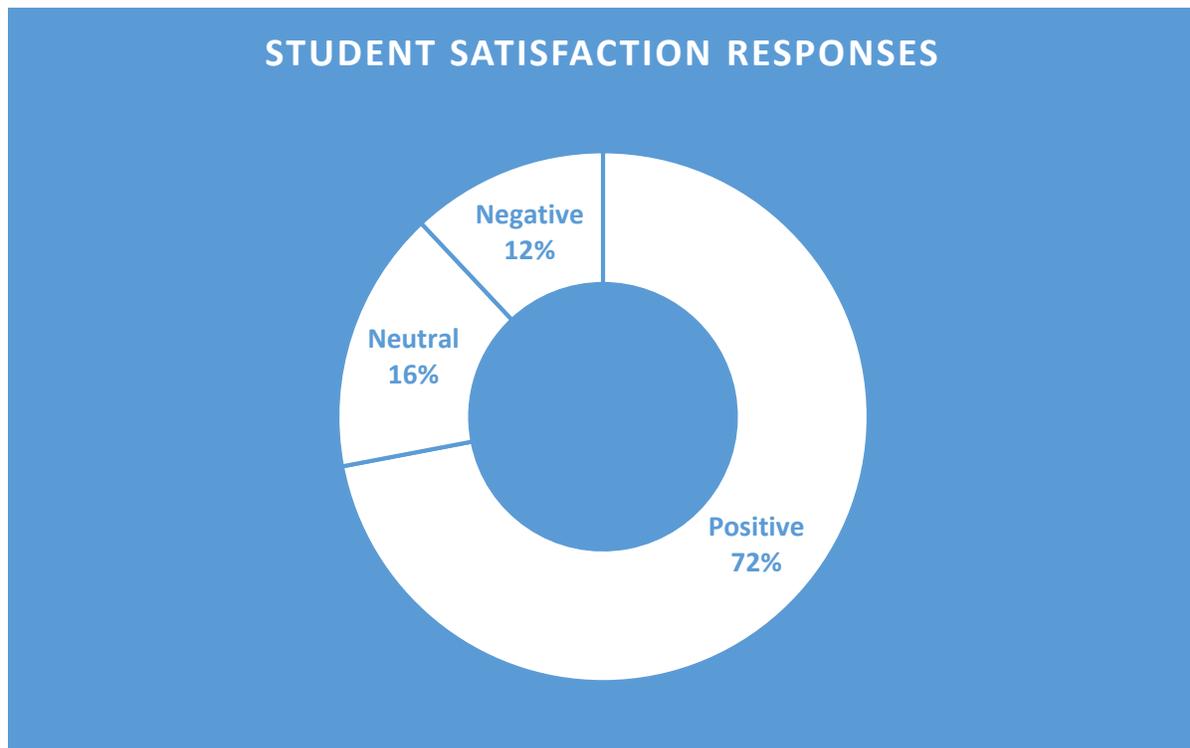
Negative student responses primarily involved complaints within two categories:

- Lack of a print option for the new affordable resources, or
- Technical errors, mostly within online homework systems.

*"Students have enough to worry about without needing to shell out hundreds of extra dollars for texts, and this program is incredible for helping in the way that it does."*
*-Student of Dr. Kevin Floyd's Project Team, Middle Georgia State University*

**Student Performance, Retention, and Progression**

**Student Learning Outcomes**

Half of the 26 reporting project teams on student outcomes reported positive significant changes to student learning outcomes in comparison to control groups, previous semesters, faculty averages, and/or departmental averages, while 42% of teams saw no significant changes to outcomes. This is a combined 92% of teams who experienced either a significantly positive or neutral effect on learning outcomes while using affordable materials.

## STUDENT LEARNING OUTCOMES

Negative
8%

Positive
50%

Neutral
42%
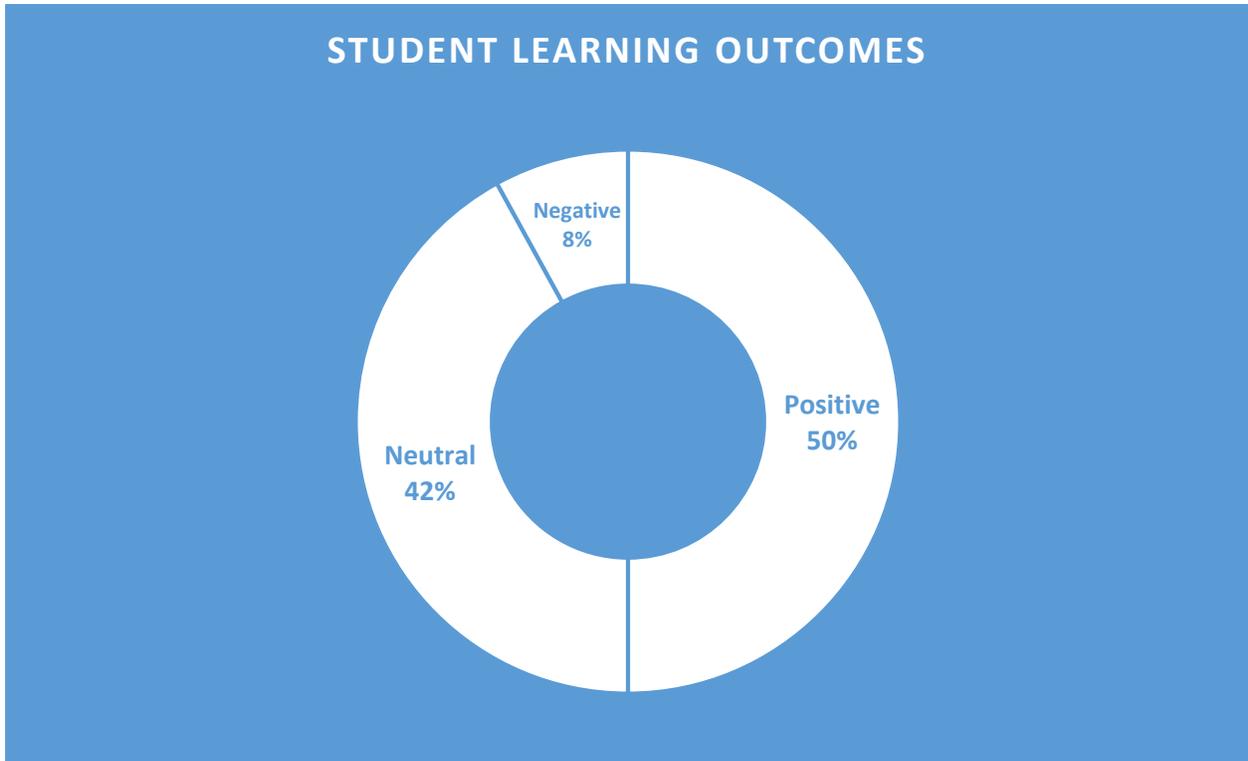
Comparative data on student performance varied in each group, and some projects indicated confounding factors that possibly negated the overall impact of the no-cost textbook.

One department-wide project's Spring semester students were consistently less prepared than Fall semester students due to the structure of the course: Spring sections were largely composed of students who did not pass the course in the Fall. Repeat student results are not *prima facie* normable with first-time students.  Other teams reported changes in personnel for reasons including turnover and the consolidations of institutions.

*"...we are pleased to report a positive change in student perceptions about the course, along with no appreciable negative impact on grades, DFW rates, or preparedness for Calculus II (as measured by meeting course objectives for Calculus I). Our data [in the Final Report] substantiates this claim."*
*-Dr. Shaun Ault, Valdosta State University*

**Drop/Fail/Withdraw Delta Rates**

Along with learning outcomes, a standard measure of student retention and progression is the combined rate of course drops, failures, and withdrawals, or DFW delta rates. The results for the DFW rates were slightly more mixed than with learning outcomes, with 46% reporting positive significant changes, 35% reporting no changes, and 19% reporting negative changes.
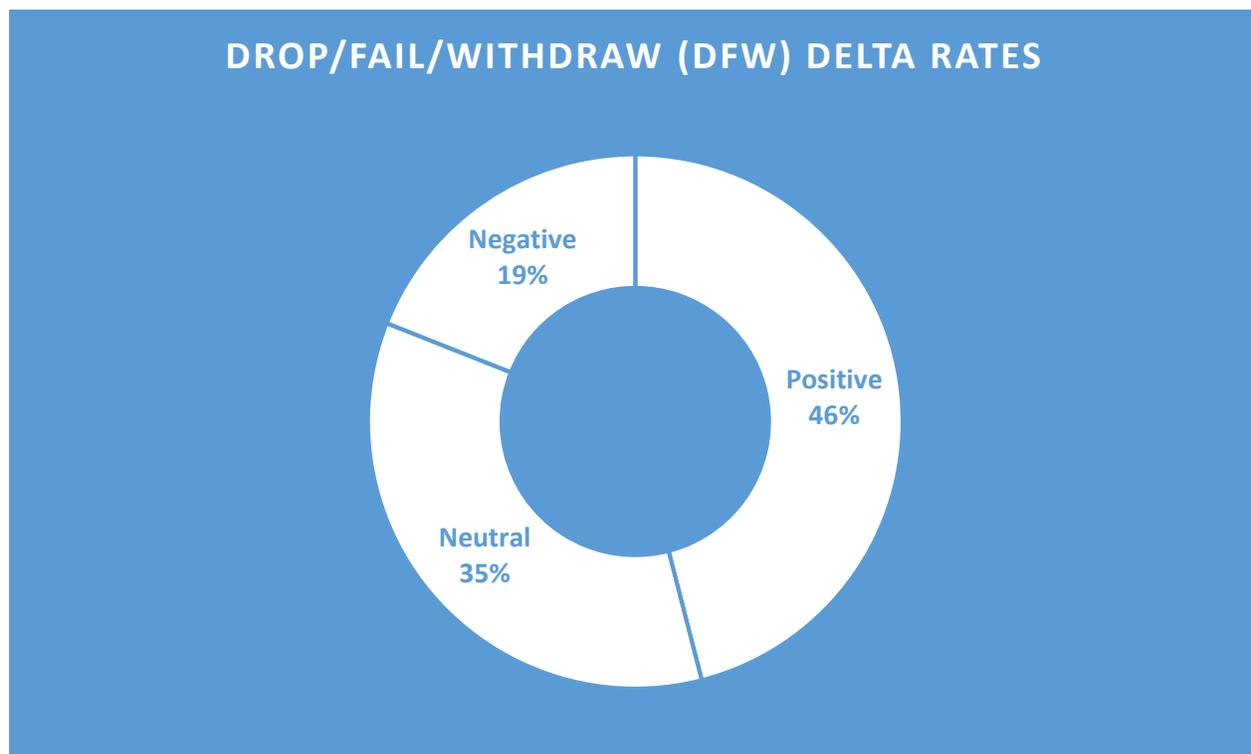


While DFW rates are a standard measure of student retention, the difference between a positive or negative outcome can vary depending on the course and the project. For example, a course with consistently low DFW rates with a small negative effect during implementation may not reflect a large impact on the course – possibly one or two students less within the course, as opposed to another course with high DFW rates significantly dropping or vice versa. Project teams sometimes reported drastic changes in student composition for their courses due to course restructuring, which also affected DFW rates.

*"Prior to consolidation, the vast majority of students were pre-nursing majors. The current courses include more non-science majors. At this point, we are unable to determine if the considerable increase in FW rates are due to the textbook transformation, the change in the demographics of students, the instructor, or some combination thereof."*
*-Dr. Jonathan Cannon, Middle Georgia State University*

**Lessons Learned**

Because of the shared lessons learned from each grant team's final report, Affordable Learning Georgia suggests the following practices when implementing open, no-cost, or low-cost materials to replace a commercial textbook in a course:

- **Plan for critical contingencies:** Changes in enrollment, organizational changes due to consolidations and departmental restructuring, and personnel turnover caused some teams to be suddenly overloaded with work in the middle of a grant project, or teaching different courses than the ones planned. Any planning in the initial implementation phase for critical issues such as these will help teams thrive in often chaotic conditions. Along with assigning distinct roles, each team member having a "backup" role for support would help with these issues.

- **Allow for ample time to review low-cost homework solutions:** While many instructors were able to teach the course easily through their Learning Management System (LMS), some instructors, particularly in mathematics and physical sciences courses, needed a third-party application in order to deliver online homework effectively. Evaluating these homework systems is as involved a process as (if not more involved than) the evaluation of required reading materials, due to communications with vendors, exploring system capabilities, and dealing with glitches. Planning for this larger evaluation time will help keep the implementation on track.

- **Compare data from similar semesters if possible:** As mentioned in the DFW rates section of the summary report, some groups were using comparative data from the previous semester to evaluate effectiveness in the semester of implementation, which confounded measures of the impact of the implementation. Teams teaching courses which have distinctly different student composition in the Fall, Spring, and Summer should plan on comparing data either within the same semester (as with control groups) or within the same semester within different years (Fall 2014 vs. Fall 2015 instead of Spring 2015 vs. Fall 2015, for example).

- **Continue to search for and evaluate materials after the review process:** Keeping up-to-date with the newest resources available in a team's field will make the team more flexible when making changes to which resources are used. With OER and affordable materials appearing in various and sometimes disparate locations, this may prove difficult, but joining a MERLOT subject area community and/or reviewing new OER within your field will help keep you informed and active in your search.

---

*"As a general lesson learned, if you are an early adopter you need to be willing to explore and adapt; the higher education environment is changing rapidly and we need to be agile to react to the availability of new resources specially if these promote access and affordability for our students."*
*-Dr. German Vargas, College of Coastal Georgia*

---

**Lessons Learned: Department-Wide Transformations**

- **Plan for longer review periods:** Department-wide transformation teams reported extra steps in materials review processes, as a department-wide adoption is often more controlled by the larger institution than individual faculty materials adoption. Plan on more review time for colleagues, department heads, and possibly Deans in analyzing compliance with accreditation standards, departmental standards, and shared student outcomes.

- **Collaborate with other departments and offices:** While smaller teams without a department-wide transformation may seek the help of one librarian or instructional designer, large department-wide teams may need the help of an entire office to transform a course. In the case of Dr. Watson's group at the University of Georgia, the Psychology Department collaborated with the Center for Teaching and Learning in order to transform not only the materials used, but also the course's structure and pedagogy.

- **Take differences within course sections into account:** A large team may not be aware that a particular section of the course, taught possibly by a unique instructor, might function differently and for a different group of students. For example, Dr. Curtright's team at Georgia State University needed to reconcile the differences between English as a Second Language (ESL) and non-ESL learners, because there were ESL-specific sections of ENGL 1101 and 1102. Planning this from the start made the process of creating their new textbook easier, although getting new edits approved from the ESL and non-ESL instructors was still viewed as a challenge.

- **In early planning stages, determine what should be flexible or standardized:** Department-wide adoptions of learning materials should take both academic freedom and the diverse range of instructional styles of faculty into account when planning a transformation. Faculty should determine, in the early stages of planning, what needs to be uniform, such as lecture slides or tests, and then determine how flexible the rest of the structure and materials can be in order to maximize instructors' potential in the classroom.

---

*"We learned that standardizing materials across sections is not necessary to ensure similar performance. We used identical texts and PowerPoints across different sections, but the materials were taught in a different order by each instructor, with little to no difference in student performance."*
*-Dr. Joshua Reece, Valdosta State University*

---

## Conclusions

The final reports indicate many benefits to participating in and being affected by a Textbook Transformation Grants project:

- Students continue to be largely positive about the implementation of free and open materials in the classroom.

- Through the transformation process, instructors also transform their instructional knowledge, methods, and pedagogy.

- Instructors enjoyed teaching with OER and affordable resources, and all Round Two teams plan on using these affordable materials in the future.

- Students often prefer the experience of using diverse materials that are "curated" by the instructor over a textbook with a single author or group of authors.

- Instructors have opportunities to share their transformation experiences and findings through conference presentations, panels, and articles.

- Textbook Transformation Grants projects in Round Two once again resulted in mostly positive or comparable performance and retention data compared to previous semesters, control groups, and/or instructor and departmental averages, all while saving students $1,731,824 total during the project, and over an estimated five million dollars annually.

*"I felt that the free online materials were just as, if not more, beneficial as a regular textbook would have been. It was wonderful not having to worry about paying tons of money for a book and still having great materials to read. It was much more convenient, and I wish more of my classes used this method."*
*-Student of Dr. Deanna Cozart's Project Team, University of Georgia*