***Affordable Learning Georgia Textbook Transformation Grants***

***Final Report (Due June 12, 2020)***

*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:*** June 11, 2020

***Grant Round:*** Round 13

***Grant Number:*** 410

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

***Project Lead:*** Dr. Sherika Derico

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

|  |  |  |
| --- | --- | --- |
|  | Name, Title, Department, Institution | Email Address |
| Team Member 1 | Amanda Hawkins, Associate Professor; School of Nursing; Columbus State University | hawkins\_amanda@columbusstate.edu |
| Team Member 2 | Parul Acharya, Assistant Professor  Columbus State University | acharya\_parul@columbusstate.edu |
| Team Member 3 | Brittany Grissette Assistant Professor; School of Nursing; Columbus State University | grissette\_brittany@columbusstate.edu |

***Course Name(s) and Course Numbers:***

NURS 3191 Professional Clinical Nursing RN I

NURS 3194 Pathophysiology

NURS 3195 Evidence Based Practice

NURS 3293 Health Assessment RN

***Semester Project Began:*** Spring, 2019

***Final Semester of Implementation:*** Spring, 2020

***Total Number of Students Affected During Project:*** 529 students

# *1. Narrative*

# The transformation grant has been an overall positive experience for the faculty and students at Columbus State University in the School of Nursing. There were several benefits to utilizing Open Educational Resources (OER). The usage of low/no cost alternatives for course materials has made a significant financial impact for the RN to BSN students. Students were able to quickly access the OER without waiting to order a textbook from the publisher or the bookstore. The use of OERs allowed the faculty to enhance course content by adding new and relevant content on a continuous basis. Additionally, OER allowed faculty to provide more diverse teaching and learning activities for the students.

# The challenges included exploring and learning all the Open Educational Resources (OER) resources in the eJournals and eBooks was overwhelming at first, but the RN to BSN faculty team quickly adapted to the challenge. In researching the OER specific to nursing, it was discovered that nursing had limited resources compared to other disciplines. In searching Galileo, we found several articles that were relevant and would add substance to the course but the articles state content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use, so this is something we ended up using in our classes. Some courses were provided with an OER link. But the OER was not affiliated with the University System of Georgia therefore, University Technical Support could not assist the students with troubleshooting.

# By using OER, faculty were able to continually improve the courses by adding new content on a regular basis without the limitations that come along with textbooks. OER provided the faculty with new and innovative ideas to present the course content and allowed for the expansion of assignments and activities in the course.

# OERs improved the students' performance as evidenced by increased course grades. We were able to retain more students by decreasing the financial burden of purchasing textbooks.

# B. By transitioning to OERs, we discovered a need for nursing specific textbooks. We also discovered a need for materials to be thoroughly examined for relevance, accuracy, and completeness. We learned that utilizing concise materials eliminated distractions caused by irrelevant information. This allowed students to develop a better understanding of course content. In the future, we plan to explore the process of developing nursing OERs.

# *2. Quotes*

The students highly rated the use of Open Educational Resources in the courses:

* + “Absolutely, not having to pay 100s in books that will lay around has helped me in my finances. The textbooks are heavy and would be worth less if I wanted to sell them back. I feel like it would be a lot of money wasted. The OER gave me everything I needed and it was free. Money saved is always appreciated when trying to build my family up.”
  + “General nursing books are harder to navigate and can sometimes have information about a subject in several places. The OER was helpful with being clear and to the point in relation to the specific lesson. “
  + “OER helped me develop more reading skills and communication skills in integrating knowledge.”

# *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: \_\_529\_*

*· Positive: 100\_\_ % of \_\_103\_\_ number of respondents*

*· Neutral: \_\_\_\_\_\_\_ % of \_\_\_\_\_\_\_\_ number of respondents*

*· Negative: \_\_\_\_\_\_\_ % of \_\_\_\_ 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:*

*· \_X 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)*

***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.*

*\_\_21\_\_\_\_\_% of students, out of a total 529\_\_ 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)*

*· X\_ Negative: This is a higher percentage of students with D/F/W than previous semester(s)*

## *B. Measures Narrative*

The goal of the Textbook Transformation Grant project is to design nursing classes to offer affordable open educational resources to reduce cost for a savings of $336.00 per student in four nursing courses: NURS 3191 (Professional Clinical Nursing RN I), NURS 3293 (Introduction to Health Assessment and Wellness), NURS 3194 (Pathophysiology), and NURS 3195 (Evidence Based Practice). The faculty will replace the required textbooks in the four courses with no-cost open educational resources. The grant project will be implemented in the online RN to BSN program in the four courses by Summer Term June, 2019 with spring 2019 being used as baseline data. The RN-BSN faculty will implement selected open educational resources (OERs) that make education more equitable by supporting the assembly, creation and dissemination of high-quality reusable, affordable resources on the first day of class that will support student success (noted by academic grades and reduction in withdrawals) in nursing classes by June 1, 2019; produce the new pedagogical transformation to deliver greater learning efficiency of using open education resources to all stakeholders and consumers by June 1, 2019; achieve 100% usage of open educational resources by all nursing students enrolled; and promote continuous improvement of instruction and learning by May, 2020. By implementing OERs, the faculty anticipate increasing the retention rate of nursing students from current 90% to 95% by May 2020.

**Timeline of Events**: In January 2019, the grant acceptance notification was sent to the project team, which consists of Amanda Hawkins, Sherika Derico, Brittany Grissette, and Parul Acharya. During this time, Service Level Agreement (SLA) provided by the University System of Georgia Office. In February 2019, the lead nursing faculty were responsible for researching and evaluation of OER to replace current textbook content. The course objectives, teaching/ learning practices and no-cost textbooks were reviewed to ensure course alignment. The complete modifications for summer syllabi were analyzed.

Learning materials were mapped, designed and transferred to learning modules in the four courses. The project team members attended a required kickoff meeting in Middle Georgia State University in Macon, GA. The IRB application was submitted. In March and April 2019, research and evaluation of OER to replace current textbook content, review of course objectives, syllabi, teaching/ learning practices and no-cost textbooks continued. Baseline data based on the evaluation plan was collected from Institutional Research in CSU for the spring 2019 semester after IRB approval. The Qualtrics survey and discussion board questions in each course were set up. In May 2019, additional nursing faculty will cross check the OER and provide feedback to the project team on the quality of the OER. Team meeting was held to discuss OER project progress and data collected to date. A small-scale pilot was implemented to examine nursing student perceptions to OER in June and July 2019 before OER was implemented on a full-scale in all the four courses in Fall 2019 semester. The OER was embedded in CougarView, the learning management system. In fall 2019 and spring 2020 semesters, nursing faculty taught with OER in all the four nursing courses. The faculty met on a monthly basis to review the current digital learning materials, evaluate student feedback, and ensure ongoing achievement of the desired learning outcomes. The data collection process was also reviewed based on the evaluation plan.

**Student Enrollment by Semester**: Figure 1 shows the enrollment of students in nursing courses by semester. The highest enrollment was in NURS 3195 (*N* = 50), NURS 3194 (*N* = 45), NURS 3194 (*N* = 39) and NURS 3195 ((*N* = 70) in spring 2019, summer 2019, fall 2019, and spring 2020 semesters respectively. These enrollment numbers are based on duplicate counts where one student may be counted more than once either within a semester or between semesters. NURS 3293 course was not offered in the summer semester.

**Student Demographics by Semester**: Figure 2 illustrates student demographics (gender and ethnicity) by each semester. The numbers represent the percent of students within each ethnicity by gender. For example, 76.9% and 23.1% of male students were African-Americans and White respectively in the Spring 2019 semester. The demographic trends indicate that the majority of students were either African-American or White across all the four semesters. AI/AN represents American-Indian or American- Native students. Asians had the third largest enrollment in the nursing courses. The number of African-American females were higher than African-American males in fall 2019 and spring 2020 whereas the number of White females were higher than White males in spring 2019 and summer 2019.

**Student Age Distribution**: A box and whisker plot was used to depict the age distribution of nursing students by gender and ethnicity within each semester (Figure 3). Box and whisker plots help to understand the symmetry and skewness in the age distribution as well as how tightly the data is grouped. The lower and upper hinges of each box plot show the minimum and maximum age. The area within the box plot shows the interquartile range from 25th percentile (lower line of the box) to 75th percentile (upper line of the box). The line dividing the two areas within the box is the median. The dots indicate outliers, which are data points located far off from the mean age within a particular ethnicity by gender. The plot shows that female nursing students have a higher age range than male nursing students irrespective of ethnicity. This indicates that there is a large difference in the minimum and maximum age of females than males. The median age of the female Asian students is highest (42 years) followed by African-American (36 years) and White students (34 years). There is not much difference in the median age of male African-American and White students.

**Student Institutional Grade Point Average (GPA)**: Figure 4 represents the distribution of institutional GPA of nursing students by course and by semester. The GPA range was highest in 3191 courses in spring 2019, summer 2019 and spring 2020 semester. This trend is further corroborated by the presence of outlier points located in the lower end of the hinges for 3191 courses across the three semesters. In general, most of the outlier points were located in the lower end of the distribution irrespective of the course and semester. The median GPA is lowest in 3191 courses (ranging between 3.4 to 3.6) when compared to other courses across all the semesters. The institutional GPA data points are clustered more tightly together for 3194, 3195 and 3293 courses across the four semesters. The institutional GPA data points are more spread out for 3191 courses across the four semesters. It is worthwhile to mention here that the median GPA for all the four courses were at least 3.5 across all the four semesters (except in spring 2020 for 3191 courses where the median GPA was about 3.4).

**Student Semester Grade Point Average (GPA)**: Figure 5 represents the distribution of semester GPA of nursing students by course and by semester. The GPA range was highest (*M* = 3.7) in 3194 courses in all the three semesters. Majority of the outlier points are located in the lower end of the hinges for all the courses across the three semesters. The institutional GPA data points are more spread out for all the courses across the four semesters when compared to the institutional GPA. It is worthwhile to mention here that the median GPA for all the courses were at least 3.5 across all the three semesters.

**Student Final Grades**: Figure 6 illustrates the distribution of students’ final course grades by each nursing course within each semester. The trends indicate that the majority of students earned either a A or B grade in the coursework. No student earned a C grade in NURS 3194 except in spring 2019. The number of students earning an A and B grade was equally split for 3191 courses in the spring 2020 semester. Although some students did receive a C grade or less in the nursing courses but there is not a noticeable change across semester. However, the number of students receiving C or less in NURS 3293 courses was 7, 8, and 10 in spring 2019, fall 2019 and spring 2020 semesters respectively.

**Time Spent in Reading Open Educational Resources (OER)**: A Qualtrics survey was administered in summer 2019, fall 2020 and spring 2019 semester to collect data on the average amount of time students spend in reading OERs provided in the four nursing courses. A total of 103 students responded back to this question. Figure 7 shows the number of students by the average amount of time spent in reading OER’s provided in the nursing courses. The numbers are segregated by semester and course. Majority of the students spent 2 to 3 hours per week in reading OERs with the highest number in fall 2019 (*N* = 27) followed by summer 2019 (*N* = 14) and spring 2020 (*N* = 10). The number of students reading OER for more than 4 hours per week is more in fall 2019 (*N*= 16) and spring 2020 (*N* = 11) semester. One reason that can explain this trend is that OER was implemented in the summer semester. Students might have taken time to familiarize themselves with OERs after which they devoted more time in fall and spring semester.

**Student Engagement Quantitative Survey Results**: A survey measuring nursing students’ engagement was administered in summer 2019, fall 2019 and spring 2020 semesters via Qualtrics data collection platform. The engagement survey items were on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree). Figure 8 represents the distribution of student responses by each engagement survey item in each semester. The mean score for each item is indicated in the circles within each survey item. The chart shows that the mean survey score was above 4 (agree) for most of the engagement items. There was a drop in the mean engagement scores from an average of 4.6 (in summer 2019 and fall 2020) to 4.1 in spring 2020. The biggest drop was seen in the item “*The nursing faculty offers useful advice about ways to improve my teaching so I can fulfill their expectations*.” One reason that might explain this decrease in student engagement scores is the COVID- 19 pandemic, which severely hit the USA from March 2020 onwards. All the institutions within the University System of Georgia had to unexpectedly move to a completely online mode of instruction for all the courses offered in spring 2020 semester. Additionally, the COVID-19 pandemic impacted most of our students because they were on the frontline working as practicing nurses. An important trend which is important to mention here is the increase in mean engagement score for the survey item “*I feel connected to the faculty and university*” from 3.26 in fall 2019 to 3.35 in spring 2020 semester.

**Student Engagement Qualitative Survey Results**: Two open-ended questions were asked in Qualtrics to collect qualitative data on student experiences with using OER provided in the nursing courses. The first question was “What do you think about the essential skills and knowledge you have acquired after reading the lessons in Open Educational Resources (OER)?” The students had positive responses to this question. The following are some of the student quotes:

*“I have received the skills and knowledge that are important and valid for my current RN position.”*

*“I feel that the readings have sparked my interest and increased my knowledge on subjects that I have not read about.”*

*“I like being able to read and learn at my own pace. “*

*“I feel like I have grown as a nurse and learned new skills. I approach patient care with a broader aspect and really have learned how important taking time to educate patients is.”*

*“I can apply what I have learned into my practice.”*

*“I have noticed an improvement not only in my abilities and skills at work but also in my critical thinking skills.”*

*“I believe that the OER offered great supplements to learning and they were relevant to skills needed”*

*“OER helped me develop more reading skills and communication skills in integrating knowledge.”*

*“I feel that the OER is a great resource not only for essential skills and knowledge but for extra information needed as well.”*

The second question was “"How confident do you feel about integrating the skills and concepts after reading the lessons and applying them at your workplace?" The students had positive responses to this question. The following are some of the student quotes:

*“Very confident. I was able to learn at my leisure and pace, even go over things several times before applying it at my workplace.”*

*“Skill and concepts are aligned with what I am already doing at work, so I am improving and my skills are enhanced.”*

*“I feel great about the opportunity to learn and apply new skills at my current workplace.”*

*“I am extremely confident about integrating skills and concepts into clinical practice that I acquired from the lessons.”*

*“I am already applying it and it is great. It gives me confidence and makes me feel fulfilled as a nurse in my patient care.”*

*“I feel pretty confident. Everything was in detail and taught in a way I can easily remember.”*

*“I feel confident to a certain degree in integrating the concepts and skills after reading the lessons.”*

Open-ended questions were asked to students via Qualtrics to compare general or commercial nursing textbooks with the OER on **Organization** (consistency and accuracy), **Content** (clarity and coherence), **Inclusion** (differentiation and diversity), **and Alignment** (with course objectives and career readiness skills). These questions were:

* "What differences do you find in general nursing textbooks and OER developed in the course in terms of lesson contents, alignment with course objectives, clarity, accuracy and development of your nursing skills?" Example student responses-

o *“I felt that I had to decipher the information I was seeking and truly needed in general nursing textbooks which could be distracting. In OER I was able to stay on track with information at hand specific to my lesson.”*

o *“With OER, less confusion with finding the information.”*

o *“OER helps me understand different contents in a clear and accurate way.”*

o *“I prefer the specific nature of the OER over general nursing books. It was easier to understand and apply to what was being taught at that time without sacrificing accuracy.”*

* "What differences do you find in general nursing textbooks and the OER developed in the course in terms of organization, and consistency in a clear, concise and consistent manner?"

o “*I felt the OER was clearer and more concise than general nursing textbooks.”*

o *“OER is more clear, concise and interactive.”*

o *“General nursing books are harder to navigate and can sometimes have information about a subject in several places. The OER was helpful with being clear and to the point in relation to the specific lesson. “*

o *“I found the course to be clear and consistent, with the objectives laid out clearly.”*

* "Did you appreciate the cost savings for not purchasing a textbook in this course? If so, then how has it helped you? According to you, in what ways did the lessons, ancillary material, alternate reading assignments, and videos cover the learning and course objectives in a clear and appropriate manner?"

o *“Absolutely, not having to pay 100s in books that will lay around has helped me in my finances. The textbooks are heavy and would be worth less if I wanted to sell them back. I feel like it would be a lot of money wasted. The OER gave me everything I needed and it was free. Money saved is always appreciated when trying to build my family up.”*

o *“Yes, because I have had to pay out of pocket for my class, and it has saved me money.”*

o *“Yes, I really appreciate it. Not only the money, the skills, and knowledge gained from the OER cannot be compared to what textbooks would do.”*

o *“Yes, I was very happy to not have to purchase additional material in terms of books.”*

* "What differences do you find in general nursing textbooks and the OER developed in the course in terms of developing your professional development skills?"

o *“The OER is the "tip of the ice" in this course. It gives clarity, pointing students in the right direction without confusion.”*

o *“OER are more specific and allow focus on the skill being learned at that time. It allowed more time to practice the skill instead of navigating a large textbook.”*

o *“OER helped me share more personal experiences which are raw materials for professional development.”*

o *“I thought the OER was more articulate than general nursing textbooks about the subject.”*

# *4. Sustainability Plan*

Our sustainability plan aligns with the School of Nursing’s effort to continuously improve the quality of teaching. Three faculty members in the RN to BSN program will be responsible for teaching content areas in the four courses (NURS 3191 Professional Clinical Nursing RN I, NURS 3293 Health Assessment RN , NURS 3194 Pathophysiology, and NURS 3195 Evidence Based Practice) affected by the open educational resources adoption. Open textbooks are the most effective way to reduce textbook cost. The RN-BSN faculty are committed to collaborating to find and maintain free available learning materials that will promote excellence in teaching, cultural enrichment, and lifelong learning for the students. It is our mission to ensure students can freely access open textbooks anytime, anywhere, either online or by downloading to a laptop, tablet or smartphone. Faculty have aligned OER with course and program outcomes and will annually check on the relevant and current material (within the last 5 years). As a part of the evaluation and sustainability process, the team members will meet annually to review the current digital learning materials, evaluate student feedback, and ensure ongoing achievement of the desired learning outcomes. OER provides a means of addressing the cost of education and the need for more student-centered materials in the RN-BSN program. This is a powerful tool to enhance learning while lowering the cost and maintaining quality. Supporting and using OER will produce a significant return on investment for our nursing students. Other institutions may be informed by viewing final grant reports on this website, by email, and/or a possible presentation at Georgia Association of Nurses Educators (GANE). Faculty from other USG nursing programs will be encouraged to use any material produced.

# *5. Future Affordable Materials Plans*

The faculty recognized that the OER learning materials should be relevant and consistent to course content. The OER learning materials are more specific to course content and can be tailored to meet course and program outcomes. The use of OER eliminated materials that were in the textbook that were irrelevant to the content being taught. OER allowed the students to have better understanding of content being taught in order to apply content to practice. The faculty believe selected open educational resources (OERs) make education more equitable and affordable to help support student success.

# *6. Future Scholarship Plans*

The team plans to engage in several professional activities to reflect our work on this project. We plan to submit a manuscript for publication in a peer-reviewed nursing journal. Also, we plan to submit an abstract to present at Georgia Association of Nursing Educators (GANE) or other professional nursing conferences. In the various platforms, we will describe the benefits of using open educational resources in nursing. Lowering the cost of textbooks for students helps contribute to their retention, progression, and graduation and those points would be highlighted in a publication and/or presentation. Additionally, the team plans to encourage undergraduate faculty in the pre-licensure nursing program to identify ways to utilize OER in the face to face environment. The team will work one-on-one with the lead faculty in an undergraduate course to share our OER for the courses that are taught in both programs such as NURS 3195 Evidence Based practice, NURS 3293 Health Assessment RN, and NURS 3194 Pathophysiology.

# *7. Description of Photograph (optional)*

Sitting left to right:

Brittany Grissette, Assistant Professor School of Nursing

Dr. Sherika Derico, Associate Professor and Director of Undergraduate Programs School of Nursing

Amanda Hawkins, Associate Professor School of Nursing

Dr. Parul Acharya Assistant Professor, Department of Teacher Education Leadership & Counseling

