

# Affordable Learning Georgia Textbook Transformation Grants

## Final Report

**Date: December 16, 2015**

**Grant Number: 120**

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

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

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**Project Lead:** Professor Anthony Cooper

**Course Name(s) and Course Numbers:** BIOL 2411-Human Anatomy and Physiology I &

BIOL 2412- Human Anatomy and Physiology I

**Semester Project Began:** August 17, 2015

**Semester(s) of Implementation:** Fall 2015

**Average Number of Students Per Course Section:** 25

**Number of Course Sections Affected by Implementation:** 10

**Total Number of Students Affected by Implementation:** 248

### 1. Narrative

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

The overall transformation experience of this project was very good. In order to determine whether there was a significant difference between the performance of students in course sections with no-cost e-book (the treatment group) and sections requiring the use of textbooks

and other hardcopy learning materials (the control group), faculty members teaching the courses were split into two groups. Three faculty members taught five no-cost textbook sections encompassing five lecture sections and five lab sections. One faculty member taught two sections requiring textbooks and the two associated lab sections as well. BIOL 2411-Human Anatomy and Physiology I Lecture is 3-hour course, while BIOL 2411-Human Anatomy and Physiology I Lab is a 1-hour lab course. Similarly, BIOL 2412-Human Anatomy and Physiology I Lecture is 3-hour course, while BIOL 2412-Human Anatomy and Physiology I Lab is a 1-hour lab course. BIOL 2411 and BIOL 2412 are sequence courses in which the same textbook and other learning materials were used.

While there could be some confounding variables involved, our data shows that the control group did not outperform the treatment group. A total of 248 students were enrolled in the no-cost textbook sections while a total of 127 students enrolled in the sections requiring textbook. Of the 248 students who registered in the no-cost textbook sections, one student withdrew from the course, giving a base of 247. Out of this number 213 students passed with a C grade or better, making the passing rate of the total no-cost textbook sections 85.83%. On the other hand, 26 students failed (D and F), making the failing rate of the no-cost textbook sections 14.57%. Out of 127 students who enrolled in the textbook required sections, two students withdrew, giving us a base of 125. A total of 98 students passed the course with C or better, making the passing rate 78.40%. Conversely, 27 students failed (with D or F), making the failing rate of the textbook required sections 21.60%.

The total savings by students enrolled in the no-cost textbook sections (the treatment group) fall 2015 was \$32,905.00. It is important to note that prior to this project, every student was supposed to purchase the textbook and lab guide. The average cost of the textbook and other materials for each student was \$300.00

The following goals were the primary focus of this project based on the Transformation Action Plan shown below:

- (a) Lower the cost of college and improve overall student retention though the use of quality low cost or no-cost learning materials,
- (b) Reduce the burden of cost of textbooks on the students,
- (c) Provide access to course materials on the first day of class
- (d) Allow student access to free Open Education Resources (OER) and Galileo.

No.	Transformation Action Plan
1	<b>Identification:</b> The faculty team review Affordable Learning Georgia and other Open Education Resources (OER) sites, identify the best adoptable textbook the for lecture sections, lab materials, and other learning materials related to the courses.
2	<b>Adoption:</b> Select three to five lecture and laboratory topics that correspond to each

	from Affordable Learning Georgia and/or other Open Education Resources (OER).
<b>3</b>	<b>Adaptation:</b> Select class assignments and assessments for students to complete using Open Education Resources (OER) sites.
<b>4</b>	<b>Syllabus:</b> The syllabus is redesigned to align with the no-cost resources for course lectures and labs from all selected Open Education Resources (OER) sites. Also, the Instructional Schedule with assessment due dates, quizzes and exams are appended in the syllabus. Syllabus would describe how the lectures would be presented using OER. Students would be required to have one printed copy of syllabus. The syllabus is uploaded on D2L as well.
<b>5</b>	<b>Course Redesign:</b> Students would complete assignments using Open Education Resources (OER) site. Students would be required to print minimal hard copies of selected course information from Open Education Resources (OER) sites for which quizzes and exams would be based.
<b>6</b>	<b>Instructor Design:</b> D2L would be the primary online Learning Management System for downloading content from selected Open Education Resources (OER).
<b>7</b>	<b>Adoption:</b> Select three to five lecture and laboratory topics that correspond to <b>each</b> from Affordable Learning Georgia and/or other Open Education Resources (OER).

In this study, we shall delineate why this transformation action plan was successfully implemented and how this course has been redesigned to achieve the predetermined goals.

- **Transformation Experience**

Faculty team members met in August and completed a planning session prior to the start of classes for the fall 2015 semester. Minimum requirements for this grant activity were delineated and every faculty member was expected to determine any challenges encountered and seek ways of overcoming them from other team members. Like most universities in the University System of Georgia, all instructors at Albany State University are required to use the online instructional and learning platform, D2L, for each course. Thus, there was little or no technology challenge as every faculty participant was familiar with the D2L instructional delivery platform. All faculty members teaching these courses were to develop D2L websites where they would make the e-book available (treatment sections) and placed a variety of learning materials. Guided by the team's experience from the earlier awarded Affordable Learning Georgia Textbook Transformation Grant, learning materials such as the e-book, support materials, lecture notes, and course syllabus were placed on D2L course sites before classes began. Moreover, faculty members could also place assessments in D2L as well.

Students would have the ability to access and download these resources and materials on their own computers or mobile devices.

For fall 2015, three BIOL 2411-Human Anatomy and Physiology I Lecture sections and two BIOL 2412-Human Anatomy and Physiology II Lecture sections with their appended lab sections comprised the treatment group, that is, the no-cost textbook sections. It is important to clarify here that the lecture sections and the lab sections are distinct. A student can pass the lecture section of the course and fail the lab section of the course; the grade of the lab section does not really affect the grade of the lecture section. While the lecture sections are 3-credit hour courses, the lab sections are one-credit hour courses. Three instructors, Professor Anthony Cooper, Professor Anti'Sha Jones and Dr. John Williams were the instructors for the treatment cohort of 248 students enrolled in the no-cost textbook sections (in both lecture sections and lab sections). Dr. Nathan Woods was the instructor for the control cohort of 127 students enrolled in sections that required the textbook to be purchased and used.

The team leader, Professor Anthony Cooper, taught BIOL 2411-Human Anatomy and Physiology I section, which was 100% online. A total of 13 students enrolled in the lecture section of the course, while 11 students enrolled in the lab section of the course. A variety of instructional methods including the use of emails, discussion groups, and drop boxes were used to facilitate learning. The course outcomes were very good. The courses progressed well.

Professor Anta'Sha Jones's classes were taught as a hybrid class. The classes were held using traditional methods and the e-book and other learning materials were available for the students on D2L. She also posted additional materials, including assessment guides on D2L. She taught 4 sections, two lecture sections of BIOL 2411-Human Anatomy and Physiology I and two associated lab sections. A total of 109 students were enrolled in her courses, 96 female and 13 male. Two of her sections were Learning Community sections which required enrollment of 25 students or less. All her students were pre-nursing majors. The courses were very successful.

Dr. John Williams instructed four sections of the treatment cohort. He taught lecture and lab for two sections of BIOL 2412-Human Anatomy and Physiology II. A total of 56 students were enrolled in the two lecture sections, while 51 students were enrolled in the two lab sections, totaling 107. All of Dr. Williams' courses were placed on D2L with the syllabus, the e-book, and other OER learning materials to support the course. The course was had high success.

Dr. Nathan Woods taught the control cohort consisting of two BIOL 2411-Human Anatomy and Physiology I and two associated lab sections. There were 127 students enrolled in his class sections, 95 female and 32 male. There were 94 majors (Biology or Nursing) and 33 students from other majors who have to take this course as part of their program core requirement. All of Dr. Woods' courses were placed on D2L with the syllabus and other learning materials to support the course. The course was very successful.

All course sections completed the administered surveys. The essential parts of the survey will be discussed in the sequel.

In order to put in place a well-designed data collection instrument that would lend itself to effective analysis, Dr. Zephyrinus Okonkwo, Professor of Math, was invited to lead the project's assessment study. A participant survey, which would capture demographical data, student class distributions, gender, participant age, major, and grade was crafted. The participant survey also had a Likert-type series of questions to gather a significant amount of information that would be used to improve future use of affordable learning materials. A total of 206 students in the treatment group completed the Likert-type survey. The results of the survey will be discussed in the sequel.

Of the 248 students who registered in the no-cost textbook section, one student withdrew from the course, resulting in a base of 247. Out of this number 213 students passed with C or better, making the passing rate of the total no-cost textbook sections 85.83%. On the other hand 26 students failed (D and F), making the failing rate of the no-cost textbook sections 14.57%. Out of 127 students who enrolled in the textbook required sections, two students withdrew, giving us a base of 125. There were 98 students who passed the course with C or better, making the passing rate 78.40%. Alternatively, 27 students failed (with D or F), making the failing rate of the textbook required sections 21.60%.

The passing rate of the treatment was 85.83% and that of the control group was 78.40%, leading to the conclusion that the control group did not outperform the treatment group.

- **Challenges**

There were several challenges related to the transformation experience. First, the instructional team had to convince the students that indeed the OER materials were adequate for the course and also meet the minimum benchmark in terms of quality. Another challenge emanates from the fact that several students were not used to learning online. Several of them complained that they would rather buy their own books. Even though it was announced that no textbooks were needed in the treatment sections, some students decided to borrow or purchase used copies of the *Hole's Human Anatomy and Physiology* textbook that had been used for this course during the last several years. Some students were not eager to use technology and were intimidated by the technology. Another set stated that they did not have WiFi or adequate computers to learn outside the classroom or outside the campus. Further, there was the challenge of students equating cost to quality; some students struggled with accepting the fact that the free Open Stax textbook could be good enough for learning since it was free.

- **Accomplishments (Outcomes)**

The four goals of the project listed previously were accomplished. The success of the transformation experience provides a very good baseline for future use of OER materials for this course. Essentially, the implementation of this project this semester enabled us to examine more intensely what we are doing, how we are doing it, and how best to optimize and maximize outcomes.

**Goal 1. Lower the cost of college and improve overall student retention through the use of quality low cost or no-cost learning materials.**

The college cost for the students in the treatment group was lowered through the transformation experience. For this course, each of the students saved approximately 300. The total savings by students enrolled in the no-cost textbook sections (the treatment group) for fall 2015 was \$32,905.00. In regards to retention, out of 248 students who enrolled in treatment group, only one student withdrew from the course. The course completion rate of the treatment group was 99.6%, and the passing rate was 85.83%.

**Goal 2. Reduce the burden of cost of textbooks on the students.**

Students spend approximately \$1000 per semester on books and other learning materials. Therefore, the provision of OpenStax textbooks enables students to save a lot of money, money that could be directed to some other expenditure. As stated above, the total savings by students enrolled in the no-cost textbook sections (the treatment group) in fall 2015 was \$32,905.00. Of the 202 participants (treatment group) who responded to this question number 10 in the Likert-type survey (see the appendix), 164 or 81.19% strongly agree or agree with the statement and essentially state that they will recommend a no-cost textbook course to other students. In contrast, 16 or 7.92% disagree or strongly disagree, that is, that they will not recommend such a course to other students, and 22 or 10.89% had no opinion. The weighted mean response to this question is 4.262376. This statistic implies that most students will recommend a no-cost textbook course to other students. This response will have broader impact on students who will take this course in the future as well as those who will be convinced to take courses involving no-cost textbooks or e-books.

**Goal 3 - Provide access to course materials on the first day of class**

First day access to course materials is one of the greatest strengths of the no-cost e-book utilization through the D2L learning delivery platform. This process enables faculty and students to have an instant and seamless opportunity to have learning materials, assessment instruments, syllabus, and other items required by the course placed on a single site. The Open Stax textbook for lectures as well as course guides were available before the first day of class. The availability and accessibility of the materials for students on the first day of class was very essential as it builds confidence between the instructor and the students.

#### **Goal 4 - Allow student access to free Open Education Resources (OER) and Galileo.**

The goal of providing student access to OER and other resources through Galileo was met. Through participating in an earlier transformation project, the team leader, Professor Anthony Cooper, had identified seven quality resources for use in the lecture and lab sections of Biology-2411-Human Anatomy and Physiology I and of Biology-2412-Human Anatomy and Physiology II. These resources were available for students to access free. In sum, students did download the Free Open Stax Human Anatomy and Physiology textbook and completed an assignment using the Free Open Stax Human Anatomy and Physiology textbook. The data for these measures is discussed in more detail in Part 5. Of the 7 OER resources, instructors for the ten courses for both the lecture and lab used the Hole's Human Anatomy Companion site. Additionally, the Anatomy and Physiology-Open Stax College resource was used by all. The Biology Corner resource was used for the ten sections as well.

- **Transformative impacts on your instruction**

There are many positive transformation impacts on instruction and learning. Instructors continued to see this project as an opportunity to transform their instruction, supply additional instructional and assessment materials, as well as help students who wish to use technology to improve their success. Professor Cooper stated that this project availed him the opportunity to focus on the use of available Open Stax and OER learning resources to improve student learning. He also indicated that the transformative process has enabled him to locate, introduce, develop, and understand the value of (OER) content for improving student learning and student achievement. Professor Jones expressed a similar impact by observing that she was able to have resources available to them to follow before formal instructional activities began in class. She also stated that instructions, course plan, and course schedule directives were clear to students. Further, she also used the readily available course resources to make seamless references as instruction was going on.

Another positive impact is the following, unlike the traditional class textbook requirement and where the title of the book and author are announced in the syllabus first day of class, Professor Joens noted that she was able to provide such information before the first day of class through D2L. Students visited the D2L site of the course and begin to access essential materials prior to the start of class. Additionally, with the Open Stax textbook aligning with the Hole's Anatomy book, she was able to start instruction on the first day of class. Professor Jones said that many students were able to leave that first day and go to the required site to download the textbook. She also opined that students came the first day and were eager to discuss information from the Open Stax textbook because they were proactive and utilized the resources.

Dr. Williams discussed some positive impacts of the transformation experience. He said he found out that some students needed to be prompted to download resources and utilize them. Even with informing students on a regular basis in the beginning of the semester, it was

important to continue to prompt students to download and use the OER materials. A further impact of the transformation process for Williams' instruction was seeing how the OER resources were in tune with this student population's technology savvy. Thus using the OER materials helped.

- **Transformative impacts on your students and their performance**

First, most students expressed that they liked the Open Stax textbook and the associated materials. Of the 206 participants (treatment group) who responded to a participant survey question related to access to free online e-book, 188 or 91.26% strongly agree or agree that they have access to a free online textbook, 9 or 4.37% disagree or strongly disagree, and 9 or 4.37% had no opinion. The weighted mean response to this question is 4.567161. This statistic implies that most students agree that they have access to free online textbooks.

Of the 205 participants (treatment group) who responded to the statement, "**I have access to free instructional materials**", 182 or 88.78% strongly agree or agree that they have access to free online instructional materials, 14 or 6.83% disagree or strongly disagree, and 9 or 4.39% had no opinion. The weighted mean response to this question is 4.419512. This result implies that most students agree with the statement. Mainly positive transformative impacts on student performance also occurred through this project. It was felt overall by the three faculty members that students were able to improve overall quiz and exam scores by having access to the OER resources. It was especially helpful for students who did not have the \$300 in funding needed to purchase the materials for the course. Having the Open Stax textbook relieved a burden of not being prepared for those that were unable to purchase the textbook and manual.

Some of the instructors noted that due to the free textbook availability to all students enrolled in the treatment group, every student was given equal opportunity to have access, thereby eliminating the period students would have to wait to receive their financial aid to purchase books. However, in the survey conducted, some students expressed the fact that they would have preferred to purchase their own textbooks. While 71.07% stated that they liked the Open Stax textbook, 20.7% had negative opinion, and 8.26% had no opinion. In the control group where purchasing a textbook was required, only 78.13% of the students purchased textbooks. The rest of others relied on the library and other resources available on D2L.

A third positive impact is the following, out of 248 students who enrolled in treatment group, only one student withdrew from the course. The course completion rate of the treatment group was 99.6%, and the passing rate was 85.83%. Please see the appendix for the **Grade Distribution Form**.

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

There were several lessons learned by the team members. First, the management of the project rested on the project team leader, Professor Anthony Cooper. He followed the timeline as delineated in the project, and worked with every member of the team. He documented project activities, and brought on board Dr. Zephyrinus Okonkwo for project assessment. Dr. Okonkwo was also to design and distribute the data collection instruments. This instrument was helpful in collecting participant data. More detailed data result is delineated in the appendix. Faculty participants collected all requested data and presented them to the evaluator. Also, learning more about grant management on campus was essential.

For the most part, the lessons learned by the faculty correspond to some of the insights that Cooper identified. Professor Jones related that she would provide OER materials to the students at the beginning of class as a reference. Further, she said that should would also print out the first chapter and assign assignments leading up to the first exam utilizing the Open Stax textbook.

Dr. Williams suggested that in order to promote the use of more online resources, he assigned more problems/questions and assignments from the Open Stax textbook. He also recognized that students preferred a blend of PowerPoint notes with traditional “chalk talk” discussions, rather than PowerPoint only.

## **2. Quotes**

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

I LIKE THE ONLINE TEXTBOOK. IT FORCES ME TO READ IT BEFORE CLASS. I AM BETTER PREPARED WHEN I GET TO CLASS.

EASIER WAY TO STUDY AND MORE UNDERSTABLE WAY TO DO IT. THE EXACT INFORMATION FROM THE BOOK MY INSTRUCTOR SPEAKS ON DAILY.

I LOVE THE EBOOK. EASY TO ACCESS THE TEXTBOOK AND IT IS FREE. DON'T HAVE TO WORRY ABOUT CARRYING BOOKS.

## **3. Quantitative and Qualitative Measures**

### **3a. Overall Measurements**

#### **Student Opinion of Materials**

## **Textbook Survey**

In order to garner insight as well as participant satisfaction, a ten-question textbook survey was conducted. The data analysis was completed using Excel. Of the 121 students who completed the textbook survey, 86 or 71.07% made positive comments, 25 or 20.7% made negative comments, and 10 or 8.26% gave no opinion.

### **1. This section of the course does not cost me money.**

Of the 206 participants (treatment group) who responded to this question, 140 or 67.96% strongly agree or agree that there is no cost for the textbook, 46 or 22.33% disagree or strongly disagree, and 20 or 9.71% had no opinion. The weighted mean response to this question is 3.873786. Hence most students agree that the text does not cost them money.

### **2. I have access to an online textbook.**

Of the 206 participants (treatment group) who responded to this question, 188 or 91.26% strongly agree or agree that they have access to a free online textbook, 9 or 4.37% disagree or strongly disagree, and 9 or 4.37% had no opinion. The weighted mean response to this question is 4.567161. This result implies that most students agree that they have access to free online textbooks.

### **3. I have access to free instructional materials.**

Of the 205 participants (treatment group) who responded to this question, 182 or 88.78% strongly agree or agree that they have access to free online instructional materials, 14 or 6.83% disagree or strongly disagree, and 9 or 4.39% had no opinion. The weighted mean response to this question is 4.419512. This finding implies that most students agree with the statement.

### **4. The content of the free online textbook is very helpful.**

Of the 203 participants (treatment group) who responded to this question, 154 or 75.86% strongly agree or agree that the free online textbook is very helpful, 21 or 10.34% disagree or strongly disagree, and 28 or 13.79% have no opinion. The weighted mean response to this question is 4.034483. This statistic implies that most students agree with the statement.

### **5. The no-cost textbook has enhanced my performance in this course.**

Of the 194 participants (treatment group) who responded to this question, 107 or 55.15% strongly agree or agree that the free textbook helps them improve their performance while, 30 or 15.46% disagree or strongly disagree, and 57 or 29.38% have no opinion. The weighted mean response to this question is 3.659794. This outcome implies that more students agree with this statement or disagree, but a significant number believe that the free textbook has no impact on their performance.

**6. I find most of the materials placed on the course website (D2L) helpful.**

Of the 200 participants (treatment group) who responded to this question, 178 or 89% strongly agree or agree that they find most materials placed on the course website (D2L) helpful, 9 or 4.5% disagree or strongly disagree, and 13 or 6.5% have no opinion. The weighted mean response to this question is 4.365. We conclude that the majority of the students find most free online materials on D2L helpful.

**7. I am able to study everywhere due to the availability of free the free ebook.**

Of the 204 participants (treatment group) who responded to this question, 153 or 75% strongly agree or agree that they are able to study everywhere due to the availability of the free e-book on their course website, 20 or 9.8% disagree or strongly disagree, and 31 or 15.2% have no opinion. The weighted mean response to this question is 4.083333. This finding implies that most students agree that their learning is facilitated due to the free online e-book.

**8. The design of this course helps me improve my grade.**

Of the 201 participants (treatment group) who responded to this question, 131 or 65.17% strongly agree or agree that the design of this course helps them improve their grade, 27 or 13.43% disagree or strongly disagree, and 43 or 21.39% have no opinion. The weighted mean response to this question is 3.845771. This implies that most students agree that their grades will improve due to the design of the course.

**9. I would like to take another no-cost textbook course.**

Of the 205 participants (treatment group) who responded to this question, 150 or 73.17% strongly agree or agree that they would like to take another no-cost textbook course, 25 or 12.2% disagree or strongly disagree, and 30 or 14.63% have no opinion. The weighted mean response to this question is 4.097561. This result implies that most students would like to take another no-cost textbook course.

**10. I will recommend this course to other students since it offers free online textbook and other learning materials.**

Of the 202 participants (treatment group) who responded to this question, 164 or 81.19% strongly agree or agree with the statement and essentially state that they will recommend a no-cost textbook course to other students, 16 or 7.92% disagree or strongly disagree, that is, they will not recommend such a course to other students, and 22 or 10.89% have no opinion. The weighted mean response to this question is 4.262376. This outcome implies that most students will recommend a no-cost textbook course to other students.

**Remark:** The overall weighted mean for this survey is 4.123396.

**(i) Textbook Survey**

Total number of students affected in this project: 248

- Positive: 71.07% of 121 number of respondents
- Neutral: 8.26% of 121 number of respondents
- Negative: 20.7% of 121 number of respondents

**(ii) Participant Likert-Type Survey Question # 10**

*I will recommend this course to other students since it offers free online textbook and other learning materials*

Total number of students affected in this project: **202**

- Positive: 81.19% of 202 number of respondents
- Neutral: 10.89% of 202 number of respondents
- Negative: 7.92% of 121 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)

**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:**

Base = **247**

Failing: **36/247=14.57%**

**14.57%** of students, out of a total **247** 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)

### **3b. Narrative**

Out of 248 students who enrolled in treatment group, only one student withdrew from the course. The course completion rate of the treatment group was 99.6%, and the passing rate was 85.83%. The retention rate was 99.6%. The average GPA was 2.54.

### **4. Sustainability Plan**

The Department of Natural Sciences offers several section of the course, Biol-2411-Human Anatomy and Physiology I and II each semester. In fall 2015, about 420 students took these courses. These selected courses are major courses taken by students majoring in Nursing, Education and Physical Education. Therefore, the student demand makes it a viable course for inclusion in an ongoing OER program. Now that the course has been developed adequately, this no-cost textbook project can be institutionalized and reviewed from time to time.

The results of semester grant activities are being documented and analyzed. Further analysis will be made. The results will be shared with colleagues within the department, university, and the region. In order to have wider dissemination, presentations of the results will be made available at scholarly meetings. Available materials developed through this grant will be available in D2L and individuals can “copy” course when permitted to do so.

Furthermore, the project lead will work with Department administrators and program coordinators to facilitate the inclusion of the OER instructional materials at the Department level for this course. Moreover, all faculty participants will be available to assist other faculty teaching different sections of this course. Lastly, the project lead and team members will encourage the faculty senate and administrators to include recognition for OER participation on annual evaluations and promotion and tenure evaluation.

## **5. Future Plans**

This project has given us an opportunity to learn to develop quality learning materials from Open Stax textbooks. Subsequently, when teaching other course, the need for quality online learning materials will arise, and we can always use the resources identified her to enhance our teaching and learning. We will also share our experiences with others online.

Some scholarly papers will be written on the result of this project. They will be presented in local meetings and national meetings. Some of the papers will be published as well. We plan to develop and institutionalize another high demand course using Open Stax resources as well.

## **6. Description of Photograph**

- Professor Anthony Cooper, team lead and instructor of record
- Dr. Zephyrinus C. Okonkwo, data analyst
- Professor AntaSha Jones, instructor of record
- Dr. John Williams, instructor of record
- Dr. Nathan Woods, instructor of record