Analyzing OER at HBCUs

April 2020

THE BARTHWELL GROUP
EXCELLENCE. COMMITMENT. RESULTS-DRIVEN.

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Introduction

The William and Flora Hewlett Foundation's Education Program has a long-standing commitment to Open Educational Resources (OER) and believes that they can be transformational in reducing costs and improving outcomes in postsecondary education. As part of its commitment, the Foundation funded The Barthwell Group to conduct an assessment regarding the current state of OER implementation at historically black colleges and universities (HBCUs) and to identify optimal strategies for assisting OER adoption at those institutions.

The Barthwell Group's assessment included conducting a review of existing literature on OER, interviewing OER subject matter experts, attending an OER-focused conference, interviewing senior administrators and faculty from 17 HBCUs by telephone, and visiting four HBCU campuses (Campus Visits) to deepen our understanding of OER implementation, challenges experienced, and benefits.

This Summary Overview includes an overview of our key findings, recommendations, and conclusion. The appendices include: case studies of two HBCUs which we visited, information about the Hewlett Foundation's commitment to OER, and the full report, which describes the analytical framework for the assessments, and includes the detailed analysis of the data obtained from the review, the interviews, and the Campus Visits.

Key Observations and Findings

Benefits of OER

Although there was some variance, findings from our assessments indicated the following benefits of OER:

- *Increased Accessibility for Students*
  Because OER materials are typically free, students save money by not purchasing textbooks. This is particularly important at HBCUs, where a disproportionate number of students come from low-income backgrounds and receive financial aid (see insert). HBCU

> **HBCUs are More Likely to Have Low-Income Students**
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> A 2017 study by the Education Trust found that at the time, roughly half of the nation's 105 HBCUs had a freshman class where three-quarters of the students were from low-income backgrounds, while just 1% of the 676 non-HBCUs analyzed in the study serve as high a percentage of low-income students.
>
> Source: https://bit.ly/2msst5k

representatives during three of the four Campus Visits reported that many of their students delay or completely avoid purchasing textbooks because of the cost, which causes a significant academic disadvantage.[1] This finding was supported by a survey by e-textbook provider VitalSource, which found that 85% of students delay or avoid purchasing course materials, and that 50% of these students who delayed buying

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[1] Of the Campus Visits, only Langston did not cite this as a problem. However, Langston includes fees for textbooks as part of its students' tuition.

textbooks because of high prices saw their grades suffer as a result. By enabling students to have early access to their educational materials, OER may help to level the playing field among students. However, some respondents indicated that although OER are typically free, some of these resources may require fees to continue their usage after a certain time period, or in order to obtain more advanced materials. Additionally, some courses which utilize OER may require students to purchase supplementary materials.[2] However, OER increases accessibility by ensuring that more students have course materials on the first day of classes. A significant

> **Although Grades Suffer, Most Students Delay or Avoid Purchasing Course Materials**
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> This finding was supported by a survey by e-textbook provider VitalSource, which found that 85% of students delay or avoid purchasing course materials, and that 50% of these students who delayed buying textbooks because of high prices saw their grades suffer as a result.
>
> Source: https://bit.ly/2faInvD

number of HBCU students depend on financial aid to purchase textbooks. Because financial aid checks may not be distributed until several weeks after classes begin, these students may have to delay purchasing their textbooks. When courses use OER, these materials are typically available to students as soon as they are posted, so students can be prepared for the first day of class and onward.[3] This benefit was mentioned by representatives from three of the HBCUs we visited, as well as during one of the interviews.

- *Improved Learning Experience*
  Our conversations with faculty members and students during our campus visits indicated that many OER users feel that it enhances their ability to learn in the classroom. The use of OER encourages faculty to utilize a variety of different learning tools and resources, such as videos, news articles, online databases, etc. to teach students. These resources help students to be more engaged and allow faculty and students to select the tools that they need to enhance learning, without incurring additional costs for students. For example, in a class we observed during our Campus Visit to Paul Quinn College, the students completed an interactive assignment using a virtual tour of the Jim Crow Museum of Racist Memorabilia at Ferris State University.[4] This impact on the quality of the learning experience, coupled with the reduced cost of education, has substantial potential to improve student outcomes by boosting graduation and retention rates at HBCUs. Numerous studies indicate that HBCU students disproportionately come from low-income backgrounds, which may lead them to having to pause or end their education

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[2] Although students at three of the Campus Visits generally reported cost savings from OER courses, students at Bennett College described that often their courses which use OER require the purchase of supplementary materials, and that this impedes cost savings.

[3] Although this was generally true, some of the students that we spoke with at Bennett College reported that some of their courses which utilize OER required them to purchase software which was only available through the bookstore operated by North Carolina State A &T University. Students complained that the North Carolina State A&T University bookstore does not prioritize orders for Bennett College. Therefore, often these materials may not be available when classes begin.

[4] https://www.ferris.edu/jimcrow/

due to financial constraints.[5] In a document provided by Tennessee State University, a study of 396 students across the various institutions in the HBCU OER Network found that 19% of students reported having to drop a course because they could not afford the textbooks.[6] Therefore, reducing students' costs through the use of OER is likely to enable HBCU students to focus on their studies, and may enable them to decrease the necessity of outside employment. Data show that in community colleges with OER, students in a variety of course formats fared up to 11% better in course completion and achievement,[7] and in four-year colleges, a study of more than 16,000 public college students found those using OER performed as well or better than students using traditional course materials.[8] Additionally, three of the HBCUs which we interfaced with specifically expressed the belief that sustained use of OER may result eventually in greater retention and improved graduation rates.[9]

- *Higher Quality Learning Materials*
  Since OER materials can be updated by their users, they are able to maintain relevance in an ever-changing world, resulting in an OER landscape that is constantly changing to reflect current events. Unlike traditional textbooks, which are only patched from one edition to the next, OER resources can be continuously updated to include recent, impactful examples for student learning. For example, during one of the Campus Visits, students indicated that their instructors often use online materials which describe recent news or publications which are relevant to what they are learning. We directly experienced this in our classroom observation at Paul Quinn College, where during a lecture regarding racist symbols in the media, an instructor shared a news story from the past week with the class regarding a company receiving backlash for selling an article of clothing with a racist depiction on it. Furthermore, OER allows for increased collaborations between faculty members across different universities and colleges. Academic collaborations are particularly beneficial to HBCUs because often they have fewer financial resources and staff as compared with Majority Institutions. Therefore, they have fewer resources to invest in academic innovations and the necessary infrastructural upgrades which enable their institutions to be competitive. Using OER facilitates the ability for multiple HBCUs to share curriculum and other academic resources in a timely and cost-effective manner. An example of successful collaboration facilitated by OER is the HBCU OER Network led by Tennessee State University. This coalition of 20 institutions regularly brings together HBCUs to share information and best practices and to promote future work using OER.

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[5] Nationally, Pell students graduate at a rate of 18 percentage points less than their non-Pell peers. Source: https://bit.ly/2H6aDwq.
[6] Based on the OER HBCU Network Student Survey in the fall 2019.
[7] https://bit.ly/2CryHJa.
[8] https://bit.ly/2s5cXhs.
[9] This belief was shared by individuals from Tennessee State University, Clark Atlanta University, and Huston-Tillotson University.

Key Barriers to OER Implementation
Throughout the assessments, we identified several key barriers to OER implementation at HBCUs. Although the following barriers may not be experienced by every HBCU, they were widely reported by many of the individuals we spoke with during the interviews and Campus Visits.

- *Lack of Institutional Resources*
  During the interviews, participants were asked to rate the impact of 11 potential barriers to OER implementation. The most highly ranked barrier was the lack of adequate funding (see insert). Inadequate funding is a major impediment because many HBCUs lack the technology necessary to execute optimal OER usage. Their internet infrastructures frequently need enhancement, their students may not own laptops or tablets, and computer laboratories may have limited equipment and accessibility.[10] Individuals at three of the campus visits, and one of the Interview respondents described internet network and infrastructure problems which impede excellent OER implementation. Additionally, 60% of the 42 student respondents surveyed during the Campus Visits indicated that they have experienced problems accessing OER materials due to the quality of their campus internet systems. Widespread OER usage may place a particular strain on internet networks, when a large number of students attempt to access materials simultaneously. During at least three Campus Visits, not only did stakeholders note their institutions' infrastructure challenges, but also, we experienced these outages. These challenges may result in disruptions in the classroom and negatively impact students' learning outcomes. Consequently, faculty and students may become discouraged regarding OER usage. These problems may particularly impact HBCUs in rural areas, where there is more limited access to high speed internet networks.

Barriers to OER Implementation

When asked to rate the severity of 11 potential barriers to OER implementation on a scale from 1 ("not at all a barrier") to 10 ("a very significant barrier"), based on the degree to which that barrier had impacted OER implementation at their institution, the average ratings of the interviewees was 8.0 for "funding" and 5.8 for "understanding and awareness."

Barriers to OER Implementation

Reported Barriers to OER Implementation at HBCUs by Current OER Use
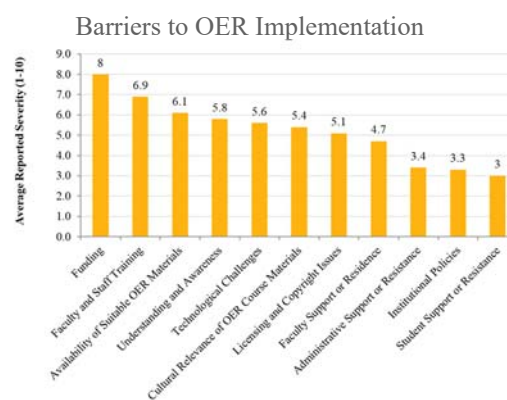
- *Impediments to Faculty Adoption of OER*
  Although HBCU faculty may be interested in using OER in their courses, many simply do not have the time, resources, or incentives to find or develop these materials. Faculty
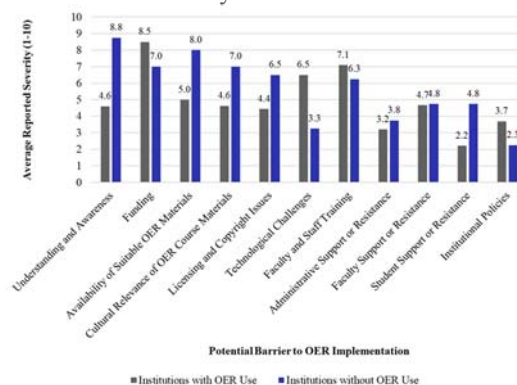
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[10] None of the four HBCUs which we visited offered 24 / 7 access to a computer lab for students who did not have their own computers.

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often have extremely demanding teaching schedules which limit their available time to learn a new system for OER materials. HBCU faculty members often have even less availability, because in many cases they assume counseling roles and other responsibilities necessary to assist their student body. In addition, the typical HBCU student body may consist of a disproportionate number of first-generation students likely to reach out to faculty members for assistance. Considering the difficulty of finding or developing suitable OER materials for a given course and the necessary training time and ongoing time commitment necessary to implement OER, many HBCU faculty simply do not have the availability. In addition, lack of awareness among faculty members can further hinder OER development. HBCU representatives during four of the interviews and three of the Campus Visits attributed the lack of broader OER usage to a lack of awareness among faculty, administrators, and students. Because faculty are so important in promoting the use of OER, their lack of awareness may cause a substantial barrier to its implementation. However, some respondents indicated that once faculty become aware of OER and its benefits, they may become interested in using them. For example, faculty at Tennessee State University indicated a significant increase in the number of faculty using OER after providing an OER training session.

- *Lack of a Specific OER Strategy*
  Although 12 of the assessed HBCUs have some level of OER usage, only two of these institutions have specific centralized strategies to guide OER implementation. OER usage is often championed by faculty members in specific departments. Without an institutional OER strategy, enhancement and sustainability are less likely to occur systematically. Comprehensive OER strategies include specific goals and benchmarks for OER resources, trainings, policies, material repositories, etc., and have specific implementation action steps. However, institutions differed regarding whether OER implementation should be mandatory. While some felt that mandating OER may lead to faculty resistance, others praised a strategy of prohibiting the requirement that students purchase class materials.[11]

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[11] Although this institution prohibits its faculty from requiring students to purchase textbooks or course materials, faculty are not directly required to use OER. However, this policy has greatly increased the use of OER at this institution.

Recommendations

HBCU Recommendations

Respondents from the institutions that we spoke with during the assessments provided the following key recommendations to enhance the awareness and usage of OER at their institutions and among HBCUs generally.

- *Support OER collaborations among multiple HBCUs*
  During every Campus Visit, stakeholders expressed the importance of having HBCU collaborations to expand OER awareness and usage. Collaborations will enable efficient sharing of best practices, and cost-effective access to mutually beneficial:
  - Trainings / workshops / forums
  - Repositories for OER materials
  - Discipline-focused OER modules, and
  - Collaborative grant-seeking.

- *Fund HBCUs to upgrade proactively their campus internet networks to accommodate OER usage*
  Wide-spread OER usage can cause substantial challenges to campus internet networks. [12] Institutions' internet infrastructure and bandwidth should be upgraded before campus-wide OER implementation to prevent technical difficulties which may discourage the use of OER.[13]

- *Support the hiring of dedicated OER staff persons who can coordinate and implement OER sourcing, curating, and / or the design of OER materials*
  HBCUs require a specific OER administrator(s) with a team focusing on enhancing the coordinated use of OER and providing all of the required skills and resource development. Duties might include:
  - Identifying OER materials
  - Helping faculty to design and implement new courses
  - Organizing the institution's current materials and databases, and
  - Conducting faculty OER trainings.

- *Provide funding to increase the access of technology for students*
  HBCU stakeholders offered several suggestions to increase students' access to the technology required for OER, including:
  - Providing stipends for or purchasing computers, tablets, etc. through stipends
  - Providing funding for staff to operate computer labs 24/7, and
  - Funding institutions to include the cost of a laptop / tablet directly in students' tuition.

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[12] Three of the four HBCUs where we conducted Campus Visits indicated that they have experienced internet network and infrastructure troubles at their institutions which impede excellent OER implementation.
[13] Some HBCUs may be less prepared to fund these types of investments as compared with Majority Institutions due to historically unequal state funding, decreasing enrollment, and limited endowments. Source: https://bit.ly/2uj263r.

- *Train HBCU stakeholders to increase OER awareness and prepare them to utilize OER effectively*
  Trainings / workshops / conferences are necessary to train faculty and other stakeholders at HBCUs regarding OER. These trainings should educate participants regarding:
  - The benefits of OER
  - Obtaining OER materials
  - OER licensing
  - Teaching a course utilizing OER, and
  - Designing and deploying OER materials.

  In order to ensure participation in these trainings, tangible incentives will be necessary. These might include stipends for faculty who fully adopt the material, or awards within the institutions for early adopters of OER.

- *Market OER on campuses*
  Some of the students that we spoke with during the campus visits felt that OER support could be increased through on-campus marketing (e.g., fliers, billboards, etc.). OER should be represented at events such as college fairs, career fairs, campus tours, orientation, etc. Similarly, more widespread support among students could be built by ensuring that OER are used in entry level courses which all students are required to take. Students should also receive trainings or an orientation to ensure preparedness.

- *Incentivize the creation and curation of OER materials*
  Faculty may expect additional compensation for the time necessary to create OER. Providing monetary incentives to faculty who create high quality OER resources is likely to increase the use of OER. Additionally, if OER creation is considered to be scholarship, for the purpose of promotion and otherwise, faculty will be more likely to create OER materials.

- *Provide more culturally relevant OER*
  Feedback from our Campus Visits indicated that there is a need for more culturally relevant OER materials. Tennessee State proposed that should be a collaborative OER website that organizes HBCU culture and black history resources. This would include a summer event which brings HBCU representatives together to identify and create OER materials.

The Barthwell Group's Key Recommendations
Leveraging our work and analyzing the results, we suggest that the Hewlett Foundation consider the following recommendations to enhance OER implementation and effectiveness among HBCUs.

- *Continue to support institutional collaborations regarding OER*
  The Hewlett Foundation should continue its support of multi-institution OER collaborations, such as with the HBCU OER Network being led by Tennessee State University. We suggest that additional collaborations be supported led by other HBCUs. Collaborations will provide institutions with an opportunity to share lessons learned,

OER materials, and trainings, etc. Collaborations have proven to be successful in promoting the use of OER across multiple institutions in a cost effective, efficient manner. These collaborations should be focused around a specific strategy outlining each institution's role, as well as a timeline, and key action steps for implementation. Institutions which have implemented OER successfully should be leveraged and funded as leaders of these collaborations. These collaborations could include the shared development of website or repositories which engage faculty in participating institutions. Additionally, a full-time OER faculty training member could be hired to conduct regional trainings for faculty at HBCUs during collaboration events.

- *Collaborate with corporations to provide students with laptops / tablets*
  As many as 50% of students at some institutions do not have the necessary technology to access OER materials. We recommend that a program be developed whereby corporations donate their old laptops and tablets to students. These types of technology donations are offered currently by corporations to various charities and organizations,[14] and this model could be especially effective for HBCUs implementing OER. As part of these mutually-beneficial collaborations, corporations would donate their old laptops and tablets to HBCUs, giving students access to the technology needed for OER, and HBCUs would build relationships with the corporations, and may become sources of highly qualified diverse talent for the corporations. Additionally, as part of these collaborations, corporations could be engaged to help provide insights regarding developing OER materials which are relevant for job preparation.

- *Train HBCU faculty to increase OER awareness, and to prepare them to utilize OER effectively*
  We recommend that the Hewlett Foundation consider investing in developing standardized training modules and other tools designed to increase the awareness and proficiency of faculty and administrators. These may include online training modules and toolkits, live webinars, and large in-person conferences / workshops / seminars. These tools could provide information and training regarding technical guidance, shared resources, and funding opportunities, etc. Train-the-trainer positions could also be supported to serve as a resource for individuals when they are starting in these new positions.

  Live trainings should take place in the late spring / early summer so that faculty have adequate time to prepare for the fall semester. For example, during a summer training session faculty could design OER courses and identify the required resources. They would be able to receive instruction from their peers, as well as persons who have extensive experience working with OER. At the end of the training process, faculty would have their courses evaluated, and receive constructive feedback. These trainings
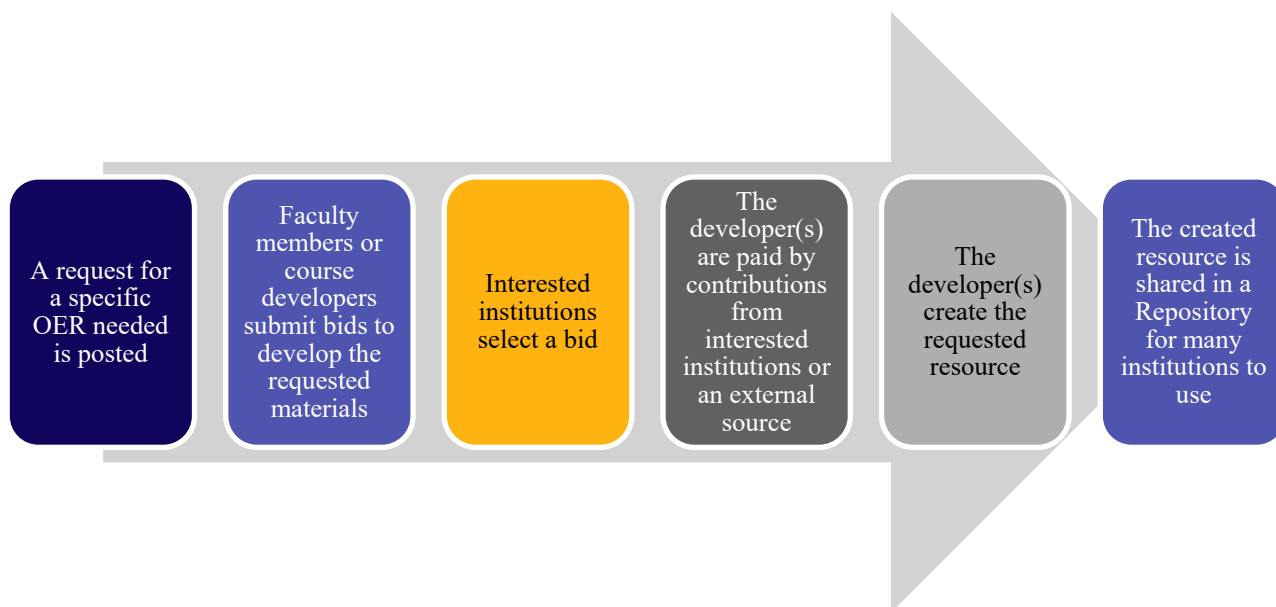
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[14] https://www.computerswithcauses.org/bulk-equipment-pickup.htm

should engage both outside speakers as well as HBCU OER leaders and indicate not only the cost benefits of OER, but also their ability to improve learning outcomes.[15]

- *Enable the Development of an HBCU OER Repository*
  The Hewlett Foundation should consider collaborating to develop an HBCU OER Repository. The Repository would be a centralized online platform enabling HBCU faculty to post requests for OER suitable for various courses / programs, etc. Other HBCU faculty could review the request and offer to provide the OER course / program either gratis or for a nominal fee. The Repository could result in a monetary incentive for HBCUs to develop OER courses / programs and at the same time avoid unnecessary duplication. The process might be:

A request for a specific OER needed is posted	Faculty members or course developers submit bids to develop the requested materials	Interested institutions select a bid	The developer(s) are paid by contributions from interested institutions or an external source	The developer(s) create the requested resource	The created resource is shared in a Repository for many institutions to use

- *Continue to monitor the benefits and successes of OER*
  Because the HBCUs we analyzed were in the early stages of OER implementation, we were unable to determine a statistically significant correlation with improved retention and graduation rates. As OER usage continues to grow, the Hewlett Foundation should monitor the impact which OER have on graduation and retention rates, and these findings should be shared with the public to increase support for OER. As part of these assessments, it is important to survey various sub groups across institutions in order to ensure that certain subsets of students (e.g., non-traditional students, students without laptops, students of different majors, students with different class standings, etc.) are not at a disadvantage due to the OER implementation at their institution. For example, non-traditional students may have more difficulty using the technology needed to access OER.

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[15] Based on feedback from the individuals at Tennessee State University, these trainings / presentations should be conducted on an HBCU campus, to increase attendance, as well as pride among participants.

- *Develop OER best practices models*
  Institutions which successfully implement widespread OER should be studied so that their implementation best practices and strategies are documented and shared. OER implementation models could be created based on the profile of the institution (e.g., number of students, private vs. public, geographic location, endowment size, etc.), and shared through online modules with institutions of a similar profile, so that they would have step-by-step directions to implement OER. These modules should describe the technological infrastructure needed to implement OER (e.g., internet infrastructure, technological resources, online learning platforms, etc.) and examples of policies and procedures to promote OER usage.

- *Ensure that HBCU students have access to OER training*
  Online learning modules should be created to help train students to use OER. Modules should include customized trainings for non-traditional students. These trainings should be provided to students during their orientations.

- *Present Certificates of Merit to OER Champions*
  Individuals who complete OER training may become OER champions at their institutions. Certificates of recognition should be awarded to these individuals.

Conclusion

Based on our analysis, OER can be a valuable tool in creating greater equity among diverse populations at HBCUs. Although current OER implementation at HBCUs is limited, there is a significant opportunity for growth and impact. Many of the challenges which HBCUs face regarding OER implementation may be mitigated by the strategic targeting of resources, particularly through collaborations which increase OER trainings and awareness, technological infrastructure and resources, and the development and organization of OER materials.

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Appendix A: Case Studies

OER Implementation at Tennessee State University[16]

<u>Current Status of OER</u>
Tennessee State University ("TSU") is committed to seeking new ways to foster student success and encourage students to graduate in a timely manner. One initiative that is helping to meet that goal is the Affordable Learning Solutions ("AL$") Initiative, which aims to ease the financial burden of paying for textbooks. AL$ uses several strategies to provide students with affordable options for learning including access to free online materials and courses, low cost to free e-textbooks, OER library resources, and providing resources to enable faculty to participate in professional development and OER training.

At the time of our visit, TSU was in the process of developing an OER strategic plan and working to develop awareness and expand OER implementation. At the same time, the University was working to lead the HBCU OER Network which is designed to provide AL$ to other HBCUs in order to increase education access through awareness and utilization of OER, at the time of our visit. The following HBCUs were participating in the HBCU OER Network:
- Bethune-Cookman University – Daytona Beach, Florida
- Central State University – Wilberforce, Ohio
- Dillard University – New Orleans, Louisiana
- Fisk University – Nashville, Tennessee
- Hampton University – Hampton, Virginia
- Johnson C. Smith University – Charlotte, North Carolina
- Lincoln University of Missouri – Jefferson City, Missouri
- Morgan State University – Baltimore, Maryland
- Morris College – Sumter, South Carolina
- North Carolina Central University – Durham, North Carolina
- Oakwood College – Huntsville, Alabama
- Southern University – Shreveport, Louisiana
- Tougaloo College - Tougaloo, Mississippi
- University of Arkansas at Pine Bluff – Pine Bluff, Arkansas
- University of Tennessee, Martin – Martin, Tennessee, and
- Xavier University – New Orleans, Louisiana.

In addition, the following community colleges were participating:
- J.F. Drake State Community and Community College – Huntsville, Alabama
- Motlow State Community College – Lynchburg, Tennessee
- Southwest Community College – Memphis, Tennessee, and
- Walters State Community College – Morristown, Tennessee.

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[16] Information described in the Case Studies reflects circumstances during our Campus Visits.

TSU serves as the lead agency in coordinating and overseeing the professional development, campus presentations, faculty training, and overseeing the pilots, assessments, and surveys. The collaboration is funded through a grant from the Multimedia Educational Resource for Learning and Online Teaching curated by California Southern University ("MERLOT") (www.merlot.org) in which TSU sub-awarded $8,000 – $10,500 to the participating HBCUs.

TSU implements its OER through http://www.tsu-excel4ed.org/, an eLearning portal partnership with MERLOT. The website states that it is designed to help users:

- Locate free quality online learning materials anytime, from any location
- Lower the cost of attending college for all TSU's college students
- Improve the learning experience by offering rich educational materials at the point of need
- Organize course learning materials quickly and easily using digital file storage solutions
- Review the work that TSU's faculty and partner institutions are doing through the faculty and course showcases[17]
- Share best practices and learning materials with TSU's faculty and faculty around the world, and
- Promote student success by offering digital learning materials at the beginning of the course.

All new faculty at TSU are offered an orientation regarding using MERLOT.

At TSU, there is a faculty member piloting OER in each of the University's eight colleges. However, the College of Education has the widest implementation of OER and has served as the model for the rest of the university. In the College's Department of Teaching and Learning, all of the foundation courses are currently using OER.

Benefits of OER
During the Campus Visit, the following benefits were identified by TSU stakeholders.

- *OER improves distance learning*
  Since OER materials can be accessed online, classes which utilize OER are easy to implement as distance learning courses. These courses can be accessed during the summer to help to prepare students in advance of the start of courses.

- *Students are more likely to be ready for instruction on the first day of class*
  TSU faculty indicated that many students in traditional courses are not prepared for class on day one, or even for the first several weeks of class, because they have to wait to get their financial aid checks before they can purchase textbooks. Using OER as the primary resource allows students to have the materials on day one, helping to ensure that they are better prepared, and are more likely to succeed in the course.

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[17] The faculty and course showcases allow users to learn more about the faculty members who developed the OER materials, as well as to see course content and accessibility evaluations.

- *Students are involved in a more engaging learning experience*
  Several of TSU's faculty members indicated that in their OER courses, students are directly involved in finding supplementary OER materials which are shared with the rest of the class, and are involved as unofficial / official contributors to the development of OER curricula which will be used to teach future classes. This helps students feel as though they are in control of their learning experiences and increases their classroom engagement.

- *OER allows course materials to be updated constantly*
  Since OER materials can be constantly updated, they can continue to be relevant in a changing world. New materials can be found to keep courses up-to-date, and relevant to current events.

Challenges of OER

TSU stakeholders identified the following challenges.

- *There is a lack of awareness regarding OER*
  Many faculty members simply do not know about OER or have an incorrect perception about OER due to a lack of information. Many faculty members do not understand the potential cost savings which using OER could bring to students, nor do they understand the quality of OER resources which are available. The lack of awareness impedes the universal use of OER.

- *Faculty members lack time and resources to adopt OER*
  Often, the biggest barriers for faculty to adopt OER are time and resources. Faculty members who are new to OER need to have the time to understand some of the licensing laws regarding OER and will need to learn about the tools and resources which will assist them in using OER. Some faculty members may not be familiar with using technology in their courses and will need time to become comfortable with OER. If the faculty members are rushed into using OER, they may become resistant, so they must be provided with adequate time to prepare.

Lessons Learned

- *Do not mandate the use of OER*
  Those in charge of implementing OER at TSU felt that it was counterproductive to mandate OER use, and that instead, faculty must be encouraged to use OER.

- *Leverage third-party speakers to share insights regarding OER*
  Bringing in an outside presenter who praises OER as being innovative and highly regarded will result in greater buy-in than having a TSU advocate mandating their use. As a result, the faculty will be more likely to want to adopt OER.

- *Articulate OER as an important education innovation*
  If OER are presented as an innovative pedagogy being used by prestigious higher education institutions and scholars, faculty and students will want to learn more, and may

be encouraged to use them. This kind of messaging can help diminish the perception that OER may not be as high quality as published resources.

- *Conduct OER trainings in the spring*
  TSU has found that spring is the most effective time to conduct OER trainings / presentations. Faculty need time to search for materials, evaluate, and plan for the fall, and spring trainings gives them the most time to do so.

- *Have an OER champion in each college or department*
  Having an OER champion in every college or department helps demonstrate that OER are relevant in any field and provides accessible resources to anyone trying to implement OER.

- *Have OER presentations on HBCU campuses instead of at an offsite location*
  TSU has found that having OER presentations on HBCU campuses, instead of offsite locations, increases attendance among administrators, faculty, and students. Holding these events on HBCU campuses also increases energy and pride among participants.

- *Develop university-wide strategic goals regarding OER*
  Many schools fail to implement OER because they conduct a pilot and it ends there. They do not have a process in place for goal setting, evaluation, and continuous improvement. Additionally, if there is only one person using or championing OER, and that person leaves the institution, then OER use may decline. Since HBCUs often have a high turnover rate, OER must be institutionalized. This can be done by creating a specific OER strategy which is implemented campus-wide and includes metrics to track progress.

- *OER activities must be viewed as scholarship*
  TSU faculty felt that for OER to remain relevant, they must be viewed by faculty as scholarship, and must be embedded in part of the tenure and promotions process.

- *HBCU librarians can serve as valuable resources and champions for OER use*
  Based on TSU's experience leading the HBCU OER Network, the institution has learned that strategically targeting and training HBCU librarians can be extremely important for increasing the use of OER. These individuals are experienced at curating materials, and often may remain at their institutions longer than faculty and administrators.

Next Steps in Implementing OER
- *Develop an OER strategic plan*
  TSU is currently in the process of developing an OER strategic plan. This plan will help guide OER implementation across the University and will help ensure its sustainability.

- *Increase OER awareness and understanding among faculty*
  Some of the individuals we spoke with at TSU felt that the biggest current challenge at the University is a lack of awareness and understanding among faculty. Trainings and

workshops are needed to help educate faculty on the benefits and importance of OER. These trainings will be especially important in some disciplines such as STEM, where faculty may not feel that OER are appropriate, or that there are not high-quality resources available.

<u>Student Feedback</u>
The Barthwell Group obtained student feedback at Tennessee State by talking with students in a group setting, conducting an online assessment, and observing a graduate and an undergraduate math class, both of which use OER. The feedback from the students regrading OER during these sessions was extremely positive overall. A synthesis of some observations follows:

- *OER helps reduce the cost of an education*
  During the group meeting, many students indicated that courses which use OER save them a significant amount of money, and that this was the main benefit of OER. Additionally, all of the students on the online assessment (among the 18 students who were aware enough to provide a response) felt that OER are either "significantly less expensive" (89%), or "somewhat less expensive" (11%), as compared with traditional textbooks.

- *OER promotes more engaged learning*
  Several students stated that using OER has helped enhance their learning because of the engaging quality of the resources. They found OER resources are often more up-to-date and relevant, which encourages curiosity and learning. Additionally, the students liked being involved in the identification of OER materials which gives them a sense that they are in control of their own learning.

- *OER materials are comparable or better quality than other learning resources*
  During the online assessment, students were asked to rate the effectiveness of OER as a primary course material (i.e., OER materials as a replacement for traditional textbooks) on a scale of 1 – not at all effective, to 10 – very effective. On average, students provided a rating of 7.8. Additionally, the students were asked to rate the quality of supplementary materials (such as study guides, practice questions, homework assignments, etc.) in courses that use OER as the primary course material relative to the quality of materials in courses that use textbooks on a scale of 1 – supplementary materials are significantly worse in courses that primarily use OER vs. courses that primarily use a textbook, to 10 – supplementary materials are significantly better in courses that primarily use OER vs. courses that primarily use a textbook. Students provided an average rating of 7.2.

When asked to describe any major drawbacks to courses that use OER as the primary course materials, 67% of the 19 respondents indicated that there are no drawbacks. The categories of responses of the other six respondents are provided below:

Table 1: Drawbacks of OER Described by TSU Students

Drawbacks	Number of Respondents
Potential technical difficulties	2
Lack of information provided compared to regular textbooks	2
Increased effort needed compared to regular textbooks	1
Desire for printed resources	1

Two respondents identified potential technical difficulties as drawbacks. Additionally, 23% of the respondents selected "yes" when asked if they have experienced being unable to access OER materials due to campus internet troubles (out of 13 respondents).

Recommendations
- *Increase awareness through on-campus marketing*
  Students recommend on-campus marketing as an effective means to increase awareness and OER use. OER should be represented at college fairs, career fairs, on campus tours, and during orientation, etc. In addition, students recommended OER marketing materials on campus, such as fliers or billboards, which market OER and describe the benefits which they bring.

- *Hire full-time staff dedicated to OER*
  As OER implementation expands at TSU, several full-time staff persons devoted to the creation and curation of OER materials are needed. These individuals should be able to assist faculty in finding OER materials, as well as designing new materials and courses. Having these persons at the University will help encourage faculty to use OER, since there is a resource to go to, if they have any questions or require assistance. Additionally, they should be able to assist students in utilizing OER materials.

- *Facilitate collaboration across institutions*
  TSU leads the successful HBCU OER Network. However, faculty and administrators feel that more support is needed to achieve greater impact. The collaboration wishes to develop an OER website that highlights African American culture and history. The development of this website would engage general education faculty from 20 HBCUs and would help increase the limited number of culturally relevant OER materials. Additionally, a full-time OER faculty training member should be hired to conduct regional trainings for faculty at HBCUs.

- *Use OER in institutional marketing as a competitive advantage*
  Widespread use of OER should be marketed. Institutions could say, "come to our institution because you will not have to worry about purchasing textbooks." If OER are seen to be effective tools for enhancing student recruitment, more institutions will become interested in their use.

- *Increase OER when training professionals*
  TSU stakeholders noted that OER can be extremely effective in professional

development, both for faculty and students. Examples of OER professional development materials may cover topics such as leadership development, resume writing, interview skills, etc.

- *Build student support by implementing OER in introductory courses*
Several students indicated that it would be helpful if OER were used in introductory freshman courses attended by large percentages of the student body in order to increase familiarity. Students are confident that after their peers' experience OER, they will want to use them in all of their classes.

OER Implementation at Paul Quinn College

Current Status of OER
Paul Quinn College ("PQC") is committed to making the academic experience of its students more equitable. Recently, PQC implemented a policy that students are not required to purchase course materials. This has led to a widespread adoption of OER at the College (although not every class is required to use OER). PQC developed this policy because many students are unable to afford textbooks, and those who can, often purchase the textbooks later in the semester, putting them at a disadvantage. Along with the shift to zero-cost course materials, the College has adopted a hybrid learning model where students do most of their learning online, and only come into class one day per week. To implement OER, PQC uses the Canvas Network as a course management platform where faculty post all of their online course materials for students to access easily.

Prior to implementing zero-cost course materials, PQC had tried several other methods to help students who could not afford to purchase the textbooks, including getting a Chegg, Inc. membership so students could borrow books, and giving students gift cards to purchase textbooks. However, neither of these approaches was as successful as the current strategy.

Benefits of OER
- *Increasing affordability*
  The main consideration which led to PQC implementing OER was to enhance the affordability. PQC faculty and administrators realized that many students were not purchasing textbooks due to the cost, and this was creating an inequitable learning experience at the College.

- *Increasing accessibility to materials*
  Since many students could not afford to purchase textbooks, or had to wait for their financial aid checks to arrive before they were able to purchase them, they often did not have access to their textbooks until late into the semester. Implementing OER has enabled students to have access to their materials on the first day of class.

Challenges of OER
- *Lack of access to computers and tablets*
  Although OER was implemented to remove barriers among those who could not afford textbooks, it has created new barriers because of the technology which is required. Many students at PQC do not have a laptop or tablet and must either use their cell phone or go to a computer lab. Although many OER are optimized to be viewed on a mobile device, a significant number of OER are not, so students viewing on their phone are at a disadvantage. Although PQC has computer labs, there are a limited number of available computers and their hours are limited. These computers are only available on campus, even though many students live off campus.

- *Lack of technology skills among non-traditional students*
  During our Campus Visit to PQC, we interfaced with several non-traditional students, who indicated that they are not as familiar with technology as their younger classmates. These students may face more challenges in finding and accessing online materials, and may struggle with using online resources. An alternative may be to allow these students to print their materials. However, the faculty reported that some students have reported difficulty with using the campus printers.

- *Lack of quality resources in some subjects / disciplines*
  While some disciplines and courses have high quality OER available to them, others do not. For example, one faculty member shared that for psychology, it is hard to find a comprehensive text that covers a whole subject. Usually, the resources are written by students, and are not as high quality. This faculty member indicated you have to assemble a bunch of different resources together for a single course.

- *Inadequate internet network and infrastructure*
  PQC has faced significant challenges due to a lack of network bandwidth caused by increased internet usage because of OER. The College underestimated the impact that OER would put on its networks and has had to upgrade its technology. However, because of the College's location, there is only limited internet technology available. During our OER class observation, we witnessed several network issues, and the faculty expressed how this has caused disruptions in the classroom.

- *Limited time to design and curate courses*
  Many PQC faculty indicated that preparing an OER course can be much more time-consuming than simply using a textbook. Not only must the materials be collected from a variety of sources, but also reviewed very carefully.

Lessons Learned
- *Be proactive in upgrading the campus technology infrastructure*
  Institutions which are considering OER must be proactive in ensuring that they have the technology infrastructure necessary to handle the added use that will occur with OER.

- *Ensure the usage of an effective technology platform for OER implementation*
  PQC faculty indicated that they have learned the hard way that the platform used should be easy to navigate. This led to PQC switching to Canvas as their campus-wide course management platform, which has greatly improved the experience of faculty and students.

- *Implementing a mandatory no-course material-fee policy can be an effective strategy for implementing OER*
  Unlike any of the other HBCUs which we visited, PQC has implemented a strict policy that students are not required to purchase any course materials. This policy has created a clear incentive for faculty to use OER and has accelerated the use of OER throughout the campus.

- *Leverage the work of faculty already using OER*
  PQC realized that many faculty members who were having the most success among their students were already using OER and decided their best practices could be used across the campus. These faculty members also became a valuable resource to help obtain insights which would help other faculty members in implementing OER.

Next Steps in Implementing OER
- *Increase the availability of technology for students*
  PQC reported that nearly half of all students at the College do not have access to a laptop or tablet, and that this is a significant barrier to student success. The College would like to solve this problem by giving all students a laptop or tablet. However, this is not currently feasible due to cost, and the fact that these devices would need to be frequently replaced. The College is currently working towards finding a solution which is effective without being too costly.

- *Assess student experience and outcomes*
  PQC faculty expressed the importance of continuously assessing students across the campus to ensure that their experience with OER is positive. Additionally, it is important to assess various sub groups across campus in order to ensure that certain subsets of students (e.g., non-traditional students, students without laptops, students with different majors, students at different class standings, etc.) are not doing worse because of the OER policy at the College.

- *Engage with industry leaders to gain insights regarding course development*
  The PQC faculty indicated that interfacing with corporations in order to gain insights regarding the desirable skills and knowledge they are looking for in recent college graduates, should be an important factor when creating OER resources. The College should be teaching students using resources which are relevant to today's industries, and which provide them with the skills and information which will prepare them for success.

Student Feedback
The Barthwell Group had the opportunity to speak with three students who also completed an online assessment regarding OER. Two of the students were non-traditional students. The students overall felt positively about OER. All of the students felt that OER courses are significantly cheaper, and the students rated courses which utilize OER positively. However, the two non-traditional students shared that they have had some difficulty using OER materials due to their limited familiarity with technology, and their preference for physical textbooks. The students shared that OER classes feel more innovative, because they use more current events and sources.

The students indicated that the campus Wi-Fi can sometimes be an issue. Although the Wi-Fi in the dormitories is poor, Wi-Fi in the classrooms is usually good.

Some students preferred textbooks in some courses, because they felt it resulted in more in-class interaction. For example, the students felt that having textbooks and face-to-face instruction was very valuable in math classes, and that it contributed to a greater ability to ask questions.

<u>Recommendations</u>
- *Determine new ways to incentivize internet infrastructure upgrades in rural areas where many HBCUs are located*
  PQC discussed that many HBCUs may face challenges in upgrading their internet due to their locations. However, the faculty were confident that this challenge can be resolved.

- *Incentivize faculty OER development and collaborations*
  PQC faculty expressed that a major challenge which OER faces generally is that there are no good incentives in place to encourage faculty to take the time to develop high quality resources or to collaborate with other faculty and institutions. Since faculty are not receiving income for these activities, they are unlikely to participate in them

- *Employ staff dedicated to finding and designing OER materials*
  Some PQC faculty felt that it may be most efficient to hire individuals whose sole function is to find and design OER materials. These individuals would serve as a resource for faculty to obtain materials they need and would also be able to train and assist faculty in designing their own materials.

- *Conduct a variety of faculty trainings / workshops / symposia*
  A variety of different methods should be used to educate and train faculty regarding OER. These could include conferences, webinars, etc. Additionally, these events should include faculty from a variety of disciplines as well as K-12 teachers. Engaging with K-12 teachers and administrators is important so that faculty can understand how students entering college have been taught.

Appendix B: The William and Flora Hewlett Foundation's Commitment to OER

Open Educational Resources ("OER") are teaching, learning, and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation, and redistribution by others with no or limited restrictions. For the last two decades, these resources have offered a promising solution to the perennial challenge of delivering high levels of student learning at lower cost. But OER offer much more than just cost savings. Well-designed, customizable, openly licensed materials can engage students and energize educators in ways that enable more responsive teaching and better learning.

The William and Flora Hewlett Foundation has supported OER since their inception in 2001, with a focus on building infrastructure, creating content, and clearing policy hurdles for the spread of these materials. Ultimately, their goal has always been to make such materials broadly and equitably available in order to expand and equalize access to knowledge and high-quality educational opportunities. Today, nearly one third of classroom teachers in the United States use OER to supplement their core materials, and college faculty are increasingly turning to open materials, often for core courses.

But research shows that the content of educational materials alone does not drive student learning outcomes. The long-term success of OER depends on decisionmakers adopting OER because these materials enable teachers to innovate and flexibly adapt materials to better serve their students' learning needs. That's why the Foundation aims ***to strengthen every student's learning experiences by the effective use of open educational resources and practices.***

That means developing effective pedagogy and practice along with content, building the capacity of school and university systems to integrate OER, and developing an inclusive field that is responsive to diverse educators and learners. The goal includes supporting educators and students with the necessary training, tools, and services needed for the effective use of OER and attending to inequities in educational opportunities beyond mere access to openly licensed materials. The Foundation's work is grounded in the belief that OER can be used to level up every student's learning experiences and outcomes.

Analytical Framework: OER Review and Customized Methodology

OER Review

In order to understand better OER awareness, use, and barriers to implementation by HBCUs in advance of our Assessments, we developed an analytical framework and a customized methodology. To develop the analytical framework for our research, in addition to reviewing OER literature, our Chief Operating Officer, Walter K. Evans, attended the initial Achieving the Dream 2018 OER Summit. The Summit convened both the 38 community colleges which participate in the OER Degree Initiative and institutions which are competing to become part of the Initiative.[18] We also conducted telephone interviews with three OER subject matter experts. We extrapolated from the Summit and subject matter expert interviews key benefits and challenges generally associated with OER implementation. We used this knowledge to frame the development of our Assessment instruments and the structure of our Campus Visits. We describe these assumptions in the overview of our methodology below.

Challenges / roadblocks to OER usage

During the Summit, a variety of challenges and roadblocks to OER usage were discussed.

- **Faculty resistance to change**
  Some faculty members are accustomed to teaching following established routines. They are often reluctant to accept changes which disrupt their teaching patterns. Because they fear change, they may resist implementing OER.

- **Faculty complain that it is difficult to find quality and specific OER**
  Faculty members often report difficulty finding the OER resources which they need. Sometimes the resources simply do not exist, are hard to find, or are not of the quality expected by faculty. Additionally, particular materials which a faculty member would like to use, such as a specific novel, may not be available for free. This means that faculty will have to use alternative resources which are not their preferences.

- **Faculty do not understand how to incorporate specific OER materials which are under copyright**
  Faculty may lack the necessary knowledge / training to understand how copyright laws impact the use of OER. Additionally, materials which are copyrighted may not be available for use as OERs.

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[18] The Summit provided an opportunity for participating institutions to learn from each other, share best practices, celebrate successes, and plan for the future. The OER Degree Initiative seeks to boost college access and completion, particularly for underserved students, by engaging faculty in the redesign of courses and degree programs through the replacement of proprietary textbooks with OER. In addition, the Initiative seeks to help remove financial roadblocks impeding students' progress and to advance teaching, learning, and course design that will increase degree and certificate completion. The Summit was held April 3-5, 2018 in Miami, Florida. Our participation was recommended by the Hewlett Foundation.

- **Faculty believe that redesigning OER courses is too time-consuming**
  In order for faculty to use OER, they may have to take time to find or develop materials, including supplemental quizzes, texts, and assignments. Faculty may feel that this takes too much of their limited time. If they do not receive any financial incentives, they may feel that there is no reason to begin using OER.

- **Faculty mistakenly believe that published resources are more polished and higher quality**
  Individuals who have no experience with OER may falsely believe that OER materials are of lower quality since they are free.

- **OER implementation often requires increased institutional support and additional resources**
  OER implementation requires adequate infrastructure, resources, and knowledge. This preparation may require extensive organizational coordination and funding.

- **OER courses may not be appropriate for scaled use**
  Faculty members may wish to create OER materials which are specifically tailored for a particular course, potentially limiting their general use. Additional work needs to be done to create OER materials which can be used more widely.

- **Finding suitable OER content does not exist in any one source**
  OER materials are spread across a variety of sources and platforms, making them difficult and time-consuming for faculty to find. Additionally, institutions may need to pay for access to these various platforms.

- **Faculty lack the guidance necessary to start using OER**
  Many faculty members may be interested in implementing OER, but may lack the knowledge of how to do so. Guidance must be provided so that these individuals can most effectively and efficiently implement OER.

- **Departments and programs do not collaborate on OER use**
  Educational institutions may not have a coordinated effort across their various departments to implement OER. This can often lead to an inefficient use of resources and prevent OER usage from being implemented more quickly.

- **OER implementation may cause technological challenges**
  There are a variety of technological issues which may prevent effective OER usage, including poor internet infrastructure, a lack of computers / tablets for faculty and students, inadequate online learning platforms, etc.

Solutions to OER challenges

Throughout the Summit, speakers shared a variety of recommended solutions to potential OER challenges.

- **Communicate with OER stakeholders frequently**
  Effective OER implementation requires cooperation and understanding among a variety of institutional stakeholders. Frequent communication among faculty, administrators, and students regarding OER implementation may facilitate identifying solutions to institutional challenges.

- **Initiate OER awareness and adoption starting with the faculty**
  Since faculty members are responsible for designing and teaching courses, they are the most effective stakeholders to build institutional support for OER. Once the faculty understand and support OER, they may become champions, sharing their support with other faculty members, administrators, and students.

- **Encourage faculty to author their own OER**
  If faculty are unable to find the needed OER materials, they will have to develop their own. Provide faculty with the training and the resources necessary to enable them to design their own OER materials.

- **Find faculty / staff who can be OER champions**
  Faculty OER champions can serve as valuable resources in spreading institutional support and understanding. These individuals can help encourage others to use OER, and can preach the positive benefits which they can bring. Additionally, they may help train and give advice to other faculty members trying to use OER.

- **Dispel myths about OER**
  Individuals who have little or no experience working with OER may have false perceptions. A general awareness and understanding regarding OER must be built among these individuals to help increase support. This may include helping a department to realize examples of OER which they are already using.

- **Promote the successes of OER**
  Successes of OER should be demonstrated to faculty to build their support. Observing OER successes may motivate other schools, programs, and faculty to try them as well.

- **Collaborate with as many entities as possible**
  All possible resources and entities should be utilized to help enhance OER. This may include working with libraries, centers of excellence, student governments, advisors, etc.

- **Encourage a long-term, big picture assessment of OER potential**
  Since OER use is in the early stages, many of the long-term benefits have not been fully demonstrated yet. Instead of looking at the current status of OER, individuals should

consider the potential benefits to student learning and outcomes which may result from widespread usage.

- **Create a guide or library of the OER resources available**
  Institutions should curate and organize OER resources, so they are more accessible to faculty.

- **Focus on institution-wide implementation and initiatives**
  Institutions should attempt to increase the coordinated use of OER across all courses, so that economies of scale may result. This will help ensure greater efficiency and reduce overlapping work.

Positive outcomes from OER usage

- **Financial savings for students**
  Using OER as a primary resource prevents students from having to purchase textbooks, leading to significant savings.

- **Increased success rates for students**
  Since OER materials are typically available to students as soon as they are uploaded, they may enable students to be better prepared.

- **Shared successes with other schools advance the momentum of OER**
  Institutions which have positive outcomes from OER should share the stories of these successes with other institutions. Not only will sharing best practices encourage other institutions to use OER, but may facilitate additional usage.

- **Increased leverage for state funding and donor investment**
  Institutions which use OER may be able to receive additional funding based on their usage.

- **Lower student withdrawal rate**
  Because OER materials are free, students may be less likely to stop their education in order to earn funds to cover expenses.

- **More engaging learning experiences**
  The use of OER increases faculty access to additional resources which they otherwise may not have access too. These materials are often interactive, based on current events, and can cater to a variety of learning styles.

<u>Subject Matter Expert Interviews</u>

The Barthwell Group conducted three telephone interviews with the subject matter experts described in Table 2 below. The subject matter experts were selected based on recommendations from the Hewlett Foundation. The purpose of the subject matter expert interviews was to provide a greater understanding of OER prior to conducting the Interviews and Campus Visits. The subject matter expert interviewees were asked questions based upon their specific areas of OER expertise. For example, they were asked questions regarding the development of OER courses, factors which contribute to institutions' successful implementation of OER, and challenges which institutions may face (including specific challenges faced by HBCUs).

Table 2: Subject Matter Expert Interviewees

Name and Title	OER Experience
Nicole Finkbeiner, Director of Institutional Relations, OpenStax	• Created and led a nationally-recognized institutional partnership program with key colleges and universities to promote the use of OpenStax books and other OER. Grew the portfolio to 200 colleges and universities in three years, representing 2.6 million students. • Provided evidence-based analysis and recommendations to OpenStax's leadership team and external audiences, including grant funders, on the impact of initiatives and programs executed by the OpenStax team • Led external and internal initiatives to increase faculty adoptions of OpenStax books including two semester-long advocacy campaigns, 30+ campus site visits, and 40+ educational webinars annually. The OpenStax team has grown adoptions from 1,000 students impacted, to 6.9 million students in five years. • Is a national and international keynote speaker to 2,000+ people per year at major educational conferences on implementing educational strategic initiatives, promoting the use of OER and the benefits of its empirical research, and free resources to promote student success
David Wiley, Chief Academic Officer, Lumen Learning	• Co-Founder and Chief Academic Officer of Lumen Learning, an organization dedicated to supporting and improving student learning through the adoption of OER by middle schools, high schools, community and state colleges, and universities • Education Fellow at Creative Commons and adjunct faculty in Brigham Young University's graduate program on educational technology, where he leads the Open Education Group research team • Recipient of numerous recognitions for his work, including an NSF CAREER grant and appointments as a Peery Social Entrepreneurship Research Fellow in the BYU Marriott School of Business, Senior Fellow for Strategy with the Saylor Foundation, and Nonresident Fellow in the Center for Internet and Society at Stanford Law School, a Shuttleworth Fellow, and Scholar in Residence at the University of Utah and the Open University of the Netherlands

Name and Title	OER Experience
Daniel Williamson, Managing Director, OpenStax	• Manages the day-to-day operations of OpenStax, which provides freely available, openly licensed textbooks and advanced learning technologies to over 2 million learners each month • Established and branded the company's mission, values and operational protocols for a fast-growing, non-profit start-up • Initiated and successfully advanced legislative strategy for the State of Texas, resulting in new laws that encourage adoption of openly licensed textbooks and fund new freely available and openly licensed textbooks for K-12 students • Secured significant philanthropic support to author a library of digital textbooks, build state-of-the-art educational technologies, and conduct extensive R&D on personalized learning • Conceptualized and launched OpenStax intern program, which now engages approximately 25 student interns who contribute substantially to core project development and also participate in a creative summer design project resulting in new ideas for OpenStax expansion every summer

The key findings from these interviews are described below.

- **Using OER can be time-consuming for faculty**
  Faculty may be reluctant to use OER due to concerns about the time it can take to adapt to a new system. Faculty may have difficulty searching for, and finding good, high-quality OER, because there is no single comprehensive OER catalogue. Additionally, OER materials typically are not peer-reviewed or externally-evaluated, making it difficult to determine their quality. This may also cause concerns about alignment to learning outcomes, since there may be no standard scope or suggested sequence for completing courses with these materials. Developing OER materials also requires faculty to devote time to something which usually will not contribute to their reputation as a scholar. Therefore, there is not much self-interest associated with these endeavors.

- **Institutional policies may impede OER usage**
  Sometimes institutions may have policies that hinder OER usage. For example, some institutions have intellectual property rules which enable the institution to own work developed by professors. Therefore, faculty members are not legally allowed to share content through OER, without the permission of their institutions. However, with a dedicated faculty and administration, such rules can be updated relatively easily on a case-by-case basis.

- **Specific strategies are needed to guide OER implementation**
  Although faculty OER champions serve as valuable resources in spreading awareness and the use of OER, specific OER strategies are needed to ensure implementation. Specific goals, strategies, and action plans are needed. Institutions cannot rely on faculty champions alone to ensure sustainable OER usage.

- **At some institutions, bookstores may impede OER usage**
  At some institutions, faculty members would like to move to using OER, but because

their schools derive revenues from the bookstore, they may worry about repercussions from the administration, if they use free materials widely.

- **At four-year institutions, faculty are often the key decision-makers for converting classes to OER**
  Individual faculty members, particularly at four-year institutions, can sometimes make the decisions to use OER. An important factor is having a faculty member who is willing to champion OER usage and advocate it to their peers. An effective tactic for convincing professors to convert to OER is through one-on-one conversations with other faculty members, as well as through committed librarians or instructional design team members. However, sometimes there is adoption by a committee where all of the professors for a discipline gather together and determine the textbooks that solve most of their needs and all convert together to OER (this is most common in community colleges).

- **Administrators also serve as a valuable resource in promoting OER usage**
  Since provosts and presidents are not directly involved in creating course content, they will not typically do the work to adopt OER, but they can function as champions to convince other faculty members to do so. They are also able to provide funding for OER. An effective tactic is to offer grants to professors who switch to OER. An administrator who is supportive without mandating usage, is usually most effective.

- **OER implementation at HBCUs is often different compared with Majority Institutions due to organizational differences**
  HBCU presidents are more likely to play a decisive role in the institutional adoption of OER as compared to Majority Institutions. Also, at HBCUs, decisions to use OER are more likely to result from one-on-one conversations, as opposed to the formation of a structured committee to weigh the benefits and challenges. Faculty may play a larger role in implementing OER than at Majority Institutions which may be more likely to have large teams of librarians or learning centers.

Customized Methodology
To analyze the current status of OER implementation at HBCUs and to develop enhancement recommendations, we designed a customized methodology which included the Review, the Interviews, and the Campus Visits. Our analysis of HBCUs focused around OER awareness, interest, current use, challenges, and adoption of other academic innovations (the "HBCU Focal Areas").

Interviews
The Barthwell Group sought to obtain feedback from key stakeholders at 17 institutions through the Interviews. The Interviews were scheduled for 60-minutes, and were confidential with respect to the individual respondents in order to ensure their candid feedback. Leveraging the

Review, we designed the assessment instrument (see Appendix A) to gather a combination of qualitative and quantitative data from the respondents based on the HBCU Focal Areas.

In order to analyze the status of the HBCU Focal Areas, we developed a methodology to design a representative sample of HBCUs among which we would conduct our Assessments. Our methodology included consulting with Major General (Retired) Wallace C. Arnold, an Associate with The Barthwell Group who has served as the former Interim President of Cheyney University of Pennsylvania, and in multiple executive positions at Hampton University in order to identify key criteria that differentiate HBCUs. Through these discussions and leveraging our years of experiences with HBCUs, we designated the following 12 differentiating criteria (the "Differentiating Criteria"). See Table 4 below.

Table 3: HBCU Differentiating Criteria

Differentiating Criteria	
Geographic Region	Percentage of Pell Grant Undergraduates
Sector of Institution	Number of Courses Using OpenStax OER Materials
Highest Level of Academic Offerings	Number of Students Enrolled in OpenStax Courses
Level of the Institution	Presence of ABET Accredited Programs
Graduation Rate (150% of Normal Completion Time)	Enrollment
Retention Rate	Endowment Size

We then conducted research to obtain the Differentiating Criteria for the entire universe of HBCUs[19] using the sources described in Table 5. Using the Differentiating Criteria, we categorized each HBCU using the Associated Categories described in Table 4 to determine a sample of 17 HBCUs (Table 6) which embodied the Differentiating Criteria in a fashion that was representative of the entire universe of HBCUs. (See Table 7).

Once we identified the institutions with which we would conduct Interviews, we reached out to the institutions to schedule the Interviews. We then developed a customized assessment instrument to conduct individual one-hour interviews. The individuals interviewed included four college and university presidents, ten provosts and associate provosts, a dean, and two faculty members leading institutional OER efforts. In addition, three faculty members who were highly involved with OER implementation at previously surveyed institutions were also interviewed.

The full methodology is described in the HBCU Telephone Assessment Interviews section of this report.

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[19] We excluded the three professional-school-only institutions as we felt that their process of curriculum development would be significantly different from the more comprehensive institutions.

Campus Visits

The Barthwell Group conducted Campus Visits at four institutions where we had conducted previously an Interview. They were designed to help us obtain additional insights. We spoke with additional stakeholders and posed follow-up questions based on the insights we had gained previously through the Interviews. Each Campus Visit included the following key components:

- OER class observations
- Faculty / administrator meetings
- Student meetings, and
- Online student assessment.

To select the institutions where we would conduct Campus Visits, we analyzed the feedback from the Interview data in order to determine HBCUs which had the greatest use of OER. We assumed that these institutions would have the greatest amount of information to share. We also selected institutions that had different OER implementation methodologies (e.g., all Paul Quinn College courses exclusively use free materials, while Langston University has included the cost of textbooks in tuition costs and uses OER as supplemental materials).

The full methodology is described in the HBCU Campus Visits section of the Report.

HBCU Telephone Assessment Interviews

Interviews Overview
In order to obtain additional data and insights regarding OER usage at HBCUs, The Barthwell Group conducted a series of comprehensive Interviews with key administrators and faculty from 17 HBCUs. Our Interviews focused on gaining insights regarding the HBCU Focal Areas.

We present more details herein regarding our methodology for conducting the Interviews, the key findings, our analysis, and suggested OER implementation enhancement recommendations.

Interviews Methodology

Institution Selection Methodology
The Barthwell Group analyzed the HBCU universe to identify a sample of 17 institutions that are representative of the universe as a whole. Our methodology was:
- We began by defining the universe of HBCUs using those designated as such by the U.S. Department of Education (the "Universe"). This yielded 101 institutions.
- We then eliminated the three professional-school-only institutions as we felt that their process of curriculum development would be significantly different from the more comprehensive institutions. This resulted in 98 institutions.
- Next, we consulted with Major General (retired) Wallace C. Arnold to gain his insights regarding criteria which differentiate HBCUs. We integrated General Arnold's suggestions with our perspectives to develop the Differentiating Criteria.
- Finally, we researched all of the relevant institutions to populate the relevant categories based on the Differentiating Criteria (Table 4)

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Table 4: HBCU Differentiating Criteria and Associated Categories

Criteria	Associated Categories
Geographic Region	Southeast
	Mideast
	Great Lakes
	Plains
	Other
	Southwest
Sector of Institution	Public
	Private
Highest Level of Academic Offerings	Doctoral Degree Offered
	No Doctoral Degrees
Level of the Institution	Two Year College
	Four Year College / University
Graduation Rate (150% of Normal Completion Time)[20]	41-74%
	32-40%
	23-31%
	0-22%
Retention Rate[21]	72-92%
	62-71%
	55-61%
	26-54%
Percentage of Pell Grant Undergraduates	44-62%
	63-81%
	82-100%
Number of Courses Using OpenStax OER Materials[22]	0
	1-3
	>3
Number of Students Enrolled in OpenStax Courses	0
	1-300
	>300
Presence of ABET[23] Accredited Programs	ABET Accredited Programs
	No ABET Accredited Programs
Enrollment[24]	More than 2,000 Students
	2,000 Students or Fewer
Endowment Size	More than $200 Million
	$200 Million or Less

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[20] Graduation rates are based upon six years for four-year institutions, and three years for two-year institutions.

[21] The retention rate is the percent of the cohort (fall full-time cohort from the prior year minus exclusions from the fall full-time cohort) who re-enrolled at the institution as either full- or part-time students in the selected year.

[22] This is based on data obtained from https://openstax.org/.

[23] ABET was formerly known as the Accreditation Board for Engineering and Technology.

[24] The associated categories for Enrollment and Endowment Size were determined by The Barthwell Group based upon our expertise with HBCUs.

Data for the Differentiating Criteria were gathered from the sources described in Table 5.

Table 5: Sources for Differentiating Criteria

Criteria	Source
Geographic Region	The National Center for Education Statistics – U.S. Department of Education
Sector of Institution	The Integrated Postsecondary Education Data System – U.S. Department of Education
Highest Level of Offering	The Integrated Postsecondary Education Data System – U.S. Department of Education
Level of Institution	The National Center for Education Statistics – U.S. Department of Education
Graduation Rate (150% of Normal Completion Time)	The National Center for Educational Statistics – U.S. Department of Education
Retention Rate	The National Center for Educational Statistics – U.S. Department of Education
Percentage of Pell Grant Undergraduates	The Integrated Postsecondary Education Data System – U.S. Department of Education
Number of Courses Using OpenStax OER Materials	OpenStax
Number of Students Enrolled in OpenStax Courses	OpenStax
Presence of ABET Accredited Programs	ABET.org
Enrollment	The Integrated Postsecondary Education Data System – U.S. Department of Education
Endowment Size	National Association of College and University Business Officers – Commonfund Study of Endowments

Based on the Differentiating Criteria, The Barthwell Group identified and interviewed representatives from 17 HBCUs (Table 6) which represented a microcosm of the larger HBCU universe, with approximately proportionate representation across each criterion.

Table 6: List of Surveyed Institutions

Institutions Surveyed		
Bennett College	Lane College	Tennessee State University
Cheyney University of Pennsylvania	Langston University	Tuskegee University
Clark Atlanta University	North Carolina A&T State University	University of the District of Columbia
Fisk University	Paul Quinn College	Voorhees College
Hampton University	Spelman College	Wiley College
Huston-Tillotson University	Southern University Shreveport	

Table 7 compares the surveyed institutions to the HBCU universe using the Differentiating Criteria.

Table 7: Representation of the Interviewed Institutions Compared to the HBCU Universe Based on the Differentiating Criteria

Category	Number Interviewed	Share of Total Interviewed	Share of Universe
Geographic Region			
Southeast	11	65%	76%
Mideast	2	12%	9%
Great Lakes	0	0%	2%
Plains	0	0%	2%
Other	0	0%	1%
Southwest	4	24%	10%
Sector of Institution			
Public	6	35%	53%
Private	11	65%	47%
Highest Level of Offering			
Doctoral Degree Offered	7	41%	27%
No Doctoral Degrees	10	59%	73%
Level of Institution			
Two Year College	1	6%	11%
Four Year College / University	16	94%	89%
Graduation Rate (150% of Normal Completion Time)			
41-74%	6	35%	24%
32-40%	4	24%	27%
23-31%	3	18%	31%
0-22%	4	24%	18%
Retention Rate			
72-92%	4	24%	26%
62-71%	5	29%	26%
55-61%	5	29%	22%
26-54%	3	18%	26%
Percentage of Pell Grant Undergraduates			
44-62%	5	29%	18%
63-81%	6	35%	45%
82-100%	6	35%	37%
Number of Courses Using OpenStax OER Materials			
0	6	35%	51%
1-3	7	41%	35%
>3	4	24%	14%
Number of Students Enrolled in OpenStax Courses			
0	6	35%	51%
1-300	7	41%	32%
>300	4	24%	17%
Presence of ABET Accredited Programs			
ABET Accredited Programs	5	29%	31%
No ABET Accredited Programs	12	71%	69%

Category	Number Interviewed	Share of Total Interviewed	Share of Universe
Enrollment			
More than 2,000 Students	9	53%	54%
2,000 Students or Fewer	8	47%	46%
Endowment Size			
More than $200 Million	2	12%	3%
$200 Million or Less	15	88%	97%

Assessment Instrument Question Categories

We designed the assessment instrument) to gather a combination of qualitative and quantitative data emphasizing the HBCU Focal Areas.

Specifically, each section of the assessment instrument was designed to gather the following information from the respondents:

- *Awareness of OER*
  This section asked interviewees to identify which groups of stakeholders within their institutions are the most and least aware of OER, and to suggest strategies for increasing awareness.
- *Interest in OER*
  This section asked interviewees to identify which groups or departments may have the most interest in OER, and to consider whether OER implementation is aligned with their institution's strategic values, and the drawbacks of OER generally.
- *Use of OER*
  This section asked interviewees to detail the current state of OER use at their institutions, including any benefits and challenges observed throughout the implementation process, and whether any faculty members were strongly supporting or resisting OER adoption.
- *Other Academic Innovations*
  This section asked interviewees about other similar innovative technology that their institutions have adopted, challenges they faced in those processes, and whether those challenges are related to OER usage.

Data Analysis

Based on the information gathered from the respondents, we quantified the variables of awareness, interest, and use of OER, and conducted statistical analyses to determine whether any of those variables were correlated either with the Differentiating Criteria during the scan or with information relating to the institutions' strategies for implementation and their perceptions of OER. Based on that analysis, we developed recommended actions for the Hewlett Foundation effectively to support HBCUs in the OER implementation process.

Key Findings

The Interviews yielded relevant information across the three categories of Awareness, Interest, and Use of OER. Results are detailed below, described based on the categories.

Awareness of OER

Respondents were asked to rank the awareness of OER among various groups (themselves, the administration, the faculty, and the student body) at their institution on a scale from 1 ("not aware of OER") to 5 ("very aware of OER and how they can be used in the classroom"). Respondents generally listed themselves as most aware of OER,[25] followed by administrators and faculty, and reported students as being the least aware (Figure 1). Notably, none of the differences in reported awareness was statistically significant (p >= .11), although this lack of difference may be due to the low range of possible answers (1-5).

Figure 1: Institutional Awareness of OER
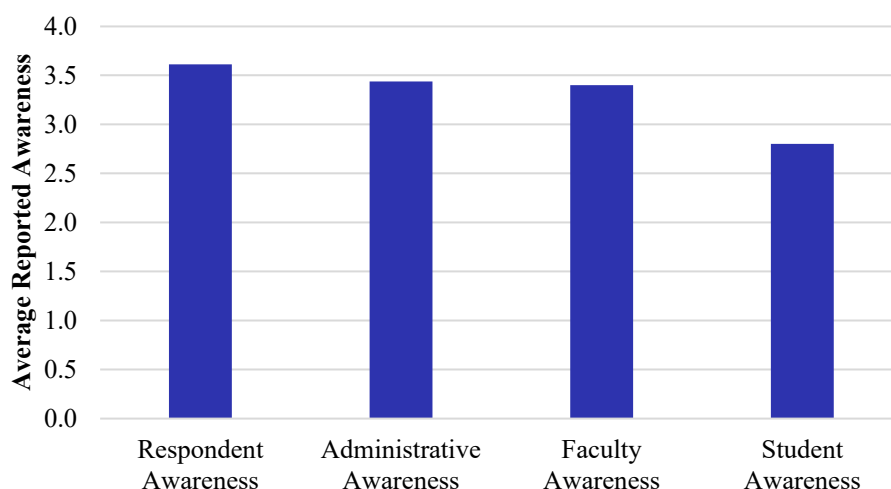
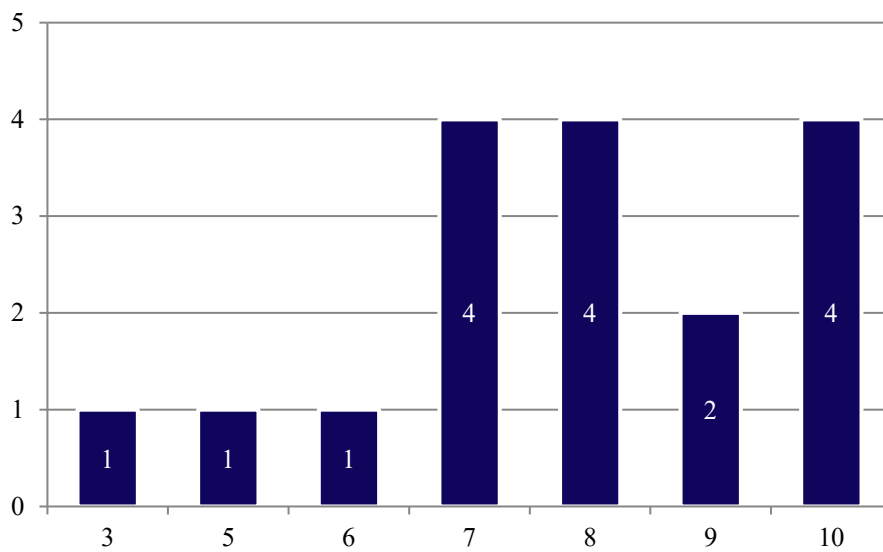*Exceptions to Institutional Awareness*

While the respondents described the OER awareness of the administration, faculty, and students generally at their institutions, some respondents also identified subgroups within each of these categories of stakeholders for whom their general rankings did not apply. Some of these exceptions identified as being less aware of OER include: adjunct and part-time faculty, staff without teaching responsibilities, support service administrators, and students in their first or second years. Some exceptions identified as generally more aware of OER include: faculty who specialize in digital learning and education, individuals in academic affairs, and graduate students, particularly those studying education.

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[25] Many of the Interviews included faculty members and administrators who were already strong OER advocates. This explains the high incidence of respondents who rated themselves as having greater-than-average awareness.

Interest in OER

Respondents were asked to rate the overall interest in OER at their institutions on a scale from 1 ("not at all interested") to 10 ("extremely interested"). Figure 2 shows the frequency of each response, with each section corresponding to the percentage of respondents who gave each rating. The average reported interest was 7.8.

Figure 2: Institutional OER Interest Frequency Distribution

Exceptions to Institutional Interest

Respondents identified groups of faculty (departments, units, or individuals) and students within their institution who may be more or less interested in OER implementation than the institution as a whole. Among the faculty, groups identified as less interested in OER were older faculty, and faculty in highly technical disciplines who reported difficulty in finding appropriate materials. Several respondents also identified specific departments, primarily in the STEM, business, and education fields, that had already shown significant enthusiasm for the adoption of OER. Departments reported as having less interest in OER were those that require national certifications or exams, such as nursing programs, because OER materials often may not be aligned with the national certification requirements.[26]

Among students, a majority of respondents identified low-income students as the group most interested in OER adoption, primarily because of its potential to lower the cost of class materials. Respondents also identified high-performing students, such as those in the Honors Colleges, as more likely to be interested in OER, because they are more willing to seek any resources which will enhance their learning outcomes.

Use of OER

Among the 17 institutions surveyed, 11 (65%) reported at least some OER use. Three of the institutions were operating OER pilot programs with small groups of faculty, and at least two had widespread usage, with upwards of 50% of faculty using OER as either primary or supplemental course materials. The remaining institutions had some OER usage, but it was determined by individual departments or faculty members, and no general data were available regarding the entire HBCU (Figure 3). Specific departments which often use OER include mathematics, physics, other STEM disciplines, education, social sciences, and business. However, the specific departments with high OER use ranged widely between institutions, as it is driven by "faculty champions."[27] Among the six institutions that did not report OER use, four respondents noted that they were not aware of any use, but acknowledged that individual faculty members at their institutions may be using OER, and two respondents reported no usage at all (Figure 3).

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[26] The scope of our engagement did not entail us verifying responses. However, the availability of OER aligned with national certifications is an area where additional research should be conducted.

[27] For example, at Clark Atlanta University and Tennessee State University, the education departments have the most OER interest, while at Lane College, the history department is most interested.

**Figure 3: Institutional OER Usage Levels**
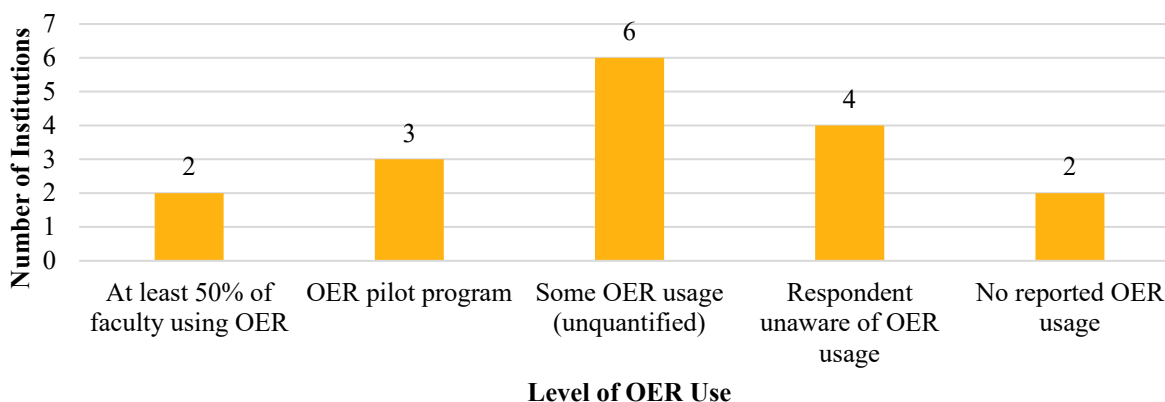
Barriers to OER Implementation

When asked to identify and discuss specific barriers to OER implementation at their institutions, respondents generally identified three major areas: institutional culture, funding, and technological resources. With regards to culture, at least four respondents noted that, due to either a faculty population who are set in their ways, or an uninformed administration, no group at their institution has made a significant step towards full OER implementation. The majority of respondents discussed the lack of funding in detail, citing multiple reasons why OER implementation would incur a high initial cost. Namely, many of them mentioned that OER implementation is time-intensive for faculty members, who must not only learn the new systems and undergo additional training, but also take the time to develop course materials, (whereas many textbooks come bundled with exam questions, study guides, etc.). Therefore, HBCUs may need to provide financial incentives to their faculty to encourage adoption of OER. A second cost barrier is that the adoption of OER requires, for some schools, an overhaul of outdated technological systems, including semi-functional campus Wi-Fi networks and outdated computer labs. This not only incurs a large cost, but also often puts an additional burden on students, some of whom do not own laptops or tablets to access the materials. The last cost barrier comes from the OER sources themselves, some of which have begun charging fees for their services.

Respondents were then asked to rate the severity of 11 potential barriers to OER implementation on a scale from 1 ("not at all a barrier") to 10 ("a very significant barrier"), based on the degree to which that barrier had impacted OER implementation at their institution. The three greatest barriers identified were funding, faculty and staff training, and availability of suitable OER materials (Figure 4).

Figure 4: Barriers to OER Implementation
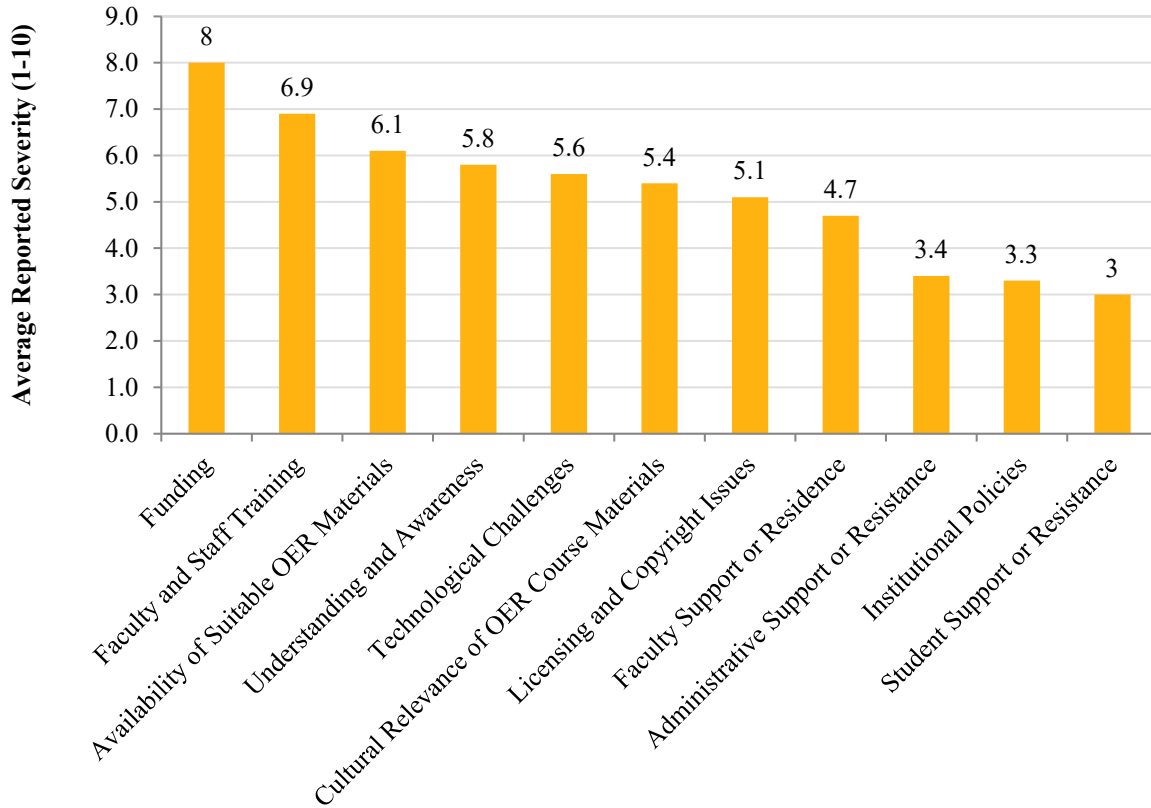
Interview Key Findings

Surveyed HBCU OER Users Are Too "New" To Experience Anticipated Benefits.
Significance testing was conducted to analyze the correlation between OER usage and each of
the Differentiating Criteria using chi-square testing. However, none of the Differentiating
Criteria (including, most notably, graduation rate and retention rate) was significantly correlated
with OER adoption ($p > .50$ for all variables). Therefore, OER adoption at the surveyed HBCUs
had no statistically significant correlation with positive changes to student graduation rates and
retention rates. This may have occurred because the 11 institutions which had adopted OER
included several which were in the earlier stages of pilot programs or which had limited faculty
usage. At these schools, OER does not yet impact a significant number of students, and
therefore may have limited impact on overall outcomes. Had we limited our analysis to schools
with significant, measured OER usage, the sample size would have been too small. Therefore,
many schools which have begun OER implementation may not yet have seen benefits in areas
such as graduation or retention rates. As noted, some respondents expected that these benefits
would occur after OER use has been in place for a longer period of time.

<u>Institutions Not Using OER Are More Likely To Have Higher Levels of Unawareness and Student Resistance To Its Adoption, and Less Anticipation of Technology Challenges as Barriers to OER Adoption.</u>

Institutional OER usage was found to have a significant correlation with the reported severity of several potential barriers to OER adoption (statistical significance here calculated using t-testing). Most notably, respondents at schools without reported OER usage listed understanding and awareness of OER and student support or resistance as significantly more severe barriers to implementation than did respondents at schools with OER ($p = .019$ and $p = .036$, respectively). Furthermore, these HBCUs without OER identified technological challenges as a significantly less severe barrier than did their peers at schools using OER ($p = .070$) (Figure 5).[28] HBCUs without OER implementation saw awareness of OER and lack of student support as more severe barriers, and technological challenges as less severe barriers, compared with their peers at institutions which had adopted OER.

This trend suggests that perhaps institutions without OER have not projected the technological challenges that accompany OER adoption, both for students, faculty members, and the institutions themselves. These challenges include, as several respondents noted, ensuring that students have access to the laptops or tablets, as well as having a consistent, campus-wide wireless network to enable students and faculty to connect with OER materials. Institutions that have begun the implementation process realize that these technological challenges are significant, but other schools may not. In other words, when an institution is considering whether to adopt OER, the greatest perceived challenges are the lack of understanding of the resource, and therefore the lack of support for it. Without the actual implementation experience, HBCUs without OER are unable to comprehend as fully, the long-term challenges of adapting the technology necessary to accommodate OER.

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[28] Notably, the sample size of each population was very small ($n = 4$ for institutions without OER use, and $n = 11$ for institutions with OER use) because three respondents declined to answer the question due to lack of data. Therefore, the value of any statistical testing in this case is limited. While the correlations described above certainly appear to identify trends, additional data are needed to confirm the significance of the relationships.

Figure 5: Reported Barriers to OER Implementation at HBCUs by Current OER Use

Potential Barrier to OER Implementation

■ Institutions with OER Use   ■ Institutions without OER Use
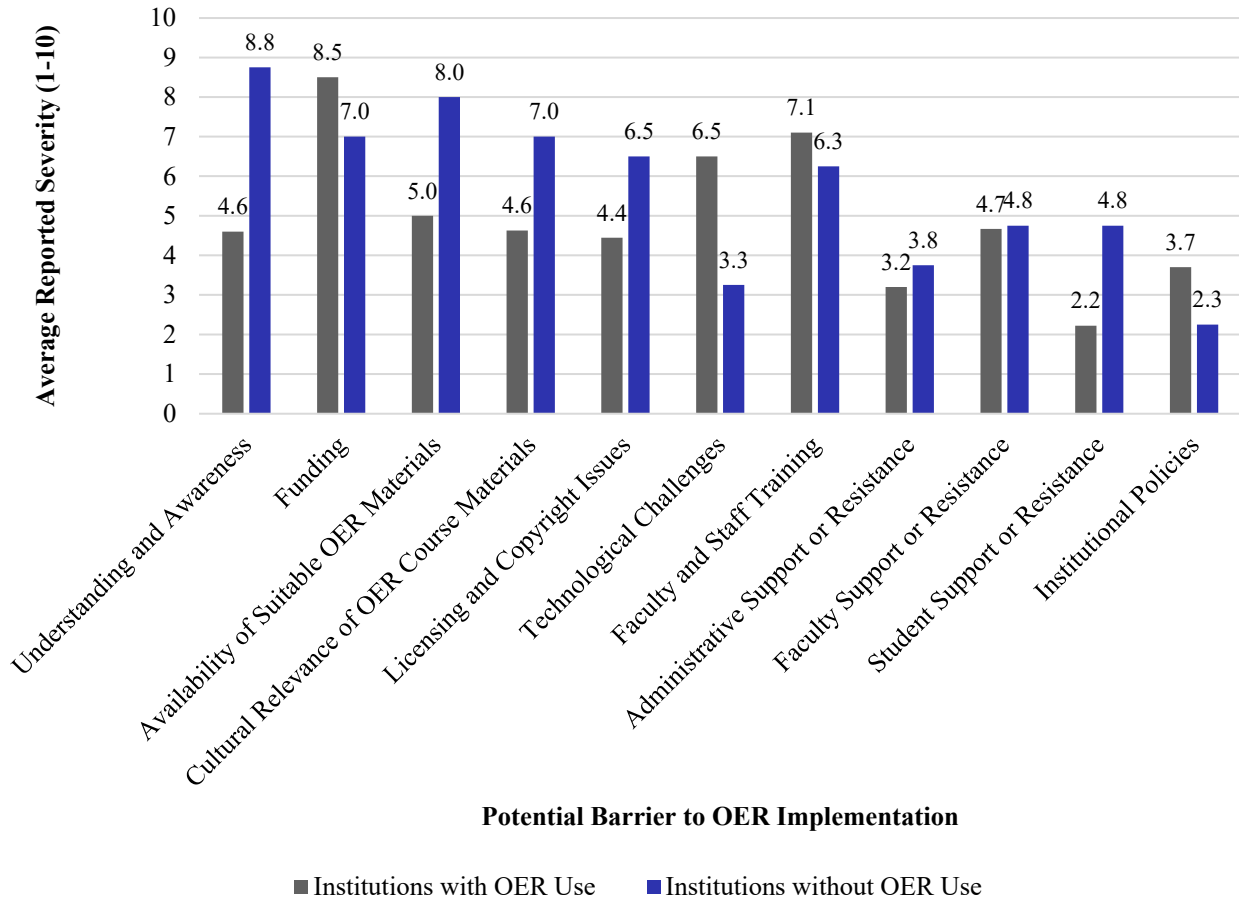
Participant Recommendations
During the Interviews, we received the following recommendations from respondents to enhance OER usage at HBCUs.[29]

Establish Additional Funding Sources
Respondents reported lack of funding for OER development as the single greatest barrier to implementation (Figure 4). Specifically, establishing incentives for faculty members to learn about and incorporate OER into their curricula and improving the technological resources on campus to improve access may be prohibitively expensive for many HBCUs without additional funding.

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[29] The enhancement recommendations applied both to the individual HBCUs interviewed, as well as to HBCUs generally.

Establish Faculty OER Development and Training Programs with Tangible Incentives to Encourage Participation

Most respondents recommended increasing awareness of OER by establishing workshops, seminars, or other informational and training events for faculty to learn about OER materials and their uses. If HBCUs are able to offer voluntary faculty development and training opportunities, this may encourage faculty to gather OER materials that will help their individual classes, and enable them to receive the necessary technical training. Respondents recognized that tangible incentives will be necessary to ensure attendance. These might include stipends for faculty who fully adopt the material, or awards within the institutions for early adopters of OER.

Initiate Awareness Campaigns Focused on Student OER Outcomes

Many respondents noted that, although dedicated faculty champions for OER are often successful, a contingent of older faculty tended to resist using OER because it requires adjustments of their teaching styles and retraining. The students, on the other hand, were reportedly much more enthusiastic on average about the technology, because OER potentially carries direct financial benefits. However, at least one respondent noted that, although older faculty were initially hesitant about the adoption of OER, when they fully understood the potential benefits it had for their students, they became much more enthusiastic.

Ensure Technological Access to OER

Some respondents recommended that HBCUs need to be able to ensure that both students and faculty have appropriate computers and Wi-Fi networks to access and use OER materials. Data analysis indicates that this recommendation should certainly follow strategies to increase awareness and interest strategies. However, addressing the technological barriers is necessary to enable HBCUs to convert more courses to OER (Figure 4). Respondents indicated that a major impediment to addressing the technological challenges is the lack of funding.

Increase Institutional Knowledge of OER

Many institutions surveyed have begun limited experimenting with OER, through pilot programs or individual departments. However, many respondents still felt that they lacked the data to make informed decisions regarding institution-wide implementation. Respondents indicated that they would benefit from more sharing of information regarding the outcomes of pilot programs (including from among their fellow HBCUs).

HBCU Campus Visits

Overview

The purpose of the Campus Visits was to obtain additional insights beyond those gained during the Interviews. The Campus Visits allowed us the opportunity to speak with a wider range of stakeholders at each institution, and to ask follow-up questions based on the insights we had already gained from the Interviews. The Barthwell Group analyzed the results of the Interviews to identify four HBCUs where to conduct visits and gather more information regarding OER implementation. To that end, we conducted the following steps:

- In selecting institutions to visit, we prioritized the schools with the most widespread adoption and use of OER
- Based on the first round of Interviews, we identified all of the institutions where representatives reported OER usage
- We divided the institutions reporting OER usage into two groups: institutions with pilot or other exploratory programs regarding OER, and institutions which have already adopted OER on a larger scale
- We selected both of the two institutions with widespread OER adoption
- Among the remaining institutions, we conducted a qualitative analysis based on the Interviews to determine the programs with the most usage. This analysis was based on the interviewees' responses to questions regarding overall use of OER at their institutions, and regarding faculty champions of OER at their institutions.
- Based on that analysis, the selected institutions were:

Table 8: List of Selected Institutions for the Campus Visits

Selected Institutions[30]	
Bennett College	Paul Quinn College
Langston University	Tennessee State University

Each Campus Visit included the following key components:
- OER class observations
- Faculty / administrator meetings
- Student meetings, and
- Online student assessment.

Campus Visits Conclusion

The Campus Visits served as a valuable tool in allowing us to gain additional insights regarding OER. These Visits allowed us the opportunity to speak with a variety of stakeholders at each

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[30] Clark Atlanta University was initially selected in place of Bennett College. Because Clark Atlanta University is currently undergoing significant administrative changes, we felt that the institution was not well-positioned at this time to give us feedback. Bennett College was selected because it was the institution which best fit the criteria aligned with our Campus Visit priorities.

institution, including students, faculty, administrators, and librarians and other staff members, and to obtain a more comprehensive understanding of OER usage within specific contexts of OER usage and varying policies which effect OER implementation.

In addition, the Campus Visits allowed us to identify common threads regarding the challenges which HBCU generally must overcome to enjoy optimal OER usage. These include technological challenges, such as not having the internet infrastructure necessary for optimal OER usage and students who lack laptops or tablets, the need for OER trainings, and the need for staff persons dedicated to OER. In addition, we observed the commonality of important attributes which will enhance OER use, such as the value of OER champions, and the importance of multi-institution collaborations.

Additionally, these Campus Visits gave us the opportunity to speak directly with students about OER. Students were generally supportive of OER usage. They confirmed the ability of these materials to provide significant cost savings, reaffirming much of the intent behind OER implementation.