

Closing the Digital Divide for Reynolds First-Generation College Students

Project Justification

Reynolds Community College, the last of the twenty-three colleges in the Virginia Community System (VCCS) created by the Virginia General Assembly in 1966, began offering classes in 1972. The VCCS legislative mandate was that, “every citizen of the Commonwealth be given an opportunity to attend an institution of higher learning offering academic, occupational/ technical, and community service programs at a nominal cost.” Reynolds now has three campuses that served 5,447 full-time equivalent students in 2018-19.

Reynolds mission statement is to provide an accessible, quality education that develops students for success in the workplace, prepares students for successful transfer to colleges and universities, builds a skilled workforce that contributes to regional economic development and promotes personal enrichment and lifelong learning.

In 2019, through the five-year Quality Enhancement Plan, Reynolds began intentionally focusing its resources, energy and effort on addressing the social and economic issues that have been impacting the ability of minority students to achieve at the same rate as white students. Student demographics show that recently Reynolds became a majority minority college, with 48.5% white students, 31.2% African American and the remaining 20.3% a combination of Hispanic, Asian and other ethnicities. This shift in Reynolds classroom demographics is mirrored in the changing demographics of the Greater Richmond Region, which has gone from 64.1% white to 57% white in the last 20 years. Within the next 20 years, the Greater Richmond area is projecting to be 45.2% white.

Reynolds minority students have historically had much lower retention and completion rates as compared to white students. In terms of fall to fall retention this equates to a 20.6% gap among students of color. In terms of completion rates, this equates to a 12% gap in students who actually graduate. Therefore, we have made an intentional commitment to become an equity-based institution committed to putting in place every tool we can identify to level the playing field for historically underserved and marginalized students.

Digital Inclusion

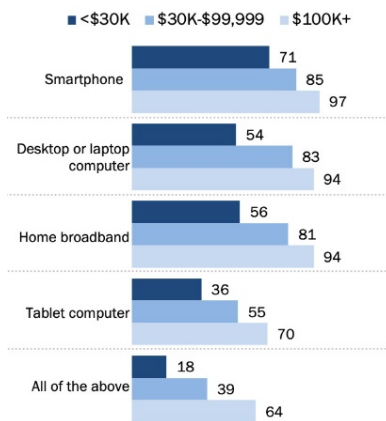
One of the issues we identified that is directly related to the economics often facing low-income minority students is the digital divide. This is especially evident at our Downtown Campus where nearly 60% (fall 2019) of the student population is minority and the typical student’s financial need is substantially higher than their suburban or rural classmates. Many of these students cannot afford to purchase computers for personal use and may not have had day-to-day exposure to computers in their K-12 experience. Furthermore, at the Downtown Campus, 52% of current students (fall 2019) are residents of the City of Richmond where poverty is the highest in the region (24%) according to the US Census. At Reynolds, about 20% of current students are first-generation students who did not have a parent with college experience. A 2018 National Center

for Education Statistics study notes that first-generation students are more likely to drop out of college than their peers whose parents attended college or have a bachelor’s degree (33% vs 26% vs 14%). (<https://nces.ed.gov/pubs2018/2018421.pdf>)

The following graphic from the Pew Research Center supports the assertion that low-income Americans are more likely to have fewer digital resources. This lack of digital resources can have an effect upon classroom success.

Lower-income Americans have lower levels of technology adoption

% of U.S. adults who say they have the following ...



Note: Respondents who did not give an answer are not shown. Source: Survey conducted Jan. 8-Feb. 7, 2019.

PEW RESEARCH CENTER

The Downtown Campus Library currently has only 12 laptop computers for loan, but because of limited availability and high demand, students must only use them on-campus and return them within four hours. These laptops are in constant use. From 7/1/2018 to 6/30/2019, the 12 Downtown Campus laptops were checked out 1380 times. Usage at our suburban and rural campuses were much lower (47% lower at the suburban campus and 94% lower at the rural campus). Students frequently ask to take the laptops home overnight or for the weekend so that they can work on a paper or do research, but with our current allotment, we are unable to meet these requests. In fall 2018 Downtown Campus served 929.7 full-time equivalent students.

In fall 2019, a group of Downtown Campus students who had borrowed laptop computers shared their impressions of the program. Of this group, the following comments were received regarding the inability utilize the laptops for longer periods or at home: “I do feel like I would benefit from it because it will be a lot more easier [sic] to do homework at home.” “Yes, because I’ll be able to complete my assignments.” “Yes. It will be easier for me to do work on the go.” “Yes the time limit disrupts the work.” “Yes because I would have the resources needed to complete my work.” Regarding the issues the time limit and inability to take the laptops home, students said, “Yes because at times I would have to wait until the next day to complete.” “Yes. I can’t do any work when I’m not home.” “Yes because sometimes the only thing I can do to get my homework done on Reynolds laptops.” “Yes because time fly [sic] and you could forget when to bring it back.” It should be noted that others did not have issues and these laptops have not be limited to low-income or first-generation students.

Like many modern libraries, Reynolds has migrated much of the collections to digital format. Over 75% of Reynolds book collection consist of e-books, while 99% of periodicals are only available online through research databases. This is a distinct disadvantage for students without a personal computer who will be limited to what they can access on a cell phone, a library desktop computer or one of the short-term, on-campus loaner laptops. We do however, offer a great deal of assistance to students including research assistance from a librarian 24/7, through LRCLive and online tutoring 24/7, through Brainfuse. All of these services are offered free of charge to students

(however, 24/7 is only as good as a student's ability to connect). Walk-in librarian services are available to students and the public during library hours.

The overwhelming majority of Reynolds student attend classes part-time (72%) and 70% of Reynolds financial aid qualified students are employed according to Federal Financial Aid applications, leaving little extra time to spend on-campus doing research or homework before or after class. These students also have many responsibilities when they leave campus. In addition to employment, most have families. Although most Reynolds students are working, approximately 50% qualify for need based financial aid.

First-Generation Students

First-generation students are more likely to show up without the necessary resources to be successful college students in part because they have not had models at home who understand what is needed. First-gen students are also much more susceptible to what is known as "summer melt." Summer melt occurs when high school seniors leave school counselors behind after graduation and have no one to keep them engaged in the college enrollment process until fall semester begins. Castleman and Page reporting on their research in *Social Science Quarterly* (2014) on Summer Melt said, "This isolation from professional support may be particularly problematic for first-generation college-bound students, whose families and extended social networks may lack direct experience with the college process." Without this support, financial aid deadlines may pass unnoticed. They may fail to attend orientation sessions and if financial aid has not yet been awarded, they may be unable to purchase books and supplies. First-gen students are often unaware of the importance of having access to a computer until they arrive on campus. When they gain access, they may lack the basic skills required to effectively operate the computer.

A large multi-year study at a mid-Atlantic HBCU that looked primarily at first-gen students had the following findings:

- Incoming college freshmen have a very basic level of information and technology literacy;
- They arrive with a rudimentary knowledge of computer fundamentals;
- They are proficient in the use of email, social media, conducting online searches, and navigation of the World Wide Web;
- They are terribly deficient when it comes to the use of core computer applications used for academic and professional productivity (Buzzetto-Hollywood et al., 2017).

In order to provide a more digitally inclusive campus for first-generation students, Reynolds proposes to offer a semester long loan of laptop computers to forty students at the Downtown Campus most in need of a computer. In addition to computers fully installed with the software, they will be provided free technology training workshops that will orient them to the basics of operating the laptops and familiarize them with the software they will need for their courses. They will also attend an orientation to Reynolds library research and tutoring services. Once these

students have access to federal financial aid, they can speak with a Reynolds financial aid expert who will guide them on purchasing a laptop by the end of the semester.

Project Goals

1. Provide first-generation students with technology resources to be successful college students that will help them to persist at Reynolds Community College
2. Forty first-generation students given access to laptops and digital resource training will show increased retention of at least 5% by the end of the project period as compared with previous first-generation students who were not provided these resources
3. At least 80% of students surveyed participants will indicate that access to a laptop and workshops helped them better prepare for courses and feel more connected with Reynolds Community College

Project Work Plan

Upon notification of the grant award, Mr. Paul Chapman will be appointed to be the project director. Mr. Chapman is the full-time academic support librarian. At the beginning of the project, Mr. Chapman will devote 10-15 hours per week to the project. He will continue to be paid by the college, not by the grant.

Essential first tasks include ordering 45 new laptop computers as well as a cart to store the laptops when not in use. Mr. Chapman will supervise Mr. Kaylan Benson, Library Technology Trainer/Tutor, who will begin planning a student Technology Training Workshop. Developing a laptop and software workshop for first-gen students is expected to take 30 hours. Mr. Chapman will plan an orientation to library research for first-gen students and discuss an overview to be presented by the supervisor of the Tutoring Center.

In the first three weeks of the project, the director will work with an analyst from the Reynolds Office of Institutional Effectiveness (OIE) to initiate design of data collection methods and instruments for the project. They will be given a deadline of January 5, 2021. This includes student satisfaction surveys and a laptop tracking database. During this time, the project director will communicate often with the data analyst to ensure that the integrity of the data collection methodology and design is following the intent of the project.

One survey will measure student satisfaction with specific aspects of the laptop loan program and how it will be helpful in student's ability to complete their course work, and do library research. Another survey will evaluate the effectiveness of the technology training as rated by student participants. Students will complete surveys anonymously administered through the Student Information System or student email system. The laptop survey will be administered at the end of the semester and technology training surveys will be administered at the end of each workshop. One-on-one tutoring will be evaluated at the end of the semester.

By the beginning of spring 2021 semester, the new grant funded laptops should have been received and inventoried. Mr. Chapman will develop an online application form and link which will

go out in the notification of the new laptop loan program in November 2020. OIE will run a query in the Student Information System to identify all first-gen students registered for classes at the Downtown Campus. Only these students will receive the email notification that they are eligible to borrow a laptop. All librarians will be trained to answer questions on the laptop loan program should students come in person with an application question.

The first week of January, Mr. Chapman will evaluate which students will benefit most from laptop loan based on a rubric that considers financial need as the highest weighed criteria, and he will email and call until he reaches the students. He will schedule times/days for laptop pick-up and Technology Training, Library Research and Tutoring Orientation. After finals each semester, students have five days to turn in the laptops. This process will be repeated each semester. Laptops will also be available for loan to first-gen students who are registered in summer school on the same application basis.

All participating students will be required to attend a technology workshop to receive their laptop, sign their loan agreement, go over the terms of the loan and ensure that they have basic understanding of the hardware and software that they are being provided.

Risks to the Project

Damage to the laptops is anticipated. Our purchase will include insurance and we have in-house computer service technicians who can repair most internal issues. The program will loan out 40 of the 45 that will be purchased so that five will be available for students to use if they have to bring in a laptop for repairs.

It is anticipated that a few laptops will be lost or stolen. The College can put a hold on a student's account if there is a pattern of misuse; otherwise, we can refuse to loan laptops to students who appear to be at risk and finally, the College may have to replace laptops that are missing, stolen or badly abused.

Students may fail to participate in technology workshops even though they are required. Mr. Chapman, Mr. Benson and all library staff are available to any Reynolds student to assist with technology or research questions or concerns throughout the semester. This will be made clear to every first-gen student who checks out a laptop through this program that they cannot receive their laptop until training is received.

Project Outcomes

The first participants in the project will begin in spring 2021, therefore, the first data collection will begin at the end of the spring 2021 semester. Project outcomes by semester will include:

Semester	Outcome	Source
Spring 2021, Summer 2021, Fall 2021, Spring 2022, Summer 2022	Improved research	Student survey

Spring 2021, Summer 2021, Fall 2021, Spring 2022, Summer 2022	Improved course preparedness	Student survey
Spring 2021, Summer 2021, Fall 2021, Spring 2022, Summer 2022	Satisfaction w/loaned laptop	Student survey
Spring 2021, Summer 2021, Fall 2021, Spring 2022, Summer 2022	Technology workshops increased technology productivity	Student survey

Long range outcomes include:

Timeframe	Outcome	Source
Spring 2021 to Spring 2022	Retention – Did we increase retention for first-generation students by at least 5% by the end of the project period?	Student Information System based on first-generation students who were loaned a laptop
Summer 2021 to Summer 2022	Retention – Did we increase retention for first-generation students by at least 5% by the end of the project period?	Student Information System based on first-generation students who were loaned a laptop
Beginning of project to end of project	Final Retention at least 5% for all participants	Student Information System based on first-generation students who were loaned a laptop
Overall Students served*	Output	Source
Spring 2021, Summer 2021, Fall 2021, Spring 2022, Summer 2022, Fall 2022	40 first-generation students per semester for a total of 200 students (20 each in summer semesters)	Laptop tracking database that collects student name, ID#, address, phone #, laptop inventory #

*Data for fall 2022 students will not be included in surveys or final report as the semester will have just started.

Sustainability

Personnel in the project will continue to be paid by Reynolds Community College. No additional personnel are anticipated to be added.

Over time, we will include in the Library budget replacement of the laptops. We will undertake this on a rolling basis after five years, replacing as many as we are able to given the constraints of our budget. We also have the ability to replace components of the laptops, therefore, gradually upgrading them over time as our budget allows.

The Library staff plans to continue to follow the outcomes of these two digital divide programs beyond the grant program to ensure that these programs are still making an impact especially since we are looking at other programs focused on first-generation students.

Schedule of Completion

Year 1	Fall 2020				Spring 2021					Summer 2021		Fall 2021
9/1/2020	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug
Chapman Supervises grant project	[Solid blue bar spanning all months from Sept 2020 to Aug 2021]											
Chapman - Orders 45 Laptops & Laptop Cart	[Solid blue bar in Sept]											
Benson - Develops Student Technology Training Workshop	[Solid blue bar spanning Sept and Oct]											
Chapman - Plans short Library Research Overview	[Solid blue bar in Sept]											
Research analyst begins data collection design	[Solid blue bar spanning Sept, Oct, Nov, Dec]											
Laptop loan application designed		[Solid blue bar in Oct]										
From Student Information System - Research Analyst identifies first-gen students for laptop loan program			[Solid blue bar in Nov]						[Solid blue bar in May]			[Solid blue bar in Aug]
Laptop loan application sent to first-gen student emails with 2 week deadline				[Solid blue bar in Nov]					[Solid blue bar in May]			[Solid blue bar in Aug]
40 students with most need identified through a rubric				[Solid blue bar in Dec]					[Solid blue bar in May]			[Solid blue bar in Aug]
Chapman - Notifies selected students to pickup laptops and attend Technology Workshop					[Solid blue bar in Jan]				[Solid blue bar in May]			[Solid blue bar in Aug]
First-gen students borrow laptops					[Solid blue bar spanning Jan, Feb, Mar, Apr, May]					[Solid blue bar spanning June, July]		
Technology Workshops, Library Research Orientation & Tutoring Overview held					[Solid blue bar in Jan]				[Solid blue bar in May]			
Surveys sent out - email/ Student Information System					[Solid blue bar in Jan]				[Solid blue bar in May]	[Solid blue bar in June]		[Solid blue bar in Aug]
Survey Data Collected/Analyzed												[Solid blue bar in Aug]
One-on-one Technology Tutoring					[Star]	[Star]	[Star]	[Star]	[Star]			[Star] [Star]

Year 2	Fall 2021				Spring 2022					Summer 2022		Fall 2022	
	9/1/2021	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug
Chapman Supervises grant project	[Solid blue bar spanning all months]												
Research analyst evaluates year end data and assists with reporting	[Solid blue bar]												[Solid blue bar]
Chapman prepares year end and final reports	[Solid blue bar]												[Solid blue bar]
From Student Information System - Research Analyst identifies first-gen students for laptop loan program			[Solid blue bar]						[Solid blue bar]				
Laptop loan application sent to first-gen student emails with 2 week deadline				[Solid blue bar]					[Solid blue bar]				
40 students with most need identified through a rubric					[Solid blue bar]					[Solid blue bar]			
Chapman - Notifies selected students to pickup laptops and attend Technology Workshop					[Solid blue bar]					[Solid blue bar]			
First-gen students borrow laptops	[Solid blue bar spanning all months]												
Technology Workshops, Library Research Orientation & Tutoring Overview held	[Solid blue bar]					[Solid blue bar]				[Solid blue bar]			
Surveys sent out - email/ Student Information System						[Solid blue bar]				[Solid blue bar]	[Solid blue bar]		[Solid blue bar]
Survey Data Collected/Analyzed							[Solid blue bar]						[Solid blue bar]
One-on-one Technology Tutoring	* *	*	*			*	* *	* *	*				