Overcoming Technology and Access Barriers: Particularly for First-Generation & Underrepresented Students
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Travis Teetor  
Manager, Technology & Operations  
Access & Information Services  
University of Arizona Libraries  
tteetor@arizona.edu

Robyn Huff-Eibl  
Department Head  
Access & Information Services  
University of Arizona Libraries  
rhuffeib@arizona.edu
UA STUDENTS

74% first-generation students

Pell Grant eligibility:
- 40% of the total UArdona undergraduate students were eligible or received assistance

Sources:
- Fall 2022 data, https://uair.arizona.edu/content/enrollment
- UA NTIA CMC 2021 grant application
In 2019 the median household income in Tucson was $43,425.

The poverty rate in the Tucson Metropolitan Statistical Area (MSA) was 16.8%.

Tucson 11th among 12 western MSAs.

Source: U.S. Census Bureau American Community Survey (ACS)
TECHNOLOGY BARRIERS
ACCESS

• 70% of students reported that not having access to a reliable internet connection was a barrier to their success over the course of the year

• 1 in 3 students faced limited internet access

• 2 in 10 students reported that a lack of access to technology or software reduced their ability to perform well in classes delivered online

Sources:
• Spring 2021 “Basic Needs” survey of UA students, UA Office of Assessment and Research
• Fall 2020 survey of students on the impacts of COVID-19
INITIAL LIBRARY PARTNERS

- Hispanic Serving Institution Initiatives
- Native American Initiatives
- Thrive Center
- Arizona Science, Engineering, and Math Scholars
PARTNERSHIP SUCCESS

• HSI CARES Act, donor, and matching funding expanded laptops from 300 to 1,208 (300% increase)

• Donor/matching funding established Wi-Fi inventory of 173 hotspots

• Increased inventory allowed us to reach more students and experiment with longer loan periods.

• 27 referrals for students in desperate need, including shipping tech bundles to reservations.

• Invited to collaborate on additional grants, including a possible corporate sponsorship.

• Experiencing new partners reaching out (e.g., Disability Resource Center and Arizona Near You Network).
BORROW TECHNOLOGY AT THE LIBRARIES

library.arizona.edu/tech/borrow

WHO can borrow technology and equipment from the Libraries?

Students enrolled at the university can borrow technology. It’s first-come, first-served and you need your CatCard.

WHAT can I borrow?

Check online to see what’s currently available and how long you can borrow it. Some items are in high demand. We have:

- Laptops
- Tablets
- Cameras & webcams
- Scanners & accessories
- Maker tools
- Audio/visual equipment
- WiFi hotspots
- Cords & chargers
- Projectors
- Calculators
- Drives & readers
- VR kits

Full list on website

Most popular
<table>
<thead>
<tr>
<th>Material Type</th>
<th>Quantity</th>
<th>Unique Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D Scanner</td>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td>Accessories/Cables</td>
<td>679</td>
<td>2,780</td>
</tr>
<tr>
<td>Audio Recorder</td>
<td>70</td>
<td>219</td>
</tr>
<tr>
<td>Calculator</td>
<td>192</td>
<td>1,804</td>
</tr>
<tr>
<td>Camera - 360</td>
<td>5</td>
<td>65</td>
</tr>
<tr>
<td>Camera Accessory</td>
<td>110</td>
<td>473</td>
</tr>
<tr>
<td>Camera - Digital</td>
<td>65</td>
<td>673</td>
</tr>
<tr>
<td>Camera - Go Pro</td>
<td>12</td>
<td>103</td>
</tr>
<tr>
<td>Camera - Video</td>
<td>34</td>
<td>278</td>
</tr>
<tr>
<td>Camera - WebCam</td>
<td>35</td>
<td>218</td>
</tr>
<tr>
<td>Headphones</td>
<td>151</td>
<td>1,308</td>
</tr>
<tr>
<td>Laptop</td>
<td>1295</td>
<td>6,156</td>
</tr>
<tr>
<td>Portable Recording</td>
<td>2</td>
<td>41</td>
</tr>
<tr>
<td>Studio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projector</td>
<td>22</td>
<td>321</td>
</tr>
<tr>
<td>Tablet</td>
<td>49</td>
<td>590</td>
</tr>
<tr>
<td>Technology Kit</td>
<td>40</td>
<td>332</td>
</tr>
<tr>
<td>WiFi Hotspot</td>
<td>173</td>
<td>734</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2919</strong></td>
<td><strong>N/A</strong></td>
</tr>
</tbody>
</table>
UA Libraries – Laptop Use
Jan ‘20 – Dec ‘21

Laptop loans by group

- White: 36.12%
- International: 15.84%
- Hispanic or Latinx: 25.01%
- Black or African American: 8.28%
- Asian: 7.92%
- American Indian or Alaska Native: 3.88%
- Native Hawaiian or Other Pacific Islander: 0.62%
## UA Libraries – Equipment Use
Jan ‘20 – Dec ‘21

<table>
<thead>
<tr>
<th>Material Type</th>
<th>American Indian or Alaska Native</th>
<th>Asian</th>
<th>Black or African American</th>
<th>Hispanic or Lantinx</th>
<th>International</th>
<th>Native Hawaiian or Other</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessories</td>
<td>109</td>
<td>473</td>
<td>227</td>
<td>1105</td>
<td>929</td>
<td>33</td>
<td>1307</td>
<td>4183</td>
</tr>
<tr>
<td>Audio Recorder</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>1</td>
<td>0</td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td>Calculator</td>
<td>39</td>
<td>94</td>
<td>63</td>
<td>286</td>
<td>199</td>
<td>11</td>
<td>295</td>
<td>987</td>
</tr>
<tr>
<td>Cameras/Webcams</td>
<td>19</td>
<td>41</td>
<td>38</td>
<td>145</td>
<td>104</td>
<td>3</td>
<td>210</td>
<td>560</td>
</tr>
<tr>
<td>Headphones</td>
<td>26</td>
<td>73</td>
<td>46</td>
<td>265</td>
<td>327</td>
<td>3</td>
<td>304</td>
<td>1044</td>
</tr>
<tr>
<td>Laptops/Tablets</td>
<td>215</td>
<td>435</td>
<td>472</td>
<td>1464</td>
<td>979</td>
<td>37</td>
<td>2061</td>
<td>5663</td>
</tr>
<tr>
<td>Projector</td>
<td>7</td>
<td>8</td>
<td>6</td>
<td>35</td>
<td>29</td>
<td>1</td>
<td>57</td>
<td>143</td>
</tr>
<tr>
<td>WiFi Hotspot</td>
<td>46</td>
<td>41</td>
<td>18</td>
<td>236</td>
<td>116</td>
<td>13</td>
<td>139</td>
<td>609</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>461</td>
<td>1167</td>
<td>875</td>
<td>3546</td>
<td>2684</td>
<td>101</td>
<td>4383</td>
<td></td>
</tr>
</tbody>
</table>
## Count of unique users by group

<table>
<thead>
<tr>
<th>Race/Ethnicity Reporting Description</th>
<th>Distinct count of Unique Users</th>
<th>% of Total Distinct count of Unique Users along Race/Et..</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaska.</td>
<td>221</td>
<td>3.57%</td>
</tr>
<tr>
<td>Asian</td>
<td>514</td>
<td>8.30%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>382</td>
<td>6.17%</td>
</tr>
<tr>
<td>Hispanic or Latinx</td>
<td>1,636</td>
<td>26.41%</td>
</tr>
<tr>
<td>International</td>
<td>882</td>
<td>14.24%</td>
</tr>
<tr>
<td>Native Hawaiian or Other.</td>
<td>51</td>
<td>0.82%</td>
</tr>
<tr>
<td>Not reported</td>
<td>200</td>
<td>3.23%</td>
</tr>
<tr>
<td>White</td>
<td>2,308</td>
<td>37.26%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>6,194</td>
<td>100.00%</td>
</tr>
</tbody>
</table>
Feedback From Students

4,463 Surveyed; 663 Responses:

- 34% of survey; 27% responses White
- 25% of survey; 23% responses Hispanic/Latinx
- 9% of survey; 9% responses Asian
- 5% of survey; 4% responses Black or African American
- 4% of survey; 5% responses American Indian or Alaska Native; Native Hawaiian or Pacific Islander
- 27% of survey; 26% responses are first-generation college
Feedback From Students

Image: Main Library, Student Success District

- Complete daily Coursework - 360
  - 61
- Finish a specific assignment or project - 342
  - 89
- Temp. replace lost, broken or forgotten tech - 270
  - 35
  - 18
Feedback From Students

- I do now own all the technology required to complete my coursework - 217
- I have limited/no internet access - 100
- I have limited access to power to charge devices - 53

- Total students: 374
- 26 students have all the technology required and no internet access.
- 11 students have limited/no internet access and limited access to power.
- 8 students have limited/no internet access and limited access to power to charge devices.
- 6 students have all the technology required, limited access to power, and limited access to power to charge devices.
- 251 students have all the technology required and internet access.
- 35 students have limited/no internet access but do own all the technology required.
- 12 students have limited access to power but do own all the technology required.
- 14 students have limited internet access, limited access to power, and limited access to power to charge devices.
Feedback From Students

Technology barriers:

- Do not own technology required to complete my coursework: 217
- Limited/no internet access: 100
- Limited access to power to charge devices: 53
- My living environment is not conducive to using technology: 37
- Do not understand how to use the technology required to complete my coursework: 27
- Other: 28
- I do not have any barriers: 207
Student Stories

Tech Survey User Story Summary

- Working while mobile/offsite
- Supports research
- Stress-reliever, reassuring, life-saver etc.
- Needed software
- Internet connection weak/none
- Unmet needs
- Tech essential to coursework, success
- Tech lending supports or enables academic success
- Happy with library/tech lending/staff
- High cost/affordability
- Personal tech items broken/unavailable
I made several personal games throughout the years, and I’ve been interested in creating a VR game. I was able to rent the VR kit from the library.

Undergraduate Student
In order to succeed in my Intro to Photo Concepts class, I needed access to a DSLR camera – a camera I don’t have and cannot afford to purchase. With the technology-lending resources of the library, I was able to check out a small Nikon camera, enabling me to complete my course work to a high degree of quality and succeed in the class.

Undergraduate Student
I was able to borrow a GoPro camera to document an outdoor experience and create a film for a class assignment. This equipment is not something I would have been able to afford otherwise, and I made an awesome project as a result of my access to it!

Graduate Student
I am an online MBA student, and my laptop broke. I cannot afford a new computer due to rising inflation and technology costs. UA allowed me to borrow a computer and continue my education.

Graduate Student
As an international student everything is expensive for me, and I work two jobs to make ends meet. The ability to borrow from the library for free eases some of the financial burden on me and my family.

Graduate Student
Due to financial issues my family was unable to afford a laptop for me to complete MATH100. When I thought I had no option, I was elated to hear how many laptops the library had available for students. Without it, I wouldn’t have been able to complete my coursework.

Undergraduate Student
I live on a ranch where the internet is spotty. I have to commute an hour a day to go to school. With the hotspot, I was able to quickly download software necessary for classes, projects, and assignments.

I also borrowed a graphing calculator since I can’t afford it.

Undergraduate Student
My daughter’s lung collapsed but I had a paper due. I rented a laptop and headed to PHX Children’s Hospital.

Graduate Student
I live in an apartment where the Wi-Fi is not great, and the upload speed is very poor. I was almost close to missing the deadline for homework submission when I tried to submit the assignment 10 minutes before the deadline and the file size was nearly 50MB. I started borrowing a hotspot and it is really helpful. Thanks.

Graduate Student
My family has no internet at our house near the edge of town. This became a huge strain on me. I needed to have access to the internet to complete my assignments, and I couldn't keep parking at McDonalds and using the internet there.

Undergraduate Student
I was homeless for over a year (first 3 semesters). I did not always have access to Wi-Fi. I borrowed technology multiple times to help me complete and even attend class. As a non-traditional student, I also have to work and provide for my family. Having access to the Wi-Fi and laptop allowed me to continue engaging in my courses and studying.

Undergraduate Student
INSPIRATIONAL STUDENT WORDS

I come from a low-income family where without scholarships and lending of things, I would not be able to attend. I bought my school iPad with my graduation money, after checking syllabi, none of them said mine was not able to be used. I walked into math and learned otherwise. I was stressed about being able to buy a new laptop for this one class.

Undergraduate Student
I am a mother of five, one being too young for school and with the price of daycare it is more cost efficient for me to stay home with him. Instead of letting times pass me by while being a stay-at-home mom, I decided to use this as chance to finish my education. Thankfully for the school's computer lease program this has been possible. It allows me to do work on my time while still being the mother my kids need.

Undergraduate Student
Feedback From Students

Unmet Needs:

• Larger inventory
• Training/support for high-end technology
• Training for different user levels
• Longer loan periods
• More check-out locations
• Newer models
• Marketing to inform students
FUTURE PLANS

• Lower costs/improved hotspots (e.g., Verizon vs. T-Mobile)
• Partnership training opportunities (e.g., Adobe and campus IT)
• Donor endowment development
• Additional grant funding to increase inventory for new and expanded partnerships:
  o Native Soar
  o Arizona Near You Network
  o Think Tank VR and New Start
  o HSI Consortium Evidence Based Practices Application
  o Office of Scholarships & Financial Aid
  o Disability Resource Center Brailler
Questions?

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