A pilot to examine the financial impacts on students of the 1-week and 1-day laptop lending program at Oregon State University Libraries and Press (OSULP)

Report by M. Brooke Robertshaw, PhD

30 May 2019

Purpose of this report

1. To estimate how much money students are saved by the 1-week and 1-day laptop lending program at OSULP
    a. To estimate, by different demographics, how much money students are saved with the 1-week and 1-day laptop lending program.
2. As a pilot, this report is used to report out the methodology used to estimate the monetary impacts of the laptop lending program, with the potential to continue examining impacts of other equipment, and materials, developed and loaned by OSULP.

Executive Summary

- When factoring in replacement cost and 35% of the salary and OPE of the laptop loan program manager (LLPM), the laptop loan program at OSULP, when examined by cost per loan period, is a low cost way to provide much needed resources to the OSU Community, especially our students.
- The other indication is that this program is able to save our students quite a bit of money, and, in this time of skyrocketing costs to attend American colleges and universities, this savings can serve as an important factor in helping students to continue, and finish, their university degrees.

Table 1. Numbers used to figure cost and savings of the laptop loan program (not including long-term laptops), Winter 2018 – 3 May 2019

Item	Replacement Cost	Replacement cycle	Total cost (Replacement cost + 35% of Laptop manager's salary + ope)	Cost per loan period	Savings per use, based on replacement cost (Replacement cost – Cost per loan period)	Total savings per use (Total cost – Cost per loan period)
Valley Laptops - 1 Week Dell Latitudes	$1400	4 years	$1612.60	$7.73	$1392.27	1604.87
Valley Laptops - 1 Day HP Chromebooks	$750	3 years	$962.60	$0.88	$749.12	$961.72
Valley Laptops - 1 Week Chromebooks	$750	3 years	$962.60	$6.15	$743.85	$956.45

Table 2. Totals, by laptop type, of cost and amount saved Winter 2018 – 3 May 2019

Item	Number of checkouts & returns included	Total cost by loan period	Total saved (only replacement cost)	Total saved (replacement cost + 35% salary/ope of LLPM)
Entire program	4612	$10,453.	$3,820,346.96	$4,800,858.16
1-day Chromebook	3570	$3,138.34	$2,674,361.66	$3,433,343.34
1-week Chromebook	470	$2,892.20	$449,529.80	$349,607.80
1-week Dell Latitude	572	$4,422.50	$917,984.70	$796,377.50

Methodology

Data collection.

Time frame of data
Winter 2018 - 3 May 2019. The data does not reflect the same number of items loaned and renewed because:

a) There were files of current items out that were corrupted
b) Not everyone who checked items out are students. This material only covers students.
c) There were days when a file of current items out was missing. This may have been due to me accidentally deleting the file from my email or ALMA not sending it.

Items checked out
Information about the physical items currently checked out is sent to Brooke every day. Included in this report is the person's OSU ID number.

[redacted]
Information about data redacted from this report.

Replacement cost
Gotten from ALMA on advice from Lori Hilterbrand

Lifecycle: Conversations with Lori Hilterbrand

1. Dells: Lifecycle is approximately 4 years - that is the life of the warranty
2. Chromebooks: per Lori Hilterbrand, they work to replace ⅓ every year, so 3 years.

The replacement cost is divided by years (3 or 4) days (365) then hour (24) to get an idea of cost per hour just by replacement cost.

Number of laptops
Found in alma using:
Physical items - Number of items (deleted and in repository)
+ Title - filtered to: any title that indicates a physical laptop
+ Lifecycle = active

Student body numbers
Because this is a pilot, the number per college was figured from the institutional research office numbers from Spring 2018. While this might seem to be cutting corners, once this project moves from a pilot actual numbers of students from each quarter will be used. Spring 2018 was selected for 2 reasons – it is somewhat in the middle of the time period and enrollments have have dropped from their fall quarter high – both for the entire university and for the College of Engineering – the largest single college of Engineering. The lowest numbers have been selected as to err on the side of underestimation of representation rather than overrepresentation of representation by college.

Cost figuring.
Staff cost & expenditure per laptop
Percentage of time allotted to the equipment x salary + OPE.

1. Spoke with Laptop Loan Program Manager (LLPM). They spend approximately 10-15 hours of her week on the Laptop program, so I have added her salary + ope from 2017-2018 and taken 35% of that, to come up with an approximate salary cost for the laptop loan program.
2. I then multiplied 35% of the LLPM's 2017-2018 salary & OPE (21089.47 -2017-2018) by 5, because that's how many fiscal years are indicated, in ALMA, to have laptops either active or deleted. I have then divided that number by the approximate number of laptops we currently own to come up with a staff cost per laptop.
    2a. Ultimately I'd like to have exact salary & OPE for each year for the LLPM *35%, divided by the number of laptops had in that year)
3. I then added that to the replacement cost of the item.
4. This was then divided by the life cycle in years (3 or 4) days (365) then hour (24) to get an idea of cost per hour just by replacement cost + staff time.

Numbers figured

1. Total cost if each checkout were to cost the cost of the replacement.
2. Total amount per year—> Replacement cost + (LLPM's salary * 5) / Years until replacement (as gotten from Lori Hilterbrand)
3. Total amount per day —> Replacement cost + (LLPM's salary * 5) / Years until replacement (as gotten from Lori Hilterbrand) / 365
4. Total cost for time indicated in title as length of checkout (Replacement cost + (LLPM's * 5))/ ((Years until replacement (as gotten from Lori Hilterbrand) / 365) * number of days in the checkout)
5. Total savings per use = Replacement cost - (Total cost for time indicated in title as length of checkout (Replacement cost + (LLPM's * 5))/ ((Years until replacement (as gotten from Lori Hilterbrand) / 365) * number of days in the checkout))

What these numbers don't include

1. Circulation desk staff time: checking laptops in and out
2. Circulation desk staff time reimagine laptops every time they are checked out
3. Cost of any software
4. Lib staff time spent on publicity for the program & answering questions about the program (outside of LLPM)
5. Laptop program intern time
6. Dave Manela time
7. CN time
8. Other admin time beyond the LLPM
9. The exact salary+ope for the manager of the laptop loan program
10. The number of 6-hour laptops because I was unable to get this out of ALMA. I will follow up with Lori Hilterbrand after the quarter is over in order to understand why I could not find that in ALMA. Once those numbers are figured in, the cost per laptop will go down, but savings for students will go up as they are a part of this timeframe.

Results

Costs & savings for each item included in this pilot

Table 1. Numbers used to figure cost and savings of the laptop loan program (not including long-term laptops), Winter 2018 – 3 May 2019

Item	Replacement Cost	Replacement cycle	Total cost (Replacement cost + 35% of Laptop manager's salary + ope)	Cost per loan period	Savings per use, based on replacement cost (Replacement cost – Cost per loan period)	Total savings per use (Total cost – Cost per loan period)
Valley Laptops - 1 Week Dell Latitudes	$1400	4 years	$1612.60	$7.73	$1392.27	1604.87
Valley Laptops - 1 Day HP Chromebooks	$750	3 years	$962.60	$0.88	$749.12	$961.72
Valley Laptops - 1 Week Chromebooks	$750	3 years	$962.60	$6.15	$743.85	$956.45

Total costs & savings

If you look at how much money students are saved, during the 2017-2019 time period, only by loan period (so, summing up all the loan periods), the amount the Library Laptop Program (minus the long term laptop program) isn't very high - $10,453 for 4612 loans and renewals during this time period. This is because the library is able to keep costs incredibly low per laptop and per loan period.

When we look at how much the library laptop program saves students, the number increases greatly. The total amount saved, if *just examining the replacement cost of the item*, the program has saved students $3,820,346.96. If we factor in 35% of the Laptop Loan Program Manager's (LLPM) salary + OPE (plus replacement cost) the amount saved students increases to $4,800,858.16. These numbers indicate that the program is incredibly cost effective, as evidenced by the total cost per loan period (it is extraordinarily unlikely that students could rent a laptop for as little as $6-$7/week, or $0.88/day), and saves students a lot of money. Obviously if we factor in the cost of the software on each machine and the staff time (Community Network and/or OSULP) the cost per use will increase, but so will the amount saved by students.

Table 2. Totals, by laptop type, of cost and amount saved Winter 2018 – 3 May 2019

Item	Number of checkouts & returns included	Total cost by loan period	Total saved (only replacement cost)	Total saved (replacement cost + 35% salary/ope of LLPM)
Entire program	4612	$10,453.	$3,820,346.96	$4,800,858.16
1-day Chromebook	3570	$3,138.34	$2,674,361.66	$3,433,343.34
1-week Chromebook	470	$2,892.20	$449,529.80	$349,607.80
1-week Dell Latitude	572	$4,422.50	$917,984.70	$796,377.50