2016 Innovation Mini-Grant – FINAL REPORTING

This form is required for your Innovation Mini-Grant. Please feel free to add any attachments regarding your project. Photos and videos are especially welcome.
If you have any questions, or need any help completing this form, please contact Amy Schutter, Director of Grant Development, at 242-7713 or aschutter@shastacollege.edu.
Please submit this completed form to the Office of Grant Development no later than **February 28, 2018**.

Thank you for your support and dedication to innovation at Shasta College!

Project:	Student-Centered Classroom Technology (actually should now be titled something like: Tablet Computers for 'Untethered' Teaching, since a couple of grant proposals were modified and merged)	Grant No.:	2016-03
Grantee(s):	Mark Blaser		

Section 1: Narrative

1. What were the key activities of this grant?

- Purchase two iPad Pro tablets and use these for untethered teaching in STEM classes.*
- Evaluate the effectiveness of this method compared to the traditional method of having the instructor control classroom presentation of material.
- Share findings with other instructors and hopefully create a 'community of practice' using this method.
- Identify positive aspects of this method, potential pitfalls for future adopters, and ways this method can be scaled and supported.

* Note: One iPad Pro has already been purchased via this grant and used extensively (by Mark Blaser). This allowed another instructor (Tom Glass) to use a 'loaner' iPad Pro that was available via the Center for Excellence in Learning and Teaching. The second iPad Pro that was to be purchased via this grant has still (!) not been received or implemented, so some of the goals of this grant could not be fully evaluated yet (please see more complete explanation in Question 4 below).

2. What aspects of the activities and/or grant were successful?

- Ability to 'untether' from the lectern computer and move freely about the class to interact with students, check on progress of student groups, etc.
- Ability to write on 'lecture' slides on the tablet to point out important features, illustrate key ideas, demonstrate problem solving, etc.
- Ability to save annotations on the 'lecture' slides and then post them for students to view after class.

3. How was/is this grant beneficial to Shasta College students?

- Students/student groups were able to more easily interact with instructor during class, to receive immediate feedback on their work, have their questions answered, etc. This has been working very well in the classes taught by the instructor using this method. Increased student engagement is very obvious, and there is some data indicating improved student learning outcomes (though it is difficult to isolate the specific effect due to this grant, with multiple potentially effective interventions being used simultaneously).

4. What aspects of the activities/and/or grant were challenging?

Working with the IT department / technology issues!

- It took months to receive the tablets initially – this should be able to occur within days, if not hours.
- The iPad Pro connection to the lectern computer via Apple TV was cumbersome and frequently would lose the connection, and the projected image could not be adjusted to fill the entire screen. Ultimately I had to purchase and install software on the lectern computer myself (AirServer), which solved the problem. Faculty should not have to fight with IT to have their desired method used, and should not have to purchase the software themselves.
- Once received months after it was ordered, one of the tablets did not work properly (Surface Pro pen did not work), and it took months to get that resolved.
- Eventually permission was granted to have the Surface Pro replaced with an iPad Pro, and that iPad Pro has still not been received, despite having been ordered months ago. Again, this should be able to be completed within a few days.
- The original order was for one iPad Pro and one Surface Pro, in order to directly test and compare their relative abilities to perform the functions instructors want and need. Since a working Surface Pro was never available during the entire duration of the grant cycle, this comparison was never able to be performed.
- When this grant was first applied for, there were quite a free few apps that were pretty good (though with some limitations) for creating screencasts to explain class material/concepts, and work through answers to questions/problems. These apps now either have less features and/or have become more expensive. This required me to spend my own money to buy the appropriate apps, since those were not budgeted for.

5. What, if anything, would you do differently if you could do this over again?

Buy the tablets without going through IT.
Budget some $$$ for applications.

6. Please provide any data you have obtained regarding this project, whether reflecting success or otherwise. (Consult the Research Office if you need assistance with data collection.)

Lots of data that potentially pertains to this intervention has been collected. However, as previously mentioned, almost all of the data is also potentially affected by other teaching and learning innovations that have been implemented in my classes. (Also, this data has not been fully analyzed yet – that is going to be a pretty big job!)

A few results are already clear:
I went from 0% (well, not really 0%, but pretty darned low) to 100% in terms of ability to move around the classroom (1425 lecture hall) and interact with the students while still having the ability to control and write on the tablet, and from pretty close to 0% to almost 100% in terms of ability to annotate 'lecture' slides (lectern computer can be used for very rudimentary writing using the mouse).
Also, the tablet allows the teacher to much more easily control multiple applications on a single device. This is supposed to be even easier with the new iPad Pro, and that will be tested once that has been received.
*Note: Lecture classrooms are not currently designed well for this kind of teaching and learning. I have been able to mitigate this to some extent by having students not sit in certain rows, which allows me to interact with students/groups I would not be otherwise be able to access. The big hope is that someday in the not too distant future at least some lecture halls will be remodeled to better support a more active learning instructional model, which is known to (generally) be more effective than traditional methods.

7. If this project is scalable, please describe the method by which scaling up could take place, and which areas might benefit from lessons learned through this project.

This project is very easily scalable. The best way would be to simply issue the desired type of tablet to each individual instructor who would like to teach this way. (That would be the hope for the direction Shasta College goes, in conjunction with classroom remodeling using Measure H funding.)
How to connect and mirror the tablets has already been worked out, and there are now teachers who are experienced with this method of instruction who could help others get started.

Section 2: Demographics

Please complete the following table which tells Shasta College about who you served with this grant.

Category	Unduplicated Number Directly Served	Unduplicated Number Indirectly Served (estimated)	Notes
SC Faculty	2	3 so far?	Directly: Mark Blaser and Tom Glass Indirectly: Divan Fard, Tim Shelton, Randy Bush (via 2017 Innovation Grant that at least partially stemmed from the idea for this grant)
SC Students	400?	???	Directly: Mark's and Tom's classes Indirectly: Divan's, Tim's and Randy's classes
SC Campus (in General)	Same as above	Same as above	
Other Constituents	50?	???	Chemistry and active learning colleagues nationwide who have been exposed to this at Creative Teaching Strategies and Active Learning Leaders Conferences (and more)

Section 3: Project Expenditures

BUDGET ITEM	DESCRIPTION	TOTAL
SUPPLIES		
Bookstore Vouchers		
Textbooks		
Printing		
Supplies & Materials		
Event Refreshments		
Capital Outlay		
Equipment		
TRAVEL		
Transportation (Student Field Trips)		
Field Trip Expenses		
STAFFING		
Faculty Stipends		
Faculty Stipends - Associated Benefits	18.1% multiplied by Stipend Amount	
Temporary Employee Costs		
Temporary Employee Costs - Associated Benefits	10.0% multiplied by Temporary Employee Costs	
Student Worker Costs		
Student Worker Costs - Associated Benefits	2.1% multiplied by Student Worker Costs	
Contracted Work		
OTHER		
iPad Pro (1st one)		~$1500
iPad Pro (2nd one)	Still has not been received (!)	will be ~$1500
	TOTAL EXPENDITURES	**Eventually ~$3000**