CFAC Report on Student Learning Fee Award Year 2018-2019 and Recommendations for 2020-2021 Allocations

Following the new Student Learning Fee (SLF) allocation process established in 2018, the Campus Fee Advisory Committee (CFAC) has reviewed the summary reports on SLF outcomes for 2018-2019 submitted by each head (college deans, Vice President for Student Affairs, CFAC Chair). The following summarizes those reports and provides recommendations for 2020-2021 allocations. Please see the summaries that follow this report for detail on each unit’s use of SLF funds.

SLF Award Outcomes and Funding Priorities

Across the University, SLF funds provided (1) instructional support and peer mentoring, (2) technology purchases and upgrades, (3) support for high impact practices including public sphere pedagogy, and (4) co-curricular learning experiences, including field trips and financial literacy clinics. Multiple awards funded success initiatives for historically underserved student populations. We noted an increase in technology investments in the Colleges of Communication and Education and Humanities and Fine Arts, reflecting the use of SLF monies in these units to support programmatic innovation.

The unit summary reports provided a range of data showing the effectiveness of SLF projects. While some projects were not yet completed and assessable and other outcomes were only described very generally, we did not identify any areas of concern for the appropriate use of these monies.

The unit summary reports also provide a useful forecast of priorities for future SLF allocations. Additional support for learning assistants of various types and laboratory equipment remain critical needs, but multiple units also indicated a desire to support experiential learning, research and creative activities, high impact practices, and personal and professional development. As hoped, requiring unit heads to project these priorities in their annual summaries appears to be driving intentional and strategic use of SLF funds.

Recommendations for 2020-2021 Allocations

The process enacted last year allocated 80% of SLF monies to the seven colleges, 10% to Student Affairs, and 10% to CFAC for cross-college and non-college based academic proposals. Based on the 2018-2019 unit summaries we recommend maintaining this apportionment for the 2020-2021 award year.

Across the academic colleges, we recommend a modest adjustment to the allocation made for award year 2019-2020, which was based on the average of awards for the prior three years. The College of Communication and Education (CME) received 8% of the $1.36 million allocated to the colleges, while it generates 16% of campus-wide FTES. Additionally, in past years CME made relatively fewer requests for SLF funding, resulting in smaller awards that in turn established low baseline funding. The recent significant increase in funding requests from CME has resulted in a high level of unmet need (59% for 2019-2020). We recognize that some colleges have greater need than others for expensive laboratory equipment and technology needs; the Colleges of Engineering, Computer Science and Construction Management (ECC), Agriculture (AGR), and Natural Sciences (NSC) have historically and justifiably received a percentage of SLF funds significantly higher than their share of FTES. But as the College of CME increasingly invests in the sophisticated technology needed to support its programs (e.g. Autism Clinic, Special Education, Exercise Physiology Lab, and the Media, Entertainment, and Technology Collaborative), a slight increase in its allocation
is justified. (The same could be said for Humanities and Fine Arts’ notable recent investments in digital technologies across its programs, but the SLF allocation is currently well aligned to FTES in HFA, at 15% and 16% respectively.)

To correct this inequity, we recommend an increase of 2% in CME’s portion of the funds allocated to the colleges (from 8% to 10%), with a corresponding reduction to other colleges proportional to their allocation.

The unit summary reports begin on the following page.

Respectfully submitted,

Kate McCarthy, Chair
Campus Fee Advisory Committee
Please provide the broad types of projects funded by SLF:

- Instructional Support
- Materials/Technology

STUDENT LEARNING OUTCOMES: Describe the primary impacts to student learning outcomes that the SLF investments had in your unit. Please include relevant data to support your claims.

Our college focuses on experiential and laboratory opportunities that extend learning beyond textbooks and lectures. Subject matter in Agriculture, by nature, requires additional resources to meet these goals. Student Learning Fees have been critical in accomplishing our mission. This past year we had six projects funded with five involving equipment purchases that have been and will be used in laboratories with a life expectancy of 10 to 30+ years. Three projects included needed equipment to meet OSHA, USDA, and FSMA (Food Safety and Modernization Act) standards and regulations. Set-up of usage was delayed in three projects and completed late in the academic year for a variety of reasons such as damaged equipment that needed to be returned, installation, regulatory requirements, etc. Specific Learning Outcomes are incorporated into course outcomes. Projects involving equipment purchases will have a lasting effect and will be used in approximately 20 courses affecting the learning opportunity of near 1000 students annually. One project involved experiential learning field trips. Forty-three field trips were conducted ranging from 1 to 5 days in duration impacting 1073 students. These experiences have been deemed critical in exposing students to career opportunities and enhancing their educational experience in agriculture. Surveys conducted indicate valuable impact on student learning and career opportunities.

COLLABORATION (If applicable): How did your use of SLF enhance our campus’s ability to engage in collaborative work? What challenges, if any, did you encounter in bringing interdisciplinary projects to fruition?

These funds helped students work collaboratively in a laboratory environment. These funds do not necessarily enhance the campus's ability to engage in collaborative work.

SUSTAINABILITY: Going forward, what are your plans for funding these projects?

Most of these projects involved equipment purchases that have a life expectancy of 10 to 30+ years. Funding for supplies, updates and future equipment needs will be needed to sustain our programs. The college will continue its effort to fund these needs and experiential learning opportunities such as field trips though multiple avenues including annual fund raising, SLFs, course fees, and operating dollars. Prioritization will focus on the benefits to student learning and success.

SUSTAINABILITY: Going forward, what are the programmatic priorities for your unit that SLF might support?

Future programmatic priorities for SLF support focus on enriching the educational experience and success of students. Priorities include experiential learning opportunities that can be conducted in a safe environment. Program areas include learning experiences outside the classroom (educational travel, field trips, undergraduate research, etc.), laboratory support (specialized Agriculture equipment, supplies, consumables, safety equipment, computer software, etc.), and student support (peer advising, success center tutoring, laboratory assistants, etc.) We impact every student in the College of Agriculture.

SUSTAINABILITY: Going forward, what other funding sources are you planning to pursue to support these priorities?
We have had success in securing partial funding for some of the above programmatic priorities, but fall short of our need because of growth in student numbers and the diversity, depth and innovation in agriculture. We also have other funding priorities to fund including scholarships, capital projects, and research that enable student success.

If you would like to include an attachment, please do so here.
None
Please provide the broad types of projects funded by SLF:

- Instructional Support
- Materials/Technology
- Co-curricular Learning Experiences

STUDENT LEARNING OUTCOMES: Describe the primary impacts to student learning outcomes that the SLF investments had in your unit. Please include relevant data to support your claims.

The SLF investments in BSS can be broadly divided into three categories:

1) materials to facilitate/increase student learning;
2) funding for high-impact practices (HIPS), and;
3) funding for programs aimed to increase student retention and persistence.

Materials: Matt O’Brien and Sally Anderson’s projects both facilitated/increased student learning. For Matt, the SLF funding was used to provide logistical support to a new archaeology field school. There were 15 students enrolled in the program, and over half of the students are from CSU, Chico. Because of the SLF, we were able to price the field school at a lower rate than competing programs in the country making for an affordable, but high impact learning opportunity. For Sally’s two projects, the Community Legal Information Clinic (CLIC) received funding for new computers in 25 Main Street, as well as money for postage and office supplies to communicate with clients who do not live in the area. We were able to replace our outdated computers throughout the year. We also received permission to use some of the funds for a scanner. Now all of CLIC’s computers in 25 Main Street have been replaced. According to our student statistics, CLIC enrolled 208 students for the AY 2018/19. Those students earned 740 course units. They completed 28,440 course hours. While the final client service contacts are not yet complete, CLIC typically has about 10,000 client contacts per year.

HIPS: Much of BSS’ SLF funds went to support HIPS. Mahalley Allen had two supported projects. Town Hall is a best practice event and our model has been widely copied nationwide. The following are combined student survey results of the two Town Hall events this last AY:

- 92% agreed the Town Hall Meeting students were well prepared for the discussion
- 91% agreed the discussion among all participants was productive
- 95% agreed the Town Hall Meeting consultants contributed effectively to the conversation
- 92% agreed that the Town Hall Meeting is useful for sharing student ideas and involving campus and community members in a discussion of those ideas.

The students’ qualitative comments from both the fall 2018 and spring 2019 surveys provide strong evidence about the positive impact of the Town Hall Meeting program. Students reported their participation in the Town Hall Meeting program changed their intention to become involved in an organization, helped them understand the subject matter better, helped them gain knowledge and learn skills, gave them a new sense of empowerment, and gave them a new and positive view of others and education. Mahalley also received SLF funding to support the Department of Political Science and Criminal Justice Research Symposium. We planned our 2nd Annual Student Research Symposium for December 10th, 2018. Due to the impact of the Camp Fire and the closure of the University from November 8th through November 26th, we had much more limited participation in this fall’s event than anticipated. Several professors decided to not have their students participate because they did not have sufficient class time to conduct research. We were anticipating over 300 students would participate, but due to the Camp Fire, we only had 48 students participate. Despite the smaller number of participants, students still had a very positive event. After the research symposium, we distributed a survey to student participants to ask about their experience. The following are the survey results:
• 100% agreed the research symposium provided them an opportunity to present and discuss their research in a scholarly forum
• 100% agreed the students participating in the research symposium seemed well prepared to present their research poster boards
• 100% agreed the research symposium provided students an opportunity to network with peers and make connections with other students
• 100% agreed the research symposium was useful for learning how to effectively gather information, analyze data, summarize research findings, and present them to others.

Diana Dwyre received SLF funding offset student costs to participate in the California State University – Washington, DC. Internship Program. Five CSU, Chico students were funded to participate in one of the internship programs (run by CSU, Northridge). Funding was granted to assist with tuition, airfare and lodging for participation in a Washington, DC internship. We had proposed to support three students, but student interest was higher than we anticipated, and we are happy to report that we were able to assist five students in participating. Although each student received less funding than originally proposed, they were each awarded a substantial sum to help cover the costs of their participation in this outstanding professional experience. Student internship placements are assessed for their quality, relevance to each student’s field of study and interests, duties performed during the internship, and the number of hours of professional internship experience. All of our students secured outstanding internship placements: - Hessel Zwaagstra (spring 2019) - Congressman Mike Thompson of California (a CSU, Chico alum!) - Ben Savercool (summer 2019) - Congressman Doug La Malfa of California (CSU, Chico’s House member) - Nicole Desrochers (summer 2019) - Congressman Don Young of Alaska (a CSU, Chico alum!) - Emily Bruns (summer 2019) - Campaign Finance Consultants (a campaign consulting firm). Students who return to campus after their internships are asked to share their experiences with other students in forums and info sessions. Two of the students will be returning in fall 2019, and both have agreed to share their experiences and help recruit students for the 2020 internship year. Sally Anderson also received SLF funding for field trips for CLIC students. We had 139 students complete a fieldtrip survey out of 187 CLIC students in the spring and fall semesters. This was a 74% response rate. Over 70% of students said the field trip enhanced their internship experience. Almost 70% said the fieldtrip enhanced their academic classes. Of all the students who responded to the survey over, 90% recommended CLIC programs continue to plan field trips. The SLF supported HIPS are crucial to enhancing student learning. As we all know, not all learning occurs in the classroom and providing opportunities for students to engage in research, policy discussion, experience “real-life,” and learn from established professionals all creates a better learning experience.

Retention/Persistence: Ryan Patten received two SLF funding allocations. One allocation was for funding tutors/mentors at the BSS Student Success Center. The Center was staffed approximately 32 hours per week for 15 weeks each semester. For the entire academic year, there were 363 individual student visits, not including students using the space for supplemental instruction. Each visit lasted about an hour, so the Student Success Center was utilized for 360 hours (not including supplemental instruction). Approximately 14 different majors utilized the Center, including students from outside BSS. Master's students and on-line students also utilized the assistance in the Center. Ryan's second SLF funding allocation was a collaboration with the Student Learning Center for supplemental instruction (SI). The SI sections were used only for GE courses. In fall 18, there were three courses with SI: ANTH 111 (01), ANTH 111 (02), and POLS 155 (01). For ANTH 111-01, 39 percent of the class attended at least one SI session. The GPA difference for those attending at least one SI session was 0.5 higher. For ANTH 111-02, 33 percent of the class attended at least one SI session. The GPA difference for those attending at least one SI session was 0.7 higher. For POLS 155, 44 percent of the class attended at least one SI session. The GPA difference for those attending at least one SI session was 0.5 higher. There are broad metrics for Spring 19, but final analysis has not been conducted by the Student Learning Center yet. Combined for ANTH 111 (01) and POLS 155 (01) there were 231 students who combined for 649 visits. The combined attendance rate was 44 percent. Darin Haerle’s SLF funding is a
continuation of a joint proposal originated by Ryan Patten. The attempt was to target at-risk second year students in an attempt to increase their retention and persistence. After three years, the program has produced consistent positive indicators and should be expanded into other majors and possibly General Education. For this AY, we collected the program participants’ GPAs at the beginning and at the end of AY 18-19. Overall, the students’ average GPA increased from a 2.95 to 3.02. Out of the 25 students in this cohort, 18 of the students saw an increase in their GPAs during this academic year. Of the six most vulnerable students (students with GPAs of a 2.3 or less), five saw an increase. The results from analysis of the pre- and post-test survey data for this year’s cohort of students are listed below. These data display an improvement in the extent to which this cohort perceived social connectedness to their peers and to the campus community-at-large. These students experienced an overall increase in their levels of social confidence and the data indicates an overall increase in students’ satisfaction with the overall quality of instruction, availability of faculty in the classroom, respect shown for different or opposing viewpoints during this past year as a cohort, compared to their previous year at Chico State. Additionally, these students expressed an increase in satisfaction with the level of respect they felt from faculty and students during this academic year.

Table 1. Self-reported Student Experiences of Cohort 3 (2018-2019) Question Pre-test response Post-test response % change

- During the previous school year, to what extent did you feel connected to other students in your program and/or course? 32% quite or very connected 52% quite or very connected 21% increase
- During the previous school year, to what extent did you feel connected to the Chico State community? 27% quite or very connected 33% quite or very connected 6% increase
- How confident are you that you have the skills and abilities to succeed at Chico State? 86% very confident 86% very confident No change
- How confident are you that you will have the kind of emotional support from family and friends that you need? 82% quite or very confident 95% quite or very confident 13% increase
- How confident are you that you will fit in socially at Chico State? 45% quite or very confident 71% quite or very confident 26% increase Last year,
- How satisfied were you with your overall quality of instruction? 45% satisfied or very satisfied 62% satisfied or very satisfied 17% increase Last year,
- How satisfied were you with the availability of faculty outside of class? 32% satisfied or very satisfied 43% satisfied or very satisfied 11% increase Last year,
- How satisfied were you with the respect shown for different or opposing viewpoints? 32% satisfied or very satisfied 43% satisfied or very satisfied 11% increase
- Last year, how satisfied were you with the level of respect you feel from faculty? 41% satisfied or very satisfied 62% satisfied or very satisfied 21% increase
- Last year, how satisfied were you with the level of respect you feel from students? 18% satisfied or very satisfied 33% satisfied or very satisfied 15% increase Last year,
- How satisfied were you with your social experiences at Chico State? 27% satisfied or very satisfied 52% satisfied or very satisfied 25% increase
- Last year, how satisfied were you with academic planning/advising by faculty? 45% satisfied or very satisfied 57% satisfied or very satisfied 12% increase
- To what extent have your school experiences during the previous year contributed to your growth in writing effectively? 14% a lot 19% a lot 5% increase
- To what extent have your school experiences during the previous year contributed to your growth in giving effective presentations? 0% a lot 5% a lot 5% increase
- To what extent have your school experiences during the previous year contributed to your growth in participating in class discussions? 13% a lot 14% a lot 1% increase
- How important do you think diversity at Chico State is to your learning? 86% quite or very important 86% quite or very important No change
How much respect do you think there is for different backgrounds, perspectives, and lifestyles at Chico State? 63% quite or very important 71% quite or very important 8% increase

COLLABORATION (If applicable): How did your use of SLF enhance our campus’s ability to engage in collaborative work? What challenges, if any, did you encounter in bringing interdisciplinary projects to fruition?
One of Ryan Patten’s SLF funding allocations increased the collaboration between BSS and the Student Learning Center. There were no real challenges. The collaboration was successful and the two entities have increased the number of SI sessions from three to four next year – and targeted PSYC 100 and ECON 103, as well as ANTH 111, which have very high DFW rates and equity gaps.

SUSTAINABILITY: Going forward, what are your plans for funding these projects?
To our knowledge, there are no real other opportunities to fund most of these projects other than using one-time funds awarded by the University. When appropriate, BSS is partnering with Advancement to solicit financial support from our donors.

SUSTAINABILITY: Going forward, what are the programmatic priorities for your unit that SLF might support?
The programmatic priorities for BSS will be HIPS, lowering DFW rates and equity gaps, as well as increasing retention/persistence. Darin Haerle and Ryan Patten’s Second Year Student Success program has shown great promise. Attempting to scale the program to other units in BSS is the next task. Psychology, Child Development, Sociology, and Legal Studies are all potential opportunities. Based on the success of SI, supported by SLF funds, we will also continue SI in the Student Success Center.

SUSTAINABILITY: Going forward, what other funding sources are you planning to pursue to support these priorities?
When appropriate, BSS is partnering with Advancement to solicit financial support from our donors.

If you would like to include an attachment, please do so here.
None
Please provide the broad types of projects funded by SLF:

- Instructional Support
- Materials/Technology
- Co-curricular Learning Experiences

STUDENT LEARNING OUTCOMES: Describe the primary impacts to student learning outcomes that the SLF investments had in your unit. Please include relevant data to support your claims.

All extremely positive and made significant contributions to student success, and students' academic, personal, and professional development. The specifics are readily available in each report, which often includes specific metrics. Please see the SLF reports submitted for details.

COLLABORATION (If applicable): How did your use of SLF enhance our campus’s ability to engage in collaborative work? What challenges, if any, did you encounter in bringing interdisciplinary projects to fruition?

Many of the programs involved working with individuals and departments from other parts of campus. We have definitely made new and positive connections with other people and entities on campus. Through the SLFs Billy Harkness and Jenn Duggan have developed close relationships with folks in the SLC, REACH, admissions, the registrar and more. To implement the Business Learning Community we worked closely with housing and the math and econ departments. The implementation of Procotrio meant close work with ITSS. All in all, the collaborations have been quite positive for the faculty and staff working on these programs as everyone understands the bottom line is these programs are designed to facilitate student success.

SUSTAINABILITY: Going forward, what are your plans for funding these projects?

Nearly all of these are ongoing operations that need funding. We plan to seek private funding and have had some success here, but not a lot. In all likelihood, we will continue to rely on SLF funding.

SUSTAINABILITY: Going forward, what are the programmatic priorities for your unit that SLF might support?

Continuing to pursue student success initiatives that will give students special experiences that may not normally be supported by state funds. Focus is academic, personal and professional development of all students, while making special effort to develop programs that support the challenges of first generation and URM students. This includes a focus on high impact practices in and out of the classroom. For example, we are pilot testing a 2nd year peer mentoring class and if this is successful and grows it will need resources to survive.

SUSTAINABILITY: Going forward, what other funding sources are you planning to pursue to support these priorities?

We consistently tell our story and needs to stakeholders and solicit funds. For example, we have a professional attire fund (PAF) that in the past was supported by SLF dollars, but now a generous benefactor is supporting the program. We hope this model can be duplicated for other initiatives.

If you would like to include an attachment, please do so here.

None
Please provide the broad types of projects funded by SLF:

- Instructional Support
- Materials/Technology
- Co-curricular Learning Experiences

STUDENT LEARNING OUTCOMES: Describe the primary impacts to student learning outcomes that the SLF investments had in your unit. Please include relevant data to support your claims.

The primary learning outcomes that were directly impacted by our SLF investments were students' ability to be introduced to and effectively use new technologies to support their work in a variety of disciplines. For example, students working in the Autism clinic (Kinesiology) were able to use iPads to collect clinical data, credential candidates in Special Education were able to use iPads to development assignments and assessments using new communication apps (e.g., proloquo@go), assistive and instructional technologies (e.g., peardeck, kurzweil), as well as strategies for using iPads with appropriate AAC assessment switches. And while the students were not yet able to use the new equipment in the exercise physiology lab as it arrived too late in the semester, it will provide students with the ability to work on state-of-the-art equipment for research studies/interventions in exercise physiology. Across all our disciplines, students are increasingly being asked to use technology to apply their learning in field-based contexts relevant to their professions/industries. We could not provide these student learning opportunities without this additional support. Additionally, the SLF investments enhanced our students' ability for relevant and meaningful career exploration. For example, the Field Schools (RHPM) provided Career Camps where students visited Forest Service and National Park Service sites to engage in service learning projects and learn more about careers in National and State agencies and natural resource management. Similarly, the Experiential Learning in Food and Beverage Management course deepened students' knowledge of the food and beverage industry and the challenges and opportunities in the students' field (Hospitality Management).

COLLABORATION (If applicable): How did your use of SLF enhance our campus's ability to engage in collaborative work? What challenges, if any, did you encounter in bringing interdisciplinary projects to fruition?

CME's SLF investments enabled us to make, enhance and sustain important collaborations with both our campus and external partner. Across campus our collaborations spoke to CME's commitment to Access and Equity. Specifically, we strengthened our relationships among RHPM, Latinas in Action, and the STAR Center to continue to provide more and more meaningful opportunities for underrepresented students. Similarly, our investment in Instruction and Assistive Technologies created better opportunities to collaborate in material ways with OATS. Indeed, SOE and OATS are exploring ways to offer more training and opportunities for Chico State student to use assistive technologies to support their own learning. We have also leveraged the SLF funds to build stronger alliances with state and national agencies, local educational agencies (e.g., Butte County Office of Education), other universities (UC Davis's Mind Institute) and local food and beverage leaders.

SUSTAINABILITY: Going forward, what are your plans for funding these projects?

Going forward, I will do what I can, pending budget, to support the ongoing projects. Some of our SLF projects were more "one time" in nature so they will not need "future" funding unless and until the equipment fails, becomes outdated, or is no longer relevant. Ongoing projects with clear data to support student learning will be supported as budgets allow, and I am more likely to fund projects that have external or cross-unit collaborators.
SUSTAINABILITY: Going forward, what are the programmatic priorities for your unit that SLF might support?

Going forward, I would like to continue to fund SLF projects that support our College's Five Guiding Commitments, including: Enabling Access and Equity Crafting Meaningful, Responsible and Responsive Narratives, Building Community through Collaboration, Educating the Whole Person Preparing Change Agents and Life-long Learners.

SUSTAINABILITY: Going forward, what other funding sources are you planning to pursue to support these priorities?

It is my hope that we will develop a more robust source of funds for new technologies through development work and building stronger ties with industry (particularly in media production). State funds are not adequate to support the continuous technology upgrades, both hardware and software, required in a variety of our fields. We will continue to work to grow our annual fund to be able to provide these necessary investments. Additionally, our faculty are also looking to find agency and industry support and partners to help fund some of these projects.

If you would like to include an attachment, please do so here.

None
Please provide the broad types of projects funded by SLF:
- Instructional Support
- Materials/Technology
- Co-curricular Learning Experiences

STUDENT LEARNING OUTCOMES: Describe the primary impacts to student learning outcomes that the SLF investments had in your unit. Please include relevant data to support your claims.

The projects funded were so diverse that it is difficult to capture their direct impact on student learning and outcomes. SLF monies did allow directly and indirectly to benefit students for years to come. For example, EECE students benefited from equipment purchased by Dr. Alavi and it enhanced their interest in learning, which resulted in a higher passing rate for controls systems based EECE course. Monies provided for tutoring center for lower division engineering tutoring were effective in positively impacting more that 300 students throughout the year. Dr. Webster purchased benchtop filtration equipment for the environmental engineering laboratory and it will be used by students for many years to come. SLF monies for lab assistants in CSCI enabled the hiring of 12 top undergraduate students to assist professors in answering student questions during scheduled lab time. These Lab Assistants (LA) assisted 7 professors covering 15 sections with a total enrollment of 683 students. The LAs worked 518 hours during F18-S19 and answered 5,615 student questions. This equates to 10.84 questions answered per hour worked. Furthermore, adding one more 3D printer in the makerspace has increased the ability to engage more students and provide a better experience due to not having to wait for printing services. Dr. Zeichick purchased equipment for students to run projects in testing the security of IoT devices. When Dr. Zeichick initially ran this project without the funding (the students had to purchase their own equipment), only about 70% completed the entire project. This last semester, when he provided the equipment for them, over 80% completed the entire project. Since equipment was given to them on the first day of the semester, students were able to start becoming more familiar with the equipment and hence the higher completion rate. Last but not least, Dr. O’Conner (MMEM) did not receive his equipment (Stress and Strain Instrumentation) on time to measure the impact on student learning and will report that next year to the college of ECC.

COLLABORATION (If applicable): How did your use of SLF enhance our campus’s ability to engage in collaborative work? What challenges, if any, did you encounter in bringing interdisciplinary projects to fruition?

Only two funded projects had a scope for collaboration and impact beyond ECC.
1. Purchase of 3-D printer for makerspace. Students collaborating in teams for a class assignment or for an on-campus student organization used the 3D printers. Further, students from 45 different majors were engaged in the makerspace with a majority of these students using the 3D printing services.
2. Purchase of benchtop filtration equipment for Environmental Engineering Laboratory provided students in CIVIL 175 (a course that provides the B2L GE requirement to students from across the college of ECC, as well as some non-engineering students) opportunity to use filtration assemblies and vacuum pumps.

SUSTAINABILITY: Going forward, what are your plans for funding these projects?
For AY 18-19, a total of nine projects were funded in the amount of $149,000.
1. Two of the nine projects were geared towards lab assistants/tutoring ECC students and they both are renewed and expanded through the use of SLF 19-20 funds. We have higher DFW rates in lower division engineering and computer science courses and college of ECC is committed to supporting these tutoring/lab assistant projects in the future through SLF dollars.
2. The remaining seven projects used SLF funds to purchase equipment and/or for lab optimization. College of ECC put significant monies (approx. $300,000) from various sources in completion of two of these projects, i.e. Collaborative Studio Lab in OCNL 346 and OCNL 127 lab optimization. Both of these projects will be complete by July 30th and going forward, no additional funding will be needed. Five of these projects were equipment that was purchased for various labs. These projects will need additional funding in the coming years to purchase more equipment in order to achieve student and course learning outcomes along with the goal of developing students who are well-rounded and work ready.

**SUSTAINABILITY:** Going forward, what are the programmatic priorities for your unit that SLF might support?

All degree programs in the college of ECC (Civil Engineering, Concrete Industry Management, Construction Management, Computer Science, Computer Information Systems, Computer Animation and Game Design, Electrical Engineering, Computer Engineering, Mechanical, Mechatronics, and Sustainable Manufacturing) continue to focus on active, hands on learning practices while working hard at adapting to learning styles and needs of the current generation of students. A total of 21 SLF proposals were submitted in 2019-2020 in the amount of $584,135.97. However, college of ECC allocation was only $204,000. Several important projects were not funded that needed equipment and other supports. Within the college of ECC, we have a lot of success to celebrate given our limited resources. Going forward, we request a significant increase in SLF funds for the college of ECC for three reasons:

1. Equipment in labs across departments/programs are outdated, compromising student experience. ECC needs for keeping current with industry software and equipment are resource intense and our degree programs are at risk of falling behind.
2. Chico State is pioneer in starting various degree programs within ECC (1st Computer Science Degree, and Computer Engineering program in the CSU; 1st and only undergraduate mechatronic program in the CSU; 1st and only CAGD program in the CSU; 1 of 4 CIM programs in the country; and 1st and largest Construction Management program in the CSU). To continue to maintain this distinction, we need to invest more resources in learning environments, mode of delivery and in modern technologies/equipment relevant to industry and careers of our students.
3. Student retention, success and graduation on time is important. Our lower division engineering and computer science courses have higher DFW rates and continues and enhanced support is needed to provide students with tutors, lab assistants and high touch advising. Teaching laboratories are backbone of every degree program within the college of ECC. Most of these teaching laboratories are at least 20 years old with outdated equipment. Significant resources are needed to purchase equipment and software across departments/programs in ECC so that we can bring labs to current industry standards. We are committed to modernizing our labs and have taken steps this last year by renovating two lab spaces through carry-over funds from 18-19. However, going forward the college of ECC does not have those resources and needs significant increase in SLF funds to purchase equipment in effectively delivering course content. At present, we need $3,066,723 to fund various software and equipment needs of all our departments/programs. Please refer to the document attached providing equipment/activity lists needing SLF funds.

**SUSTAINABILITY:** Going forward, what other funding sources are you planning to pursue to support these priorities?

College of ECC is consistently pursuing several other funding sources to support our priorities, for example, ECC Leadership Council members have agreed to approach various industry leaders to raise money to build Ricardo Jacquez Environmental Engineering Lab at Chico State. Each department chair in ECC is actively looking for corporations to donate equipment to their respective departments. However, we recognize that just these efforts alone are not going to fulfill this huge need of modernizing our labs. Hence, a significant increase in SLF funding is needed for the college of ECC. A spreadsheet with 8 tabs is attached. The first tab
shows total funds needed - $3,066,723 to cover needs of all seven departments/programs in ECC. Remaining tabs represent each department and a detailed cost breakdown.

If you would like to include an attachment, please do so here. See attached excel spreadsheet.
Overall ECC Equipment/Software/Tutor/Lab Assistant Needs

<table>
<thead>
<tr>
<th>Department</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering</td>
<td>166,824</td>
</tr>
<tr>
<td>Concrete Industry Management</td>
<td>$28,100</td>
</tr>
<tr>
<td>Construction Management</td>
<td>$61,450</td>
</tr>
<tr>
<td>Computer Animation and Game Design</td>
<td>$241,479</td>
</tr>
<tr>
<td>Computer Science</td>
<td>$86,000</td>
</tr>
<tr>
<td>Electrical/Electronics and Computer Engineering</td>
<td>$1,934,075</td>
</tr>
<tr>
<td>Mechanical, Mechatronics and Sustainable Manufacturing</td>
<td>$548,795</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$3,066,723.00</strong></td>
</tr>
</tbody>
</table>
EECE Equipment Needs

Based on experience, end-of-life for electrical and computer engineering laboratory equipment is 5 years because to address reliability issues and to insure that students have access to modern tools and equipment. Below is the estimated replacement costs based on pricing from 2019. This also assumes that FTES remains the same as it was in AY 2018-2019. Some graduate courses are listed where the equipment required for undergraduate courses could also be used in one or more graduate courses. However, additional equipment, which has not been included in this list, will be necessary if we were to reopen the MS in ECE program.

<table>
<thead>
<tr>
<th>Course</th>
<th>Equipment</th>
<th>replacement cost w/o inflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EECE 144</td>
<td>FPGA boards and sequential logic trainers</td>
<td>$54,615</td>
</tr>
<tr>
<td>EECE 211L</td>
<td>Analog system kits, soldering irons and exhaust systems for PCB fabrication</td>
<td>$18,730</td>
</tr>
<tr>
<td>EECE 315</td>
<td>PCB for surface mount components, oscilloscopes, power supplies, arbitrary function generators (also used in EECE 316)</td>
<td>$12,545</td>
</tr>
<tr>
<td>EECE 316, RF elective, EECE 615</td>
<td>Network analyzer, capacitance meter, and GHz measurement system†</td>
<td>$160,000</td>
</tr>
<tr>
<td>EECE 343, EECE 525</td>
<td>FPGA boards and logic analyzers‡</td>
<td>$10,815</td>
</tr>
<tr>
<td>EECE 437, EECE 598, EECE 637</td>
<td>Hardware cybersecurity testbed*</td>
<td>$1,500</td>
</tr>
<tr>
<td>EECE/CSCI 446, EECE 555, EECE 655</td>
<td>Networking lab infrastructure replacement*</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>EECE 453, EECE 653</td>
<td>Optical communications equipment</td>
<td>$16,400</td>
</tr>
<tr>
<td>EECE 482, EECE 682</td>
<td>Control system testbeds</td>
<td>$33,000</td>
</tr>
<tr>
<td>Biosensor/ Bio IC elective</td>
<td>Equipment that could be shared with Environmental Engineering courses</td>
<td>$7,800</td>
</tr>
<tr>
<td>EECE 555</td>
<td>IoT kits</td>
<td>$12,000</td>
</tr>
<tr>
<td>EECE 555</td>
<td>Two dedicated SDN servers‡‡,*</td>
<td>$5,000</td>
</tr>
<tr>
<td>Communications elective</td>
<td>Wireless SDR testbed‡‡,*</td>
<td>$5,000</td>
</tr>
<tr>
<td>EECE 525, EECE 643</td>
<td>Constellation logic analyzer‡‡</td>
<td>$40,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$1,877,405</strong></td>
</tr>
</tbody>
</table>

† Required to bring our laboratory equipment to present day standards ‡‡ Required to expose upper division and MS students to modern technologies

* With this investment, CSU, Chico could offer short courses to the local engineering community
Equipment associated with courses in shaded boxes are new investments, needed to improve quality of program.

The request above factors in an evolution in electronic components, which will shortly force the EECE Department make significant changes in the lower division laboratory courses. The availability of dual-inline packages (dip), particularly simple digital logic gates and individual transistors, is decreasing rapidly as industry moves to surface-mount devices (SMD). The surface-mount devices are incompatible with the breadboards that are currently used in our many of our EECE courses. Educational supply companies have responded by developing training kits in which students wire circuits composed of SMDs, but the faceplate of the kit shows the simple logical gate, single element electronic device, or operational amplifier.

<table>
<thead>
<tr>
<th>Course</th>
<th>Kit</th>
<th>Unit print</th>
<th>Enroll</th>
<th>Instructor + spares</th>
<th>Total cost w/o tax, user fee, or shipping</th>
</tr>
</thead>
<tbody>
<tr>
<td>EECE 144</td>
<td>Sequential Logic Trainer</td>
<td>$365</td>
<td>95</td>
<td>25</td>
<td>$43,800</td>
</tr>
<tr>
<td>EECE 211L</td>
<td>Analog System Lab Kit Pro</td>
<td>$99</td>
<td>100</td>
<td>30</td>
<td>$12,870</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>$56,670</strong></td>
</tr>
</tbody>
</table>
## MMEM Equipment Needs

<table>
<thead>
<tr>
<th>Item</th>
<th>Manufacturer</th>
<th>Cost</th>
<th>Courses</th>
<th>Students Per Year</th>
<th>Required Course?</th>
<th>Condition</th>
<th>Cost</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>35kip Single Axis Shake-Table</td>
<td>MTS</td>
<td>$200,000</td>
<td>MECH 340, 424, 440, 482, and CIVIL(seismic)</td>
<td>200</td>
<td>Yes</td>
<td>New</td>
<td>$200,000</td>
</tr>
<tr>
<td>2</td>
<td>Metal 3D Printer Solution</td>
<td>Desktop Metal Studio</td>
<td>$150,000</td>
<td>MECH 200, MECH 340, MECH/A 440</td>
<td>250</td>
<td>Yes</td>
<td>New</td>
<td>$150,000</td>
</tr>
<tr>
<td>3</td>
<td>Creaf orm HandySca n 3D</td>
<td>Creaf orm</td>
<td>$50,000</td>
<td>MECH 200, MECH 340, MECH/A 440</td>
<td>250</td>
<td>Yes</td>
<td>Refurbished</td>
<td>$50,000</td>
</tr>
<tr>
<td>4</td>
<td>VIC-2D System</td>
<td>Correlated Solutions</td>
<td>$10,000</td>
<td>MECH 210L</td>
<td>69</td>
<td>Yes</td>
<td>New</td>
<td>$10,000</td>
</tr>
<tr>
<td>5</td>
<td>NDT Equipment</td>
<td>Olympus</td>
<td>$20,000</td>
<td>MECH 210L</td>
<td>69</td>
<td>Yes</td>
<td>New</td>
<td>$20,000</td>
</tr>
<tr>
<td></td>
<td>Equipment</td>
<td>Source</td>
<td>Price</td>
<td>Model Numbers</td>
<td>Quantity</td>
<td>Condition</td>
<td>Price After Tax</td>
<td>Notes</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------</td>
<td>---------</td>
<td>--------</td>
<td>----------------</td>
<td>----------</td>
<td>-----------</td>
<td>-----------------</td>
<td>-------</td>
</tr>
<tr>
<td>6</td>
<td>Laser Cutter</td>
<td>Ebay</td>
<td>$50,000</td>
<td>SMFG 160 SMFG 360</td>
<td>60</td>
<td>Yes</td>
<td>Used $50,000</td>
<td>Students will have hands on experience with precise CNC machine with lasers.</td>
</tr>
<tr>
<td>7</td>
<td>Plasma Cutter</td>
<td>Ebay</td>
<td>$10,000</td>
<td>SMFG 160 SMFG 360</td>
<td>60</td>
<td>Yes</td>
<td>Used $10,000</td>
<td>Students will have hands on experience with precise CNC machine with plasma.</td>
</tr>
<tr>
<td>8</td>
<td>Plastic Filament Winder for Carbon Fiber</td>
<td>X Winder</td>
<td>$3,795</td>
<td>SMFG 218, SMFG 347</td>
<td>30, 40</td>
<td>Yes, No</td>
<td>New $3,795</td>
<td>Students will have hands on experience with making composite tubes.</td>
</tr>
<tr>
<td>9</td>
<td>Rotational Molder</td>
<td>Rotoline</td>
<td>$30,000</td>
<td>SMFG 216</td>
<td>30</td>
<td>Yes</td>
<td>New $30,000</td>
<td>Students will have hands on experience with making hollow parts.</td>
</tr>
<tr>
<td>10</td>
<td>Scanning Electron Microscope</td>
<td>Ebay</td>
<td>$10,000</td>
<td>MECH 210, SMFG 211</td>
<td>100, 30</td>
<td>Yes</td>
<td>Used $10,000</td>
<td>Students will have hands on experience with testing for small dimensions.</td>
</tr>
<tr>
<td></td>
<td><strong>National Instruments</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Model: cDAQ9174</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>DAQ system upgrade for Energy Systems Lab</td>
<td>Part Number: 781157-01</td>
<td>$15,000</td>
<td>MECH 432, MECH/A 440</td>
<td>200</td>
<td>Yes</td>
<td>New</td>
<td>$15,000</td>
</tr>
<tr>
<td>Model: NI9212</td>
<td>Part Number: 782975-01</td>
<td>$4881.60</td>
<td>Students should be learning data acquisition on new hardware and software.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------</td>
<td>-------</td>
<td>-------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model: NI9207</td>
<td>Part Number: 785040-01</td>
<td>$685.80 x 6 = $4114.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$3549.60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>$548,795</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### CAGD Equipment/Software Needs

<table>
<thead>
<tr>
<th>Item</th>
<th>#Students Served/Yr</th>
<th>Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Photogrammetry</td>
<td>219</td>
<td>13,924.00</td>
</tr>
<tr>
<td>2 Mobile Motion Capture Suit</td>
<td>280</td>
<td>27,879.00</td>
</tr>
<tr>
<td>3 Virtual Reality Studio Equip</td>
<td>452</td>
<td>39,200.00</td>
</tr>
<tr>
<td>4 OCNL 133 Reconfiguration (Collaborative Learning Studio)</td>
<td>507</td>
<td>45,603.00</td>
</tr>
<tr>
<td>5 Handheld Laser Scanner</td>
<td>264</td>
<td>25,863.00</td>
</tr>
<tr>
<td>6 Allegoithmic/Adobe Substance Software (60 seat license yearly subscription)</td>
<td>452</td>
<td>$9,100.00</td>
</tr>
<tr>
<td>7 Deep Freeze Software (120 seats, yearly subscription)</td>
<td>120</td>
<td>$1,700.00</td>
</tr>
<tr>
<td>8 Colab Unity3D ($5 per seat per month, 65 seats needed)</td>
<td>65</td>
<td>$3,900.00</td>
</tr>
<tr>
<td>9 Faro Scene, Lidar software (yearly subscription)</td>
<td>35</td>
<td>$6,100.00</td>
</tr>
<tr>
<td>10 SCAN2 FX Exporter (for Maya - Texturing/ 3D Paint, one seat needed, yearly subscription)</td>
<td>35</td>
<td>$555.00</td>
</tr>
<tr>
<td>11 SCAN2FX Mesh Modeler Polygon Modeling (one seat needed, yearly subscription)</td>
<td>35</td>
<td>$555.00</td>
</tr>
<tr>
<td>12 Adobe Creative Suite with After Effects (yearly subscription)</td>
<td>280</td>
<td>$30,000.00</td>
</tr>
<tr>
<td>13 zbrush Software ($400 each seat, 70 seats needed, perpetual license)</td>
<td>70</td>
<td>$28,000.00</td>
</tr>
<tr>
<td>14 Opitrack Motive ($1100 per seat, 4 seats needed, perpetual license)</td>
<td>40</td>
<td>$4,400.00</td>
</tr>
<tr>
<td>15 Ipi Software Pro - mocap with Two Kinect v2 (perpetual license)</td>
<td>40</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>16 Marmoset Hexels (32 seats, perpetual license)</td>
<td>64</td>
<td>$1,200.00</td>
</tr>
<tr>
<td>17 Faceware - Facial Mocap (5 seats, perpetual license)</td>
<td>20</td>
<td>$2,000.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>241,479.00</strong></td>
</tr>
</tbody>
</table>

As a professional technology degree, the CAGD Program has need of funding well beyond that of most programs. Keeping current with industry software and hardware is resource intense. The Program needs to invest more resources in the technologies relevant to industry and careers for our students. Some of these technologies that we have invested in and must continue to invest are Virtual Reality and Augmented Reality (VR and AR), Motion Capture, Photogrammetry, Lidar scanning, 3D laser scanning, 360 video, game technologies, among other current and upcoming technologies.

The innovative Sierra Nevada Brewing Company Collaboration, Lundberg Family Farms Collaboration, Honey Run Covered Bridge Project and other upcoming collaborations require tremendous resources to provide the students with real-world experience working on cross-discipline teams with real clients.
### CMGT Programming/Tutoring Needs

<table>
<thead>
<tr>
<th>Item</th>
<th>#Students Served/Yr</th>
<th>Request</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Two Field Trips</td>
<td>50</td>
<td>$10,000</td>
<td>In CMGT, visiting large construction projects is very impactful and gives students hands-on experience. Depending on the location and number of nights, a quality trip can cost $1,000 to $7,000. Because Chico is located further north, we have to travel farther to see a significant project.</td>
</tr>
<tr>
<td>2 Tutoring for CMGT 330, 335, 340, 345 and 440</td>
<td>400</td>
<td>$10,000</td>
<td>Students have higher DFW rates in classes that are calculation intensive and we would like to provide support outside the classroom to reduce DFW rates.</td>
</tr>
<tr>
<td>3 Department iClicker Licenses (100/yr @ 12 each)</td>
<td>100</td>
<td>$1,200</td>
<td>Great student engagement tool during a large lecture class.</td>
</tr>
<tr>
<td>4 iPads and Software for CMGT 210 (35 tables @ $1000)</td>
<td>70</td>
<td>$35,000</td>
<td>Use of iPads in the field by engineers, foreman, superintendents and subcontractors is widely used and we need to teach CMGT students the best practices of iPad use.</td>
</tr>
<tr>
<td>5 New Chairs for Classroom LANG 200 (35 chairs @ 150)</td>
<td>300</td>
<td>$5,250</td>
<td>LANG 200 has high tables for plan reading and scheduling. These higher chairs are affected by wear and tear more than lower chairs and require replacement frequently.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$61,450</strong></td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>#Students Served/Yr</td>
<td>Request</td>
<td>Notes</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------------</td>
<td>----------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1 Lab Assistants</td>
<td>800</td>
<td>16,000.00</td>
<td></td>
</tr>
<tr>
<td>2 Scheduled tutoring</td>
<td>300</td>
<td>12,000.00</td>
<td></td>
</tr>
<tr>
<td>3 Department iClicker Licenses (500/yr @ $12 each)</td>
<td>500</td>
<td>6,000.00</td>
<td>Current computes are 5 years old, if we assume a 8 year lifespans, we will need $52,000 in three years. Could starting putting aside $18,000 a year</td>
</tr>
<tr>
<td>4 Computer Lab Refresh (62 computers @ $850 each)*</td>
<td>500</td>
<td>52,000.00</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>86,000.00</strong></td>
<td></td>
</tr>
</tbody>
</table>

Lab assistants: $16,000/year  
Scheduled tutoring: $12,000/year  
Department iClicker licenses: 500/year @ $12/each = $6,000/year  
Computer lab refresh:  
62 computers at $850 each  
Current computers are 4-5 years old  
If we assume an 8 year lifespan, in 3-4 years we will need $52,000  
If we divide this over 4 years, it is $13,000/year
## CIMT Tutoring/Equipment Needs

<table>
<thead>
<tr>
<th>Item</th>
<th>#Students Served/Yr</th>
<th>Request</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Lab Assistants</td>
<td>200</td>
<td>$12,000</td>
<td></td>
</tr>
<tr>
<td>2 Concrete Teaching Lab Materials</td>
<td>200</td>
<td>$10,000</td>
<td></td>
</tr>
<tr>
<td>3 NI Data Acquisition System and Sensors</td>
<td>40</td>
<td>$2,500</td>
<td>Utilizes advanced testing methods in Advanced Concrete Technologies Lab (CIMT 365) for concrete strength, strain, vibration and deflection measurements.</td>
</tr>
<tr>
<td>4 UPV/IE Non-destructive/destructive Testing</td>
<td>30</td>
<td>$1,200</td>
<td>Students will get to compare nondestructive to destructive testing in CIMT 231</td>
</tr>
<tr>
<td>5 Rheometer</td>
<td>40</td>
<td>$2,400</td>
<td>Help students understand and implement new methods of technologies in measuring workability in SCC mixes and normal concretes.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$28,100</strong></td>
<td></td>
</tr>
</tbody>
</table>
The long-term goal of the Department of Civil Engineering is to sustain a modern environmental laboratory that facilitates high level student learning and provides student research opportunities similar to how our other laboratories support department initiatives (e.g. Pavement Preservation Center). Engagement in undergraduate research has been shown to increase participation in science, technology, engineering, and math (STEM) careers and increases pursuit of advanced degrees among participating students. The department recently expanded in the area of environmental engineering by hiring two tenure track environmental faculty members, developing four new courses in environmental engineering, and a proposed emphasis in environmental engineering within the Major. Along with these advances, there is a need to expand the existing environmental laboratory. One example of department commitment is the recent purchased an ion chromatography instrument that will give students hands on experiences in advanced technology to measure dissolved ions (e.g., nitrate, phosphate, and sulfate), which are essential analytes for water quality analysis. We need to prepare the Environmental Engineering Lab and maximize our space-use efficiency. This will require new storage and new modular bench tops that can adapt to equipment needs, while improving student work areas.

<table>
<thead>
<tr>
<th>Item</th>
<th>Request</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 New Cabinets for storage, workstations, and marble balance table</td>
<td>$157,824</td>
<td></td>
</tr>
<tr>
<td>2 Smarttech Smartboard</td>
<td>$9,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$166,824</strong></td>
<td></td>
</tr>
</tbody>
</table>
Please provide the broad types of projects funded by SLF:

- Instructional Support
- Materials/Technology
- Co-curricular Learning Experiences
- Other: Student attendants, assistants, & tutors

STUDENT LEARNING OUTCOMES: Describe the primary impacts to student learning outcomes that the SLF investments had in your unit. Please include relevant data to support your claims.

I've attached a word copy of the Student Learning Fees impact the following student learning outcomes:

1) Improve students’ digital communication skills
   - Interior Architecture students’ digital communication skills have been improved significantly.
   - Students’ use of the computer equipment varies from design development to complex visual presentation expanded to cutting edge technology such as the Virtual Reality application.
   - Students are well equipped with high level of technical skills for professional design field.

2) Improve students’ knowledge and exposure to digital software and digital art
   - Students in ARTS 250: Intro to digital Media were given surveys to assess their prior experience with digital software, computers, equipment and experience with digital arts at the beginning and end of the semester. At the semester’s conclusion all ARTS 250 students “reported increased comfort with digital equipment and software.”
   - Provide students with invaluable pre-professional opportunities and gain skills in gallery practices.
   - Student attendants gained skills in gallery practices, operations and maintenance, exhibition planning and preparation, design and installation, as well as professional interactions with artists and gallery visitors.
   - Student attendants engaged with an increased and more diverse audience of visitors this year.
   - Sample student responses to the assessment survey:
     - What skills do you feel you learned or improved upon? “I feel my skills regarding installs and de-installs of art has improved. I only had a little experience working for an individual artist in a studio, so getting to interact with different art pieces and artists was definitely a learning experience for me. I feel more comfortable than I did when I first started helping with installs, and I hope to continue to feel more and more confident.”
     - Please describe your work experience at the University Art Gallery. “Since I have worked at the gallery, I have done numerous things. This includes posting events on Facebook and the website, posting flyers around campus, researching artists for next year’s exhibitions, emailing artists about their works that were in the exhibitions this semester, and helped set up the 64th Annual Juried Student Exhibition.”
     - What were the highlights? What were the challenges? “Some of the highlights working in the Gallery are being able to work closely with artists and providing outreach and information about the gallery. Being able to reach students, faculty and staff who do not have much experience in art and being able to educate them is a rewarding highlight in working at the gallery. Some challenges include, having to meet and interact with some members of the community that hold strong opinions about the various views on what they consider great art.”
     - What other aspects of gallery management, curatorial practices, or exhibition installation would you like to learn? “I would like to continue to learn about gallery management, how to curate a space and continue to learn ways to install and ship artworks safely. I would also like..."
to learn about how the artists are selected to be shown in the gallery. I would like to continue to improve my interpersonal skills and relationships that can improve the experience of the gallery to others.”

- Other comments, suggestions or recommendations? “I recommend other students to work with Kelly Lindner, ask questions and understand the amount of effort that goes into each show.”
- Other comments, suggestions or recommendations? “This job is amazing! Before this job I wasn’t exactly sure what I wanted to do as a career after college but now I know I want to work in an art gallery, maybe even as a curator!”

4) Integration of theory and practice, knowledge and skill
   - 100% of students in digital photography courses used the computers, image editing software and photo-quality printers funded with SLF to complete their assigned coursework.
   - History Writing Collaborative tutors and supplemental instructors engage in the practice of mentoring their peers. Students who frequent the History Writing Collaborative are assessed according to the number of visits, the number of repeat visits, no-shows, cancellations, etc.
   - History faculty meet with writing tutors regularly to discuss best practices and the impact on student writing.

5) Develop students’ ability to create innovative solutions to problems through creative thinking (SLO to be assessed in fall 2019 because the laser cutter is still being set up)

COLLABORATION (If applicable): How did your use of SLF enhance our campus’s ability to engage in collaborative work? What challenges, if any, did you encounter in bringing interdisciplinary projects to fruition?

SLF funds provided HFA with opportunities to engage in collaborative efforts across disciplines, across campus, and with Chico State’s 12 county service area. The HFA Digital Fabrication Lab Consortium proposal was submitted by Professors Lauren Ruth (ARTS) and Brian Redfern (MUTA) and is an interdisciplinary collaboration between faculty and students in ARTS and MUTA. Making Contemporary Art Accessible enabled the Jacki Headley Art Gallery to extend its hours and better provide students, the campus and Chico communities with access to the gallery, its exhibits, as well as special and educational events such as artist talks, receptions, and panel discussions. Ideally, the History Department would submit a joint proposal for Supplemental Instruction for HIST 130 along with the Student Learning Center (SLC) given that all students taking the course, regardless of major, benefit from the service. However, because CFAC and Student Affairs (SA) are both granted 10% of all SLF funds and because the SLC has tremendous needs and serves the entire campus, I thought it better that the History Department not cut into the limited resources allocated to CFAC and SA.

SUSTAINABILITY: Going forward, what are your plans for funding these projects?

Projects such as the Computers for ARTS Digital Photography Classes, Studio Upgrade, and the Interior Architecture Computer Aided Design require one-time SLF funds. The HFA Digital Fabrication Lab Consortium proposal received funding over the course of two years but is now complete. The student attendants for the Headley Art Gallery, History Writing Collaborative, and the Supplemental Instruction for HIST 130 represent ongoing needs, but could potentially make good fundraising projects for Giving Day.

SUSTAINABILITY: Going forward, what are the programmatic priorities for your unit that SLF might support?

Given the technical nature of many of the college’s departments and academic disciplines, HFA will continue to seek SLF funding for materials and technology. However, going forward, in addition to materials and technology, HFA has identified the following programmatic priorities for which it will seek SLF funding:
• Student assistants—with the rising costs of tuition and fees as well as an increase in students experiencing housing and/or food insecurity, HFA believes it is imperative that students, especially those who are not in a position financially to undertake an internship, are afforded opportunities to gain (paid!) pre-professional experience.
• Experiential learning opportunities such as faculty-led study abroad, internships, participation in co-curricular activities such as CSU Summer Arts, etc.
• Student research and creative activities
• Student outreach and retention efforts
• Visiting speakers, lecturers, artists, etc.—this will enable us to provide students with additional opportunities for professionalization, skill development, and exploration of the disciplines

SUSTAINABILITY: Going forward, what other funding sources are you planning to pursue to support these priorities?
I would like to work more closely with HFA’s development officer to fundraise monies for activities like the History Writing Collaborative and Supplemental Instruction for HIST 130, which serve students from all majors and disciplines on campus. These efforts, which seek to decrease the DFW rate in HIST 130, narrow existing achievement gaps, eliminate barriers to graduation, and help students make more timely progress to degree, would also make good use of GI 2025 and the Board of Governors funds. I will encourage the chair of the History Department to seek funding there as well. This summer, five faculty in the college participated in the Grant Writing Bootcamp facilitated by Research and Sponsored Programs. Hopefully, this will be a significant step toward building a culture of grant writing in the college, which may open up different avenues for us to secure funding for instructional support, materials and technology, and co-curricular learning experiences.

If you would like to include an attachment, please do so here.
See attached word document.
Submitted by Tracy Butts
Amount Awarded: $177,126

Please provide the broad types of projects funded by SLF:
- Instructional support
- Materials/technology
- Co-curricular learning experiences
- Other: student attendants/assistants/tutors

Student Learning Fees impact the following student learning outcomes:
- Improve students’ digital communication skills
  - Interior Architecture students’ digital communication skills have been improved significantly
  - Students’ use of the computer equipment varies from design development to complex visual presentation expanded to cutting edge technology such as the Virtual Reality application
  - Students are well equipped with high level of technical skills for professional design field
- Improve students’ knowledge and exposure to digital software and digital art
  - Students in ARTS 250: Intro to Digital Media were given surveys to assess their prior experience with digital software, computers, equipment and experience with digital arts at the beginning and end of the semester. At the semester’s conclusion all ARTS 250 students “reported increased comfort with digital equipment and software.”
- Provide students with invaluable pre-professional opportunities and gain skills in gallery practices
  - Student attendants gained skills in gallery practices, operations and maintenance, exhibition planning and preparation, design and installation, as well as professional interactions with artists and gallery visitors
  - Student attendants engaged with an increased and more diverse audience of visitors this year
- Sample student responses to the assessment survey:
  - What skills do you feel you learned or improved upon? “I feel my skills regarding installs and de-installs of art has improved. I only had a little experience working for an individual artist in a studio, so getting to interact with different art pieces and artists was definitely a learning experience for me. I feel more comfortable than I did when I first started helping with installs, and I hope to continue to feel more and more confident.”
  - Please describe your work experience at the University Art Gallery. “Since I have worked at the gallery, I have done numerous things. This includes posting events on Facebook and the website, posting flyers around campus, researching artists for next years exhibitions, emailing artists about their works that were in the exhibitions this semester, and helped set up the 64th Annual Juried Student Exhibition.”
  - What were the highlights? What were the challenges? “Some of the highlights working in the Gallery are being able to work closely with artists and providing outreach and information about the gallery. Being able to reach students, faculty and staff who do not have much experience in art and being able to educate them is a rewarding highlight in working at the gallery. Some challenges include, having to meet and interact with some members of the community that hold strong opinions about the various views on what they consider great art.”
  - What other aspects of gallery management, curatorial practices, or exhibition installation would you like to learn? “I would like to continue to learn about gallery
management, how to curate a space and continue to learn ways to install and ship artworks safely. I would also like to learn about how the artists are selected to be shown in the gallery. I would like to continue to improve my interpersonal skills and relationships that can improve the experience of the gallery to others.”

**Other comments, suggestions or recommendations?** “I recommend other students to work with Kelly Lindner, ask questions and understand the amount of effort that goes into each show.”

**Other comments, suggestions or recommendations?** “This job is amazing! Before this job I wasn’t exactly sure what I wanted to do as a career after college but now I know I want to work in an art gallery, maybe even as a curator!”

- Integration of theory and practice, knowledge and skill
  - 100% of students in digital photography courses used the computers, image editing software and photo-quality printers funded with SLF to complete their assigned coursework.
  - History Writing Collaborative tutors and supplemental instructors engage in the practice of mentoring their peers
  - Students who frequent the History Writing Collaborative are assessed according to the number of visits, the number of repeat visits, no-shows, cancellations, etc.
  - History faculty meet with writing tutors regularly to discuss best practices and the impact on student writing

- Develop students’ ability to create innovative solutions to problems through creative thinking (SLO to be assessed in fall 2019 because the laser cutter is still being set up)

Collaboration:

SLF funds provided HFA with opportunities to engage in collaborative efforts across disciplines, across campus, and with Chico State’s 12 county service area. The HFA Digital Fabrication Lab Consortium proposal was submitted by Professors Lauren Ruth (ARTS) and Brian Redfern (MUTA) and is an interdisciplinary collaboration between faculty and students in ARTS and MUTA. Making Contemporary Art Accessible enabled the Jacki Headley Art Gallery to extend its hours and better provide students, the campus and Chico communities with access to the gallery, its exhibits, as well as special and educational events such as artist talks, receptions, and panel discussions. Ideally, the History Department would submit a joint proposal for Supplemental Instruction for HIST 130 along with the Student Learning Center (SLC) given that all students taking the course, regardless of major, benefit from the service. However, because CFAC and Student Affairs (SA) are both granted 10% of all SLF funds and because the SLC has tremendous needs and serves the entire campus, I thought it better that the History Department not cut into the limited resources allocated to CFAC and SA.

Projects such as the Computers for ARTS Digital Photography Classes, Studio Upgrade, and the Interior Architecture Computer Aided Design require one-time SLF funds. The HFA Digital Fabrication Lab Consortium proposal received funding over the course of two years but is now complete. The student attendants for the Headley Art Gallery, History Writing Collaborative, and the Supplemental Instruction for HIST 130 represent ongoing needs, but could potentially make good fundraising projects for Giving Day.
Given the technical nature of many of the college’s departments and academic disciplines, HFA will continue to seek SLF funding for materials and technology. However, going forward, in addition to materials and technology, HFA has identified the following programmatic priorities for which it will seek SLF funding:

- Student assistants—with the rising costs of tuition and fees as well as an increase in students experiencing housing and/or food insecurity, HFA believes it is imperative that students, especially those who are not in a position financially to undertake an internship, are afforded opportunities to gain (paid!) pre-professional experience.
- Experiential learning opportunities such as faculty-led study abroad, internships, participation in co-curricular activities such as CSU Summer Arts, etc.
- Student research and creative activities
- Student outreach and retention efforts
- Visiting speakers, lecturers, artists, etc.

I would like to work more closely with HFA’s development officer to fundraise monies for activities like the History Writing Collaborative and Supplemental Instruction for HIST 130, which serve students from all majors and disciplines on campus. These efforts, which seek to decrease the DFW rate in HIST 130, narrow existing achievement gaps, eliminate barriers to graduation, and help students make more timely progress to degree, would also make good use of GI 2025 and the Board of Governors funds. I will encourage the chair of the History Department to seek funding there as well. This summer, five faculty in the college participated in the Grant Writing Bootcamp facilitated by Research and Sponsored Programs. Hopefully, this will be a significant step toward building a culture of grant writing in the college, which may open up different avenues for us to secure funding for instructional support, materials and technology, and co-curricular learning experiences.
Please provide the broad types of projects funded by SLF:
- Materials/Technology

STUDENT LEARNING OUTCOMES: Describe the primary impacts to student learning outcomes that the SLF investments had in your unit. Please include relevant data to support your claims.
Every SLF dollar spent by the College of Natural Sciences in 2018-2019 improved experiential learning opportunities for thousands of students. SLF funds purchased modern equipment allowing Chico State to provide students with hands-on experience with modern research equipment. SLF funds also provided immersive and active learning environments for our students. Experiential learning and immersive and active learning environments are high impact practices that keep students engaged, retain students year after year, and improve long-term learning. Published educational research papers available in the literature provide data demonstrating that these high impact practices have positive impacts on student learning. We have not yet analyzed course data to look at improvements in retention or learning.

COLLABORATION (If applicable): How did your use of SLF enhance our campus’s ability to engage in collaborative work? What challenges, if any, did you encounter in bringing interdisciplinary projects to fruition?
While not funded directly as collaborative projects with other colleges, potential collaborative initiatives in class and undergraduate research exist with particularly the Colleges of Natural Sciences and Engineering, Computer Science and Construction Management.

SUSTAINABILITY: Going forward, what are your plans for funding these projects?
SLF funds were used to purchase durable equipment most of which have a useful life greater than a decade. Going forward, the college will ensure that these pieces of equipment are properly maintained and serviced to ensure the longest possible useful life.

SUSTAINABILITY: Going forward, what are the programmatic priorities for your unit that SLF might support?
Programmatic priorities include supporting course-based undergraduate research experiences. Current SLF spending does support this priority.

SUSTAINABILITY: Going forward, what other funding sources are you planning to pursue to support these priorities?
Faculty in the college are constantly submitting proposals to agencies such as NSF to acquire equipment that is used in teaching and research. In the past few years, the college has been successful in acquiring federal funds to purchase a scanning electron microscope, a fluorescence activated cell sorter, and an inductively coupled mass spectrometer.

If you would like to include an attachment, please do so here.
None
Please provide the broad types of projects funded by SLF:

- Instructional Support
- Materials/Technology
- Co-curricular Learning Experiences
- Other: Financial Literacy

STUDENT LEARNING OUTCOMES: Describe the primary impacts to student learning outcomes that the SLF investments had in your unit. Please include relevant data to support your claims.

- Subject tutoring to 2,100 students in GE courses.
- SI participants showed a .53 higher GPA in their course than non-SI participants.
- Free access to computers, internet and printing to low income students - better able to prepare/present coursework and conduct online research. Also, encouraged students (Dream, Foster Youth) to come to Centers which enabled staff to better monitor their success and refer them to other student services.
- 80% of PATH Scholars surveyed indicated that working with Peer Coaches significantly impacted their independent living skills; 88% - moderately or significantly impacted their success with learning/practicing healthy coping skills to manage stress; 75% - moderately or significantly impacted their success with learning/exploring/practicing study skills. Also, highest number of grads (21) ever!
- Financial literacy - past participants have had success in having less debt and/or fewer financial problems.

COLLABORATION (If applicable): How did your use of SLF enhance our campus’s ability to engage in collaborative work? What challenges, if any, did you encounter in bringing interdisciplinary projects to fruition?

- Online Financial literacy curriculum was shared with FYE, SLC, EOP, Financial Wellness Clinic. Challenge was the curriculum was not received till September which limited its actual use (lesson plans already set).
- SLC was able to be more responsive to departmental requests for additional tutoring support, specifically in response to EO 1110 needs from the Math Dept.
- Able to increase subject tutors in Natural Sciences and reduce the wait list by 1/3.
- Better partnership between SLC SI and College of Business Student Success Center and the Chemistry Department.

SUSTAINABILITY: Going forward, what are your plans for funding these projects?
Dream Center computers - this was a 1-time request. PATH Scholars - just received a large endowment that should be available in 2020. SLC - will be receiving off-the-top funding which should mitigate ISA salary expenses.

SUSTAINABILITY: Going forward, what are the programmatic priorities for your unit that SLF might support?
The cost ($2,500) of access to the Financial Literacy online curriculum will need to be picked up from another campus department as U.S. Department of Education prohibits any students other than those in the TRiO program to have access.
SUSTAINABILITY: Going forward, what other funding sources are you planning to pursue to support these priorities?

- SLC will continue to participate in Giving Day to fund smaller expenses such as professional development opportunities.
- Projects may pursue future GI funds as appropriate.
- HSI grants are being pursued as appropriate.

If you would like to include an attachment, please do so here.
None
CAMPUS FEE ADVISORY COMMITTEE:
Kate McCarthy, 2018-19 SLF Allocation $45,515

Please provide the broad types of projects funded by SLF:
- Instructional Support
- Materials/Technology
- Other: Library Makerspace “hobby” usage

STUDENT LEARNING OUTCOMES: Describe the primary impacts to student learning outcomes that the SLF investments had in your unit. Please include relevant data to support your claims.

CFAC funded six cross-college and all-University projects. Because three of these are located in Student Affairs units, that division is including those projects in its summary report. The three remaining CFAC-funded projects provided a critical upgrade to a x-ray diffractometer, new monitors for the MLIB open computer lab, and additional student employee support for the MLIB Makerspace. The x-ray diffractometer upgrade directly supported students in CHEM 381 as well as students working in the labs of five active research faculty in the colleges of NSC, AGR, and EEC. Positive outcomes included demonstration of high levels (92.5%) of student self-reported confidence in data analysis using the equipment, two student paper presentations and four students’ poster presentations at campus-wide symposia. The 69 new monitors in the open computer lab are larger and include critical upgrades; these are used by students across the University. Outcomes include positive student feedback and an increase in lab usage. Outcomes for student advisors in the MLIB Makerspace are harder to determine. Usage of the space increased over AY 18-19, and one instructor provided positive feedback on her students’ use of the space. It's not clear what role the student employees play in these experiences or what benefit is achieved with additional student hours, although the instructor reflected on the benefit to her students of working with students from different majors.

COLLABORATION (If applicable): How did your use of SLF enhance our campus’s ability to engage in collaborative work? What challenges, if any, did you encounter in bringing interdisciplinary projects to fruition?

CFAC awards are by definition collaborative, or at least shared.
- The x-ray diffractometer is clearly used by multiple colleges, demonstrating an important efficiency, although it is not clear that any actual cross-college collaboration was developed.
- Use of the MLIB computer lab is individual so this investment, while important, does not invite collaboration.
- The Makerspace offers great potential for cross-unit collaborations but this would need to be approached more intentionally.

SUSTAINABILITY: Going forward, what are your plans for funding these projects?
The report on the Makerspace award indicates future cost-sharing plans with EEC and Student Life and leadership. The colleges of ECC, AGR, and NSC have committed to providing the modest support needed for software upgrades for their new equipment. No additional costs are associated with the MLIB computer monitors.

SUSTAINABILITY: Going forward, what are the programmatic priorities for your unit that SLF might support?
None at this time.

SUSTAINABILITY: Going forward, what other funding sources are you planning to pursue to support these priorities?
CFAC as an entity does not raise funds.
If you would like to include an attachment, please do so here.
None