

Professional Leave Report Cover Sheet

Name: Mara Brady

Department: Earth & Environmental Sciences

College: Science & Mathematics

Leave taken: Sabbatical Difference in Pay Professional Leave without Pay

Time Period: Fall 2021

- Spring
- Academic Year
- Other

Your report will be sent to your Dean for your PAF and to the Library Archives.

Post Sabbatical Leave Report

Mara Brady

Fall 2021

Introduction

The overarching goal of my sabbatical leave was to professionally grow as a “faculty change agent” who can support the widespread adoption of teaching practices that promote diversity and inclusion (e.g., Callahan et al., [2017](#); Wolfe and Riggs, 2017; Macdonald et al., 2019). In designing my sabbatical, I took a “Scholarship of Teaching and Learning” approach, which *“begins with intellectual curiosity, is conducted deliberately and systematically, is grounded in an analysis of some evidence, and results in findings shared with peers to be reviewed and to expand a knowledge base.”* ([Scholarship of Teaching and Learning Guide, Vanderbilt University](#)).

As specified by the APM this written report includes A) the accomplishments of the leave in relation to the goals of the original proposal; B) modifications, if any, to the original proposal, and the circumstances that necessitated these modifications; and C) anticipated outcomes for the near future as a consequence of the leave’s activities. I was able to meet all of the planned objectives of my sabbatical as well as complete some additional activities that were synergistic with the original planned activities.

A. Accomplishments

Below I outline the objectives from my sabbatical project and the related outcomes of each objective during my sabbatical period.

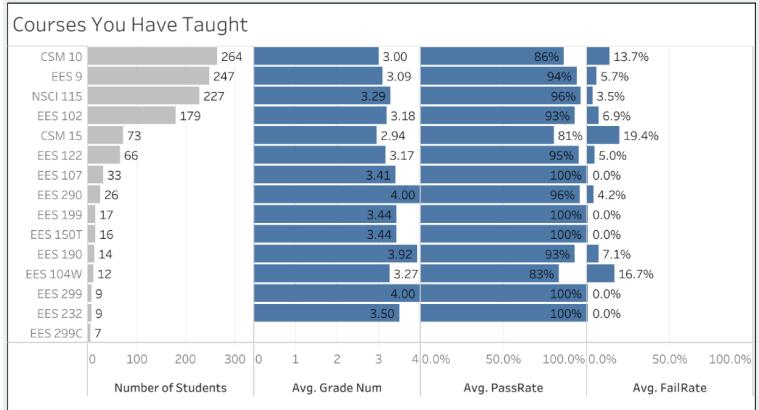
Objective 1 -- Learning about My Teaching: *Use existing equity-minded tools to assess student outcomes in the courses I have taught over nine years (including seven unique courses that span lower and upper division GE to EES major courses, which altogether have served a total of over 2000 students, and each of which have served at least 100 students).*

For the first objective, I worked in collaboration with the Office of Institutional Effectiveness (OIE) and Center for Faculty Excellence (CFE) to access and support the building of dashboards for viewing student outcomes in my courses. Cory Cowan, OIE Analyst, created the dashboard and I piloted the “faculty-facing view,” which displays student outcomes for all of the courses I have taught at Fresno State. Cory and I worked together to discuss how to investigate equity gaps using various measures and I gave feedback on how to display those different measures in the dashboard. We also regularly met with William Hardaway, CFE Instructional Designer, to get feedback on the data views and tools for calculating and visualizing equity gaps. The Tableau dashboard shows student outcomes in an individual faculty member’s course as well as how the course data compares to institutional outcomes. Below are examples of snapshots from the dashboard views for my courses.

Faculty Facing Dashboard Detailed

Introduction to the Dashboards	Data Dictionary	College/Department Level - Course Data	Faculty Level Course Data	Faculty Level Class Snapshot - Upcoming Semester	College/Department Level- Equity Index (EI)	Disproportionate Impacts - Pt. 1	Disproportionate Impacts - Pt. 2
--------------------------------	-----------------	--	---------------------------	--	---	----------------------------------	----------------------------------

Faculty Historic Course Data

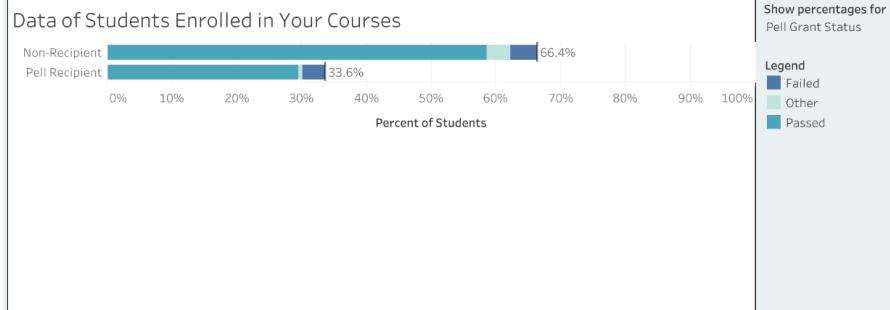


Semester
Multiple values

Course College
All

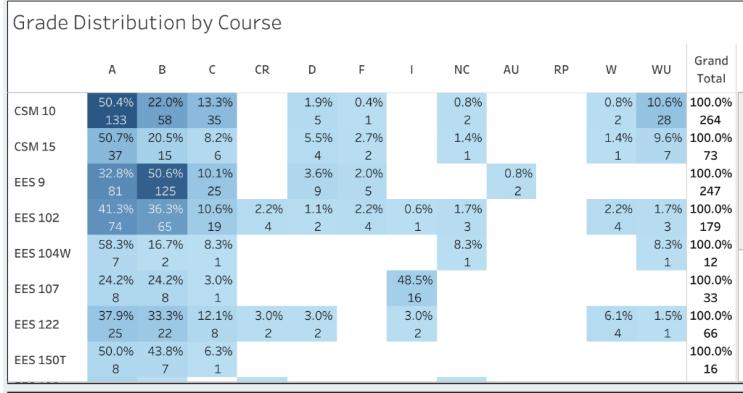
Course Dpt
All

Show data For
Course



Show percentages for
Pell Grant Status

Legend
Failed
Other
Passed



Select Outcome Data
Average Grade

Select Breakdown
Underrepresented Minority Status

Not Underrepresented Minority
Underrepresented Minority

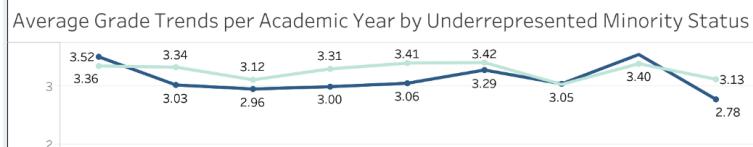


Figure 1. View of the Faculty-Level Course Data view (only accessible to the faculty whose data is shown). Top: Student Grades and Pass Rates across all of my courses (n = 15, Fall 2012-Spring 2021). Middle 1: Pass rates broken down by Pell Grant status (other demographic breakdowns are available). Middle 2: Grade distribution by course (not all courses visible in current view). Bottom: Average grade trends over time broken down by Underrepresented Minority Status.

Faculty Facing Dashboard Detailed

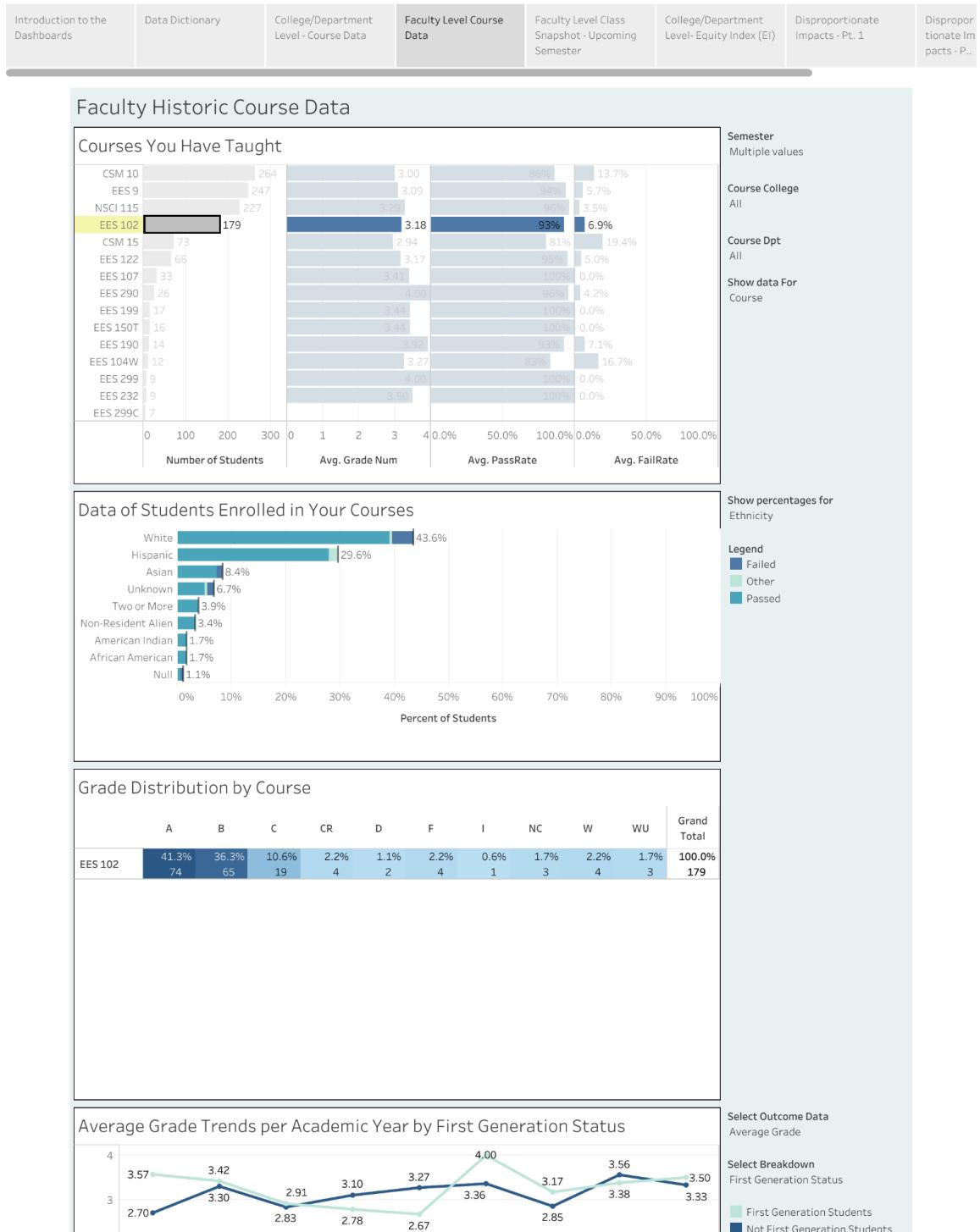


Figure 2. Faculty-Level Course Data view for EES102 only (n = 179 students, 9 offerings). Middle 1: Pass rate broken down by race/ethnicity. Middle 2: Grade distribution across all offerings. Bottom: Average grade over time broken down by First Generation Status.

Major Observations & Reflections:

- Across all of my courses, the group with the largest enrollment is Hispanic students and the group with the smallest enrollment is Pacific Islander students. When comparing the course pass rates across race/ethnicity groups, there are no groups experiencing disproportionate impacts (i.e. lower course pass rates than expected based on sample size, compared to highest achieving groups or average pass rate).
- Across my EES102 class offerings (required major course, taught regularly), the group with the largest enrollment is White students, the groups with the smallest enrollment are American Indian and African American students. There were no students who identified as Pacific Islander in my EES102 course over the observation period. When comparing the course pass rates across race/ethnicity groups, there are no groups experiencing disproportionate impacts (i.e. lower course pass rates than expected based on sample size, compared to highest achieving groups or average pass rate).
- While I did not find any evidence of race/ethnicity groups experiencing disproportionate impact in my courses, I did notice that the race/ethnicity demographics of my EES major course do not reflect the enrollment across all my courses and do not reflect the demographics of the university. This helped me see that enrollment equity and representation in EES courses would be a first barrier to address in terms of student success and outcomes for my specific courses.

Objective 2 -- Build Knowledge Base: Engage in professional development and training in the areas of equity minded and anti-racist pedagogies to support course and syllabus re-design in my courses.

Over the course of my sabbatical, I participated in several courses and webinars to deepen my understanding of pedagogies that would support equity in student outcomes, including online instruction in response to the ongoing pandemic and shifts in instructional strategies. I also participated in regular discussions with collaborators and read books to learn more. Below is a list of the professional development, learning and training I completed as part of my sabbatical:

1. Courses & Webinars:
 - [CORA - Course Design on Racial Equity](#) (self paced course, live online office hours). Description: Anti-racism is the act of engaging in actions that intentionally counter-act racism against Black, Indigenous, and People of Color (BIPOC). Bearing this in mind, this program aims to provide educators with the tools to engage in anti-racist course design, for online and in-person modalities. Participants will learn how racism impacts students' learning, growth, and development as well as tangible strategies to intentionally counter-act challenges in their curricula.
 - [CSU Equity Now](#) (led by: USC Race & Equity Center) (4 sessions of 2 hour webinars). Description: During the four-week span of the project, Equity Now

practitioners will: 1) Engage in critical identity exploration, increase your understanding of key terminology, complicate your positionality, and identify the various levels racism operates on; 2) Gain facility using the following concepts as foundations for racial literacy: race, racism, power, privilege, equity-mindedness, and antiracism. Learn to identify and combat racial equity detours; 3) Learn how to more skillfully access, analyze, and share disaggregated data in your institution as an advocacy tool for racial equity; and, 4) Identify key action steps you can take for yourself and in your institution to effect meaningful and sustainable change. Understand how to effectively hold yourself and others accountable.

- Introduction to Teaching Online using QLT (CSU Course for online teaching certification) (3 week course, 7 modules). Description: The course is an introduction to the pedagogies and strategies of successfully teaching in online and hybrid formats, weaving the 10 sections of the CSU QLT rubric throughout. This course is intended for anyone who is interested in and/or plans to teach an online or hybrid course. Participants can expect to engage in helpful discussions with their peers from other CSUs and share best practices for creating quality courses that align with their student learning outcomes. Participants must acquire at least eighty-five percent (85%) in the course to receive a certificate of completion. It should take between 15 - 20 hours total to work through the course.
- The Current and Future State of HSIs - September 8, 2021 .Presenters: Excelencia in Education: Deborah Santiago, CEO and Sarita Brown, President

2. Weekly meetings with William Hardaway, Instructional Designer - personal coaching on syllabus re-design and equity-minded pedagogy. These meetings also occasionally included Cory Cowan from OIE to discuss implications for the faculty-facing dashboard.
3. Reading (outside of courses):
 - McNair, Tia Brown, Estela Mara Bensimon, and Lindsey Malcom-Piqueux. *From equity talk to equity walk: Expanding practitioner knowledge for racial justice in higher education*. John Wiley & Sons, 2020.
 - Tatum, Beverly Daniel. *Why are all the Black kids sitting together in the cafeteria?: And other conversations about race*. Hachette UK, 2017.

Objective 3 -- Growth & Action Plan: Use my self-assessment and enhanced knowledge to inform the campus-wide use of a "faculty-facing dashboard" in the context of a Faculty Learning Community that will be implemented across campus following my sabbatical period based on the results of my study and learning.

I worked with Cory Cowan to use and iterate different versions of the faculty-facing dashboard. In collaboration with William Hardaway, we read articles together, explored other university dashboards, and identified three main ways to look at disproportionate impacts based on the literature. These views are now available on the dashboard. Based on

my own observations on the equity gaps in enrollment and representation (i.e. a greater proportion of White students enroll in my EES major course than in the university as a whole), Cory developed a way to compare individual course enrollment to university, college, and department enrollment. What started as a dashboard with a single tab and three different output panels has developed into a dashboard with 10 panels, three different ways to observe disproportionate impacts (i.e. equity gaps), and a combination of individual course/instructor data along with university, college, and department level data.

While developing the dashboard, I worked with William Hardaway to provide feedback and insights as he developed the Equity-Minded Pedagogy Faculty Learning Community, which launched in Summer 2022. We met weekly to discuss articles and videos that could be incorporated into the course and for him to support me in re-designing my EES102 course to better support all learners and to apply the principles of racial equity I was learning about in my professional development. Based on our discussions, William made changes to an existing syllabus rubric tool that faculty can use to assess their course design and practices. William gave me specific feedback on my course design and assignments so that I could implement changes in Spring 2022.

B. Modifications

As described above, I was able to meet the objectives of my original proposal. I also leveraged some new opportunities that came up since I developed my proposal to advance work on additional areas that were aligned with my overall sabbatical project goal. Below, I summarize some of the additional work I completed as part of my sabbatical:

- In August 2021, I was notified that our NSF GEOPATHS grant was funded and work would begin immediately. I took some of the time during my sabbatical to advance work on this project which included launching pilot surveys, analyzing EES department data for equity gaps, and meeting with my co-PI's to build and plan for implementation of our cohort program the following academic year (2022-2023).
- I co-authored and co-facilitated two workshops at the 2021 Conference on Transforming STEM Higher Education (Nov 4-6, 2021).
 - Brady M, Oputa F, Hironaka-Juteau J, Taylor, V. Skills for Examining and Overcoming Obstacles to Racial Equity in STEM Higher Education. 2021 Conference on Transforming STEM Higher Education. Nov 4-6, 2021.
 - Hironaka-Juteau J, Brady M, Oputa F, Taylor, V. Skills for Facilitating Difficult Dialogue for Institutional Change. 2021 Conference on Transforming STEM Higher Education. Nov 4-6, 2021.
- I collaborated with co-authors and submitted a manuscript in December 2021, which is now published:
 - Cowan, C. C., **Brady, M.**, Arvizu, J., Reece, A., Weinman, B., & Zivot, M. *in press*. Cultivating not Weeding: STEM First Year Learning Community Fosters Student Persistence and Engagement. *Journal of College Student Retention: Research, Theory & Practice*.

C. Objectives not met - N/A

All objectives of the sabbatical proposal were achieved.

D. Anticipated Future Outcomes

I designed my sabbatical project to develop and grow as a scholar myself, and also to develop my capacity as a faculty change agent. Therefore, the overarching goal of my sabbatical project was to take what I learned and share it with others on campus in my department, college, and across the university. I intentionally designed the different activities to lead to the development of a structure for a campus-wide Faculty Learning Community, which has now been implemented.

Below are a list of the immediate outcomes that were achieved as a result of my sabbatical:

- Equity-Minded Pedagogy Faculty Learning Community implemented in Summer and Fall 2022 (facilitated by William Hardaway, co-facilitated by me in Summer 2022).
- I published a manuscript that was originally submitted during my sabbatical (see section B).
- I submitted and was awarded a CSU Student Success Network Equity In Action Grant (PI, \$20k) in May 2022. I was able to leverage the work I completed during my sabbatical to support the justification and feasibility for this grant award.
- Cory, William, and I have met with representatives from the Chancellor's office to discuss our collaboration and the dashboard. William is now working part time on developing his Equity-Minded Pedagogy course to be distributed CSU-wide.

In addition to these immediate impacts, I anticipate longer-term outcomes based on the collaborations and relationships I developed during my sabbatical. These collaborations will likely lead to additional scholarly activities and institutional change. I also anticipate that William's course will have a significant impact at the CSU level once it is launched.

Moreover, I anticipate my scholarly activities growing in the area of scholarship of teaching and learning. As a result of my engagement in this community, I have been invited to review articles for the Journal of College Science Retention and the Journal of Geoscience education. These scholarly activities will allow me to continue to professionally develop and also align my research with campus strategic priorities and potentially support new program development to address equity gaps in student enrollment and retention.

Section 1 - The Proposal

Professional Leave Proposal - Sabbatical

Dr. Mara Brady

Department of Earth & Environmental Sciences

College of Science & Mathematics

Target Leave: Fall 2021

1.1 Overview: Summary of Goals & Objectives

Broadening participation and increasing student persistence in STEM fields (science, technology, engineering, and mathematics) is critical to supporting a diverse, talented, and creative workforce. Despite significant efforts and funding initiatives, STEM fields in general lack diversity; and the geosciences in particular remain one of the least racially/ethnically diverse STEM fields over the last several decades (National Center for Science and Engineering Statistics, 2015; Bernard and Cooperdock, 2018). Faculty members play a critical role in attracting, retaining, and supporting the success of students from historically underrepresented groups, especially those from low income and racial/ethnic minority backgrounds and first-generation college students (Macdonald et al., 2019). However, many geoscience faculty report not having opportunities to discuss diversity and equity issues with colleagues and not implementing evidence-based teaching practices to support inclusive classrooms (Bean et al., 2019).

The overall goal of my sabbatical project is to develop myself as a “faculty change agent” who can support the widespread adoption of teaching practices that promote diversity and inclusion (e.g., Callahan et al., 2017; Wolfe and Riggs, 2017; Macdonald et al., 2019). I plan to expand my knowledge, skills, and expertise in the area of Scholarship of Teaching and Learning (SoTL) with a specific focus on equity-minded and anti-racist teaching practices, so that I can make meaningful change within my own courses, build leadership capacity for supporting other faculty to make instructional changes that decrease equity gaps, and contribute to a body of knowledge on inclusive teaching practices. I plan to accomplish my goal through the following specific objectives:

- (1) Learning about My Teaching: Use existing equity-minded tools and approaches to assess the courses I have taught over nine years and identify “equity gaps” in student outcomes based on race/ethnicity, gender, first-generation status, among other demographic variables (e.g. Bensimon, 2007). This self-assessment will include seven unique courses that span lower and upper division GE to EES major courses, which altogether served over 2000 students, and nearly all of which have served at least 100 students.
- (2) Build Knowledge Base: Engage in professional development and training in the areas of equity-minded and anti-racist pedagogies to support course and syllabus re-design to address equity-gaps in student outcomes. The professional development opportunities I plan to participate in are specifically designed for faculty engaging in a self-assessment of equity gaps in student outcomes and providing tools to address those gaps and create meaningful curricular change that supports diverse student learners.
- (3) Growth & Action Plan: Use my self-assessment and enhanced knowledge to inform the structure and content of a Faculty Learning Community to be developed in collaboration with the Center for Faculty Excellence. This faculty learning community, to be implemented after my sabbatical period, will support faculty campus-wide in conducting similar equity audits of their courses and student learning outcomes, making curricular changes, and sharing experiences and practical strategies with each other.

1.2 Motivation & Background

1.2.1 Motivation: Over the last eight years that I've been a faculty member at Fresno State, I have grown as a scholar, teacher, research mentor, and community member. I have committed to engaging in professional development to support my own teaching and research practices and led the development and implementation of student success programs across campus and in collaboration with other colleges and divisions (e.g. Liberal Studies STEM Concentration, CSM BOND, Student Professional Development CAIFE Team, CSU Data Analytics Certificate Program). I have engaged in diversity and inclusion training and leadership development to reflect on my own biases and work toward becoming change agent on campus for addressing historic inequities in higher education (e.g. AAC&U's High Impact Practice Institute, PKAL STEM Leadership Institute, President's Cultural Competency Certificate Program, Fresno State NCBI Team Member).

As a faculty member, like many of my colleagues, I have felt a heightened sense of responsibility for addressing systemic racism in light of the global Movement for Black Lives and calls for action within the STEM higher education community (e.g. Barber et al. 2020). This sabbatical project provides the perfect opportunity to draw on my previous experiences and established collaborations to expand my expertise and leadership capacity for implementing change on campus. Over 60% of CSU faculty participated in professional development over Summer 2020 (pers. comm. Emily Magruder, Chancellor's Office), which highlights that we have a community of faculty willing to engage in learning and adopting new practices, when given support and structure. Clearly, there is a palpable energy across campus and the country to engage faculty in training that facilitates reflection on personal biases, recognizes and addresses racial inequities in student outcomes, and that provides opportunities to develop anti-racist and social-justice oriented curriculum to empower our students to be leaders in the San Joaquin Valley and beyond. I want to contribute to this momentum for improving student learning and outcomes through wider adoption of teaching practices that support diverse student learners.

1.2.2 Research & Conceptual Framework: This project is also informed by my participation in previous professional development experiences, including a 2018 CSU Institute for Teaching and Learning led by the USC Center for Urban Education (USC CUE) and a Fresno State Student Success Summit keynote address from Dr. Shaun Harper (who now directs the USC CUE), where faculty were challenged to acknowledge the role that racism plays in our students' daily lives and in our classroom practices and environment. In Summer 2020, I participated in an online course led by CSU-Fullerton Faculty *Teaching First-Generation Students by Drawing on Cultural Strengths* that broadened my knowledge of how to support first-generation college students and helped me develop specific instructional strategies for supporting student learning, especially when students come from a diverse cultural backgrounds, such as at Fresno State.

These experiences made me more aware of my responsibility and role in addressing equity gaps in student outcomes especially based on race/ethnicity and first-generation status. USC CUE defines Equity-Mindedness as "*the perspective or mode of thinking exhibited by practitioners who call attention to patterns of inequity in student outcomes. These practitioners are willing to take personal and institutional responsibility for the success of their students, and critically reassess their own practices. It also requires that practitioners are race-conscious and aware of the social and historical context of exclusionary practices in American Higher Education*" ([USC CUE](#)) (Figure 1). With a focus on the role of faculty knowledge and practices and faculty-student interactions on improving student outcomes (Bensimon 2007), the equity-

minded framework will directly inform my sabbatical project as I (1) conduct a self-assessment of student outcomes in my courses, (2) build my knowledge base through targeted learning and training, and (3) create an action plan for my own instructional change and inform the structure of a faculty learning community model that can be extended campus-wide.



Figure 1. The components of an equity-minded approach to systematic change in higher education (USC Center for Urban Education).

The structure of my sabbatical project is based on the framework of Scholarship of Teaching and Learning (SoTL), defined as an approach that “*begins with intellectual curiosity, is conducted deliberately and systematically, is grounded in an analysis of some evidence, and results in findings shared with peers to be reviewed and to expand a knowledge base.*”

([Scholarship of Teaching and Learning Guide, Vanderbilt University](#)). This systematic process includes a self-study of student outcomes in a faculty’s own courses, literature review of best practices that leads to action to strengthen teaching practices for the individual faculty member, an assessment plan to evaluate the impact of the changes, and dissemination of the work to inform institutional practices (Figure 2). Moreover, my goal of developing as a faculty agent of change is based on successful faculty development models, which point to the value of having a trusted faculty colleague disseminate and share the most relevant and appropriate evidence-based teaching practices for their student body and institutional context (Guskey and Yoon, 2009; Macdonald, 2019). By the end of my sabbatical project, I will be able to take what I have learned about my own teaching and student outcomes, what I have learned about equity-minded and anti-racist teaching practices, and develop a model for a Faculty Learning Community that can be implemented campus-wide at Fresno State.

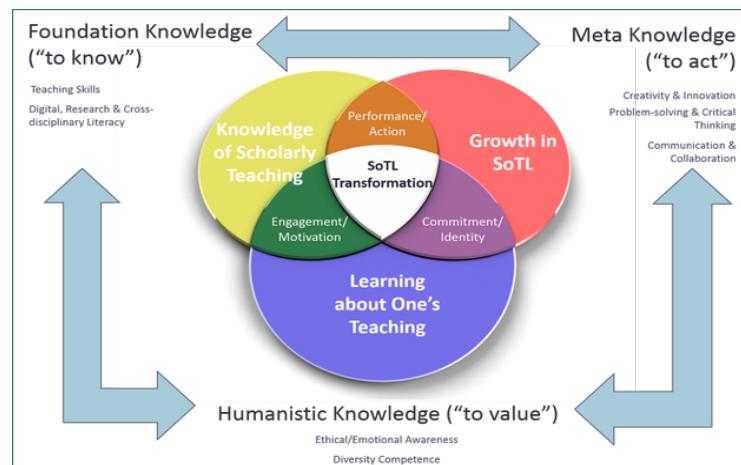


Figure 2. A conceptual model from M. Herie of scholarship of teaching and learning integrates research, self-reflection and development, and action (adapted from Randall et al. 2013 and Kereluck et al. 2013).

1.3 Preliminary Arrangements and Secured Commitments

Over my time at Fresno State, I have established relationships and collaborations, which extend across Fresno State departments, Colleges, Divisions, as well as CSU campuses. These collaborations set a foundation for the sabbatical work I plan to do. My proposed project builds on and leverages CSU- and campus-wide efforts to improve student outcomes and eliminate equity gaps in student outcomes (e.g. Graduation Initiative 2025). In order to evaluate the equity gaps in my student outcomes (Objective 1), I have secured commitments from Matt Zivot and Corinne Cowan from the Office of Institutional Effectiveness (OIE) as well as Bryan Berrett, Director of the Center for Faculty Excellence, who secured a grant to develop the “faculty-facing dashboard” I will use in my project (Figure 3). I have previous working relationships with all of these individuals and am excited to continue to collaborate with and learn from them. My sabbatical project will be a pilot test of this dashboard, where I work with OIE collaborators to update and add to the dashboard to maximize its use and potential for other faculty members. The CSU Innovation grant that supported the development of the “faculty facing dashboard” also includes funding to support a campus-wide Faculty Learning Community of individuals using the dashboard, engaging in professional development, and supporting each other to make meaningful changes in their courses. Bryan has indicated he would like to collaborate with me to develop this Faculty Learning Community model (which would be implemented after my sabbatical period) based on what I learn and develop during my sabbatical project (Objective 3). To support targeted professional development during my sabbatical project (Objective 2), I have secured commitments from Emily Magruder (CSU Chancellor’s Office Director, Institute for Teaching and Learning) and Drs. Estela Zarate and Rebecca Gutierrez Keeton (CSU Fullerton), who will provide expertise and guidance on which courses and training might be most relevant. These individuals have also committed to discussing how to adapt and implement the *Teaching First-Generation Students by Drawing on Cultural Strengths* course (taught by Drs. Zarate and Gutierrez Keeton, which I took in Summer 2020) at Fresno State to support the faculty learning community model I will develop during my sabbatical period (Objective 3).

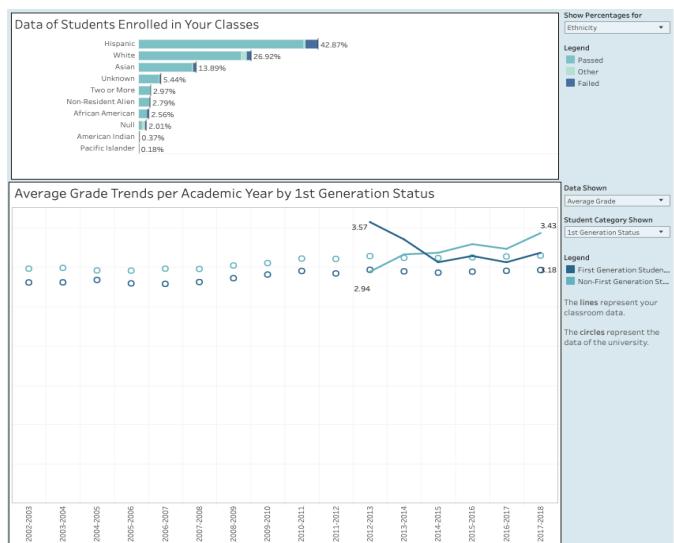


Figure 3. Example view of the “faculty-facing dashboard” that allows faculty to self-assess historical trends in student outcome equity gaps based on a number of demographic variables including race/ethnicity, first

generation status, Pell-grant eligibility, gender, among other factors. This is a view of my dashboard, which will be updated based on my use and feedback to OIE.

To support my learning and development in the areas of anti-racism and equity-minded teaching practices (Objective 2), I will also draw on the training I've done through the President's Cultural Competency Certificate Program and the Fresno State National Coalition Building Institute Team (NCBI). As a formally-trained member of the NCBI team that leads diversity and inclusion workshops across campus, I will leverage established relationships and expertise of NCBI team members across campus divisions, especially the Cross Cultural and Gender Center, as well as trainings led by the head national organization. I am open to learning about new opportunities as the sabbatical period approaches, but I already identified existing professional development opportunities specifically targeted for faculty seeking to assess and close equity gaps in student outcomes. Below are a few examples, which will be narrowed down and selected based on input from the collaborators I've identified above:

- San Diego State Center for Inclusive Excellence has several resources and guidance for closing equity gaps and also offers a self-paced online course: *Foundations of Effective and Inclusive Course Design* (10 hours). In Fall 2020, they are hosting several relevant professional development workshops and seminars and I expect similar offerings to be available in Fall 2021.
- Online Network of Educators offers a self-paced course titled *Equity and Culturally Responsive Teaching* (40 hours)
- Center for Organizational Research and Education (CORA) offers several courses “*that focus on key issues facing historically underrepresented and underserved students in education including racial microaggressions, unconscious bias, micro insults, and others*” (most courses are approximately 15 hours of work).
- Based on discussions with community college faculty colleagues and Dr. Magruder from the CSU Chancellor’s Office, California community colleges have implemented similar faculty learning programs and I will use my sabbatical period and existing connections to draw on what they have developed and learned (e.g. Long Beach City College engaged a group of faculty in a “cultural curriculum audit” following USC CUE’s equity-mindedness framework, and have already seen an improvement in student success outcomes)

1.4 Project Management Plan: Activities & Timeline

Below I provide a timeline of how the sabbatical period will be spent which demonstrates that the proposed activities cannot be accomplished in less than one semester and will be completed by the end of the sabbatical period (Table 1). I also provide a project management plan that outlines what activities and collaborations I am building from to support this project, the planned activities and collaborators associated with different components, as well as the short-term outcomes (end of sabbatical) and long-term impacts (beyond the sabbatical period) of the sabbatical project (Table 2).

Table 1. Detailed timeline of project objectives and activities. The gray fill indicates the time range of activities.

Objective & Activities	August	September	October	November	December
------------------------	--------	-----------	---------	----------	----------

<p>Objective 1 -- Learning about My Teaching: Use existing equity-minded tools and approaches to assess the courses I have taught over nine years and identify “equity gaps” in student outcomes based on race/ethnicity, gender, first-generation status, among other demographic variables.</p>					
--	--	--	--	--	--

Use tableau “faculty-facing dashboard” to assess student outcomes in my courses; provide feedback to OIE on dashboard layout and filtering; collaborate with OIE to update as needed					
Equity Audit: Analyze and interpret student outcomes data (e.g. pass rates, grades) to assess equity gaps in race, first generation status, transfer status, gender (and other socio-economic demographic variables)					

<p>Objective 2 -- Build Knowledge Base: Engage in professional development and training in the areas of equity-minded and anti-racist pedagogies to support course and syllabus re-design to address equity-gaps in student outcomes</p>					
---	--	--	--	--	--

Engage in professional development to 1) inform student outcome data analysis, 2) learn about my own biases and the historical exclusion of certain students/groups in academia, and 3) identify practical strategies for supporting culturally-diverse learners in my classes					
Review course material and develop action plan for equity-minded course re-design of selected courses with greatest potential to address student outcomes inequities					

<p>Objective 3 -- Growth & Action Plan: Use my self-assessment and enhanced knowledge to inform the structure and content of a faculty learning community to be developed in collaboration with the Center for Faculty Excellence.</p>					
---	--	--	--	--	--

Summarize student outcomes assessment and publicly disseminate results (e.g. CSM Assembly, TIP Conference)					
Curate and adapt professional development and training resources that can be used in campus-wide rollout of faculty learning community to address student equity gaps in					

courses					
---------	--	--	--	--	--

Table 2. Project management plan that demonstrates feasibility of the project activities along with short-term outcomes of the sabbatical and long-term impacts that will extend beyond the sabbatical period.

<u>Inputs (established pre-sabbatical)</u>	<u>Objectives & Activities (conducted during sabbatical)</u>	<u>Collaborators & Participants</u>	<u>Short-Term Outcomes (at end of sabbatical)</u>	<u>Long Term Impacts (beyond the sabbatical)</u>
Existing tableau dashboard of historical student outcomes in my courses CSU Innovation Grant funded project (OIE & CFE) Working relationship with and commitment from OIE and CFE Staff Previous professional development and training	<u>Objective 1 - Learn about My Teaching</u> 1. Use tableau “faculty-facing dashboard” to assess student outcomes in my courses 2. Equity Audit: Analyze and interpret student outcomes data to assess equity gaps based on demographic variables	Corinne Cowan, OIE Bryan Berrett, Director of CFE	Pilot test of dashboard utility and additional features included to support future work	Ability for me to use information about future student enrollment in future courses to tailor syllabi and course design Improved faculty-facing dashboard Increased opportunity and support for faculty to conduct self-assessment of student outcome equity gaps
Existing online resources, training, and courses: examples include webinars from USC CUE, CORA, San Diego State Commitment from CSU experts	<u>Objective 2 - Build Knowledge Base</u> 3. Engage in targeted professional development opportunities and training 4. Review course material and conduct	NCBI Team Cross-cultural and gender center Online course participants CSU Colleagues	Knowledge, skills, awareness of my biases and how they impact teaching practices Action plan for making changes to selected courses and	Personal leadership capacity for enacting institutional change Strengthened collaborations and connections to CSU and

NCBI team member relationships and network of diversity experts	equity-minded course re-design		syllabi	statewide initiatives to support future scholarly activities
<u>Inputs</u> (established pre-sabbatical)	<u>Objectives & Activities</u> (conducted during sabbatical)	<u>Collaborators & Participants</u> (during sabbatical)	<u>Short-Term Outcomes</u> (at end of sabbatical)	<u>Long Term Impacts</u> (beyond the sabbatical)
Working relationship with and commitment from OIE and CFE Staff Faculty interest in developing equity-minded and anti-racist teaching practices Existing CSM and University-wide events and venues CSU Innovation Grant funded project (OIE & CFE) Existing faculty learning community structure at Fresno State CSU Fullerton faculty designed course for supporting first-generation college students	<u>Objective 3 - Growth and action plan</u> 5. Summarize and disseminate project results 6. Curate and adapt professional development resource for Fresno State faculty learning community	OIE and CFE Staff CSM Faculty University Faculty Cross-Cultural and Gender Center CO Director of Institute for Teaching and Learning CSU Fullerton faculty experts	Public presentation of student outcome equity-gap assessment, feedback and discussion with colleagues Faculty development model for faculty assessment of student outcome equity-gaps	Refining of self-study action plan based on feedback Increased interest and awareness of faculty to participate in faculty development Faculty engaged in data analysis and self reflection Faculty engaged in changing instructional practices to improve student outcomes and equity gaps Community of faculty supporting each other to make changes and continue learning and training

Section 2 - Benefits to the faculty member

The overall goal of my sabbatical project is for me to develop my skills, knowledge, and capacities as a faculty change agent who can facilitate the widespread adoption of teaching practices that promote diversity and inclusion campus-wide. The specific objectives and

associated activities that build toward this overarching goal will directly benefit me as a faculty member. This project will allow me to develop a greater command of subject matter in the areas of equity-mindedness, anti-racist pedagogy, and formal scholarship of teaching and learning; open up new directions in my research program that will supplement my existing primary sedimentary geology research; and improve my curriculum and command of teaching practices, especially those that will support the culturally and socio-economically diverse learners in my classes at Fresno State. Below I highlight how each project objective will benefit me as a faculty member:

- (1) Learning about My Teaching: Use existing equity-minded tools and approaches to assess the courses I have taught over nine years and identify “equity gaps” in student outcomes. *This objective will lead to a greater command of Scholarship of Teaching and Learning approaches which will expand my area of expertise beyond geologic research and prepare me to contribute to a body of knowledge of teaching practices as I continue this area of research beyond the sabbatical.*
- (2) Build Knowledge Base: Engage in professional development and training in the areas of equity-minded and anti-racist pedagogies to support course and syllabus re-design to address equity-gaps in student outcomes. *This objective will contribute to an immediate improvement in the design of my courses and curricula as well as improving my command of equity-minded and anti-racist teaching practices that are known to improve student outcomes, especially for culturally diverse student learners. This additional training and professional development will also broaden my knowledge of these subject areas and better prepare me to contribute to scholarly articles in this area of research.*
- (3) Growth & Action Plan: Use my self-assessment and enhanced knowledge to inform the structure and content of a faculty learning community to be developed in collaboration with the Center for Faculty Excellence. *This objective will support me in getting feedback from important stakeholders on campus and engaging with other faculty members and collaborators who will support this project beyond the sabbatical period. This objective will build my leadership capacity for enacting change on campus and will allow me to strengthen important collaborations and connections needed to facilitate those changes after the sabbatical period ends.*

Section 3 - Benefits to the university

My sabbatical project is designed to not only help me grow as a scholar and teacher, but to develop my capacity as a faculty change agent. Therefore, the overarching goal of my sabbatical project is to take what I've learned and share it with others on campus in my department, college, and across the university. I have intentionally designed the different activities to lead to the development of a structure for a campus-wide Faculty Learning Community. Based on the commitment from Bryan Berrett and his existing grant funding to support such a faculty learning community, we will collaborate to facilitate the faculty learning community after the sabbatical period. Therefore, this project will directly impact those faculty that participate as well as the students in their courses. This project has the potential to lead to more faculty engaged in data analysis of equity gaps of student outcomes and more widespread

adoption of effective teaching practices. I am especially excited about the creation of a learning community of faculty doing the challenging work of revising and updating their courses to address the needs of our diverse learners, all of whom can support each other and share practical strategies for success.

While I have centered the immediate focus of this project on my own courses and teaching practices, as part of this project I will develop skills, training, and knowledge to conduct similar assessments of equity-gaps in student outcomes at different scales such as the EES Department and College of Science and Mathematics. I also expect that the new curricular changes and teaching strategies I develop will be especially relevant to EES faculty and other CSM faculty. Anecdotally, I have heard from CSM faculty that it can be challenging to consider how to address issues of race and racism within the context of our course content. And previous research on successful faculty development programs point to the value of having a trusted colleague who has learned from pedagogy experts various strategies and is able to select and share the most relevant and valuable for the institution, student population, and discipline context (Macdonald, 2019).

Section 4 - Previous leaves

I have not taken any previous professional leaves from the university.

References

Barber, P., Hayes, T., Johnson, T., Márquez-Magaña, L. (2020). Systematic racism in higher education. *Science* 369: 1440.

Beane, R., McNeal, K., & Macdonald, R.H. (2019) Probing the National Geoscience Faculty Survey for reported use of practices that support inclusive learning environments in undergraduate courses, *Journal of Geoscience Education*, 67:4, 427-445.

Bensimon, E. M. (2007). The underestimated significance of practitioner knowledge in the scholarship on student success. *The Review of Higher Education*, 30(4), 441-469.

Bernard, R. E., & Cooperdock, E. H. G. (2018). No progress on diversity in 40 years. *Nature Geoscience*, 11, 292–295.

Callahan, C. N., LaDue, N. D., Baber, L. D., Sexton, J., van der Hoeven Kraft, K. J., & Zamani-Gallaher, E. M. (2017). Theoretical perspectives on increasing recruitment and retention of underrepresented students in the geosciences. *Journal of Geoscience Education*, 65(4), 563–576.

Guskey, T. R., & Yoon, K. S. (2009). What works in professional development? *Phi Delta Kappan*, 90(7), 495–500.

National Center for Science and Engineering Statistics (2015), Women, Minorities, and Persons with Disabilities in Science and Engineering: 2015, Spec. Rep. NSF 15-311, Natl. Sci. Found., Arlington, Va.

Wolfe, B. A., & Riggs, E. M. (2017). Macrosystem analysis of programs and strategies to increase underrepresented populations in the geosciences. *Journal of Geoscience Education*, 65(4), 577–593.

R. Heather Macdonald, Rachel J. Beane, Eric M. D. Baer, Pamela L. Eddy, Norlene R. Emerson, Jan Hodder, Ellen R. Iverson, John R. McDaris, Kristin O'Connell & Carol J. Ormand

(2019) Accelerating change: The power of faculty change agents to promote diversity and inclusive teaching practices, *Journal of Geoscience Education*, 67:4, 330-339.