

ABSTRACT

HIGH-IMPACT PRACTICES AT CALIFORNIA STATE UNIVERSITY, FRESNO

Higher education in the United States has experienced a loss of financial support, accompanied by an increasing criticism of cost and a questioning of effectiveness regarding student success (Gelman, Holland, & Soring, 2018). The level of knowledge and skills necessary for individuals to thrive in our global community is increasing (Fisk, 2012). As a result, budgeting models, curriculum, and institution culture are all taking on changes in an effort to meet the expectations of the 21st century (Gelman et al., 2018). High-Impact Practices (HIPs) are programs and activities aimed at increasing student engagement with course material, fostering supportive mentorships with faculty, encouraging cooperation and teamwork among peers, and increasing graduation rates, GPA and retention (Academic High-Impact Practices and Activities, 2018; Kuh, 2008). Research has found that while all students serve to benefit from these practices, underserved populations, such as first-generation students, stand to benefit to a greater degree, as it is these populations that encounter additional barriers to college success. A total of 637 undergraduates at California State University, Fresno were surveyed regarding their opinions and experiences with High-Impact Practices. Results were analyzed and compared by first-generation status and gender. The aim of this research lies in gaining a deeper understanding regarding the current state of High-Impact Practices at Fresno State.

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by

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CHAPTER 1: INTRODUCTION

For nearly two decades, higher education in the United States has experienced a loss of financial support accompanied by an increasing criticism of cost and a questioning of effectiveness regarding student success. Budgeting models, curriculum, and institution culture are all taking on changes in an effort to meet the expectations of the 21st century (Gelman, Holland, & Soring, 2018). Such drastic changes to higher education bring about a higher demand for a new kind of graduate (Brownell & Swaner, 2010).

In order to meet this need, many universities are seeking to drastically redesign curriculum aimed at enhancing the student experience, reducing the financial burden of costly tuition, and improving learning and graduation rates, while also demonstrating institutional leadership through greater involvement in regional and global issues (Gelman et al., 2018). In order to meet this ever-changing demand for a new generation of students, previous methods of teaching are being replaced with more integrative and meaningful learning to take place (Association for American Colleges and Universities, 2013). Courses made up of traditional lecture for which students only memorize information in order to regurgitate for an exam are being replaced by a more engaging style of teaching that aims to develop a more effective and empowering form of learning (Association of American Colleges and Universities, 2007; Zhao & Kuh, 2004).

As part of this wave of changes taking place, a set of practices or opportunities for engaged processing, both in and outside the classroom, have been identified. These practices are thought to provide a more in-depth and integrative form of learning for students. This new form places more emphasis on the social nature of learning by allowing for more interaction with peers and faculty (AAC&U, 2013). Positive interaction with faculty and advisors has been identified as the number one underestimated factor contributing to both student success and retention (Fowler &

Boylan, 2010). Research has shown this frequent interaction with others to be associated with positive outcomes, including higher levels of engagement (AAC&U, 2013; Pike, 2002; Pike, Kuh & McCormick, 2010) and gains in both personal development and practical competence (Association of American Colleges and Universities, 2008).

CHAPTER 2: LITERATURE REVIEW

George Kuh, founding director of the National Institute for Learning Outcomes Assessment, has published numerous reports outlining the many benefits associated with what he describes as High-Impact Practices (HIPs). He recommended these HIPs be thought of simply as tools for college success rather than be viewed as a set of discrete experiences to be checked from a list (AAC&U, 2008; Finley, 2011; Zhao & Kuh, 2004). He proposed that each student experience a minimum of two HIPs throughout the duration of their college experience. One, he advised, during their freshman year and another as the student nears degree completion (Gonyea, Kenzie, Kuh, & Laird, 2008). Brownell and Swaner (2009) agreed that two HIPs should be a mandatory minimum for every student, but data suggest that this is not currently a reality. Kuh went on to reason that these tools can be used to transform students into more intentional learners (AAC&U, 2013), keeping them engaged, and therefore more likely to finish their degree (AAC&U, 2008; Pascarella & Terenzini, 2005).

In addition to increases in retention, each HIP also has the potential to elicit increases in critical thinking and writing skills (NSSE, 2007). Participation in these practices has been found to increase the amount of time students spend on task, actively engaged in purposeful problem-solving of matters of real-world context (AAC&U, 2008; 2013). Beyond helping students to develop both practical and intellectual skills (Paulson, 2012), HIPs can also help students to develop a sense of personal and social responsibility (Association of America's Colleges and Universities, 2007). Similarly, involvement in HIPs has also been found to aid students in the development of a greater appreciation for diversity and greater acceptance for viewpoints of others that differ from their own (Brownell & Swaner, 2010). An outcome such as this has potential positive implications for all members of that student's community, rather than just for that

student. Furthermore, research shows that students experience gains in self-reported measures of growth, including increases in both confidence and self-esteem following their participation in high-impact practices (Kuh et al., 2008; NSSE, 2007).

Using data from the National Survey of Student Engagement (NSSE, 2008), Kuh demonstrated that HIPs are beneficial to students from varying backgrounds (Finley, 2011; Zhao & Kuh, 2004) in many ways, including increases in grade point average (GPA) and retention (AAC&U, 2013; Kuh et al., 2008). These effects were especially pronounced, however, for students from groups that have been historically underrepresented in higher education (Finley, 2011; Zhao & Kuh, 2004), such as those from select ethnic minorities as well as first-generation college students and students from low-income backgrounds (AAC&U, 2013; Kuh et al., 2008).

Research has found that these particular groups of students serve to benefit from HIPs in an even greater way than previously thought (Gonyea et al., 2008; Kuh et al., 2008). Finley (2011) corroborated these findings with results from a study in which students with relatively low placement scores, as well as students of certain minority ethnic backgrounds, experienced even greater increases in GPA following their participation in HIPs. Thus, while HIPs are beneficial to students of various backgrounds, they seem to have potential for increased benefit to those at-risk individuals least likely to engage in deep learning opportunities such as students from select ethnic minority backgrounds, first-generation college students, those less prepared for college level work and low-income students (Kuh et al., 2008).

This is of even greater importance given that the literature demonstrates the presence of an achievement gap in higher education (Finley, 2000). Graduation rates vary significantly by socioeconomic background and race (Musu-Gillette, 2015, July 30). These already existing gaps between underserved populations and traditionally advantaged groups is often further widened by institutional selectivity. The research

shows, however, that HIPs can help to ameliorate these gaps. Finley (2011) stated that a compensatory effect of HIPs exists that will help to close this gap in achievement rates. Finley stated that while high-impact practices may be good for all, they have been demonstrated as being of particular benefit to underserved students (Finley, 2011).

California State University, Fresno currently holds two Department of Education minority-serving institution designations: Hispanic-serving Institution and Asian-American, Native-American, Pacific Islander-serving Institution. Fresno State is both the sole, major comprehensive university, and the largest Hispanic-Serving Institution in the Central San Joaquin Valley. Total enrollment for fall 2016 was 24,403; 47.7% or 11,649 of these students identify as Hispanic. In fact, Fresno State enrolls more rural Hispanic students than any other university in California (Fresno State Office of Institutional Effectiveness, 2016). That same year 67.4% of students enrolled at Fresno State were the first in their family to attend college and 59.9% of undergraduate students were Pell grant eligible. In order to qualify for a Pell grant, students must be of low income. Low-income status and first-generation status are two of many factors that qualify a student as “at risk” from an academic standpoint.

Several at-risk student populations exist at Fresno State. These underserved populations represent a large proportion of the student body at Fresno State. It is these same individuals who have been found to reap the largest of benefits from HIPs (Finley, 2001; Kuh et al., 2008; Zhao & Kuh, 2004), thereby illustrating the crucial need for an assessment of current experiences and attitudes regarding high-impact practices at Fresno State. There is no single correct way to implement HIPs at the campus level, however, so implementation will look different at each institution (AAC&U, 2013).

The literature states that HIPs should be designed with an eye to the unique culture and wants and needs of each specific university (Zhao & Kuh, 2004). Paying careful attention to each step of the design and implementation process, as well as an

integration of multiple HIPs (Eaton, Macgregor, & Schoem, 2003) can greatly increase the beneficial outcomes associated with them (Brownell & Swaner, 2010; Gonyea et al., 2008). Several practices will be defined and described ahead, though the possibilities for implementation at each specific institution are endless. The following examples may serve as starting points from which to build.

Learning Communities

Learning communities, like all HIPs, can vary greatly from one setting to the next (AAC&U, 2013). The idea behind each is to create a community for students in which they feel they belong (AAC&U, 2008; Zhao & Kuh, 2004). Research has shown that students who feel more connected to a peer group will be less likely to withdraw from the program (Brownell & Swaner, 2009) or to feel that their acceptance was a mistake and they are not actually qualified to be there (AAC&U, 2008; Zhao & Kuh, 2004). NSSE data from 2008 corroborates this idea by demonstrating the positive relationship that exists between learning community participation and student engagement (NSSE, 2008; Zhao and Kuh, 2004,).

Additionally, students who participate in a learning community in college have been found to have lower levels of insecurities overall regarding their learning and are more willing to take academic risks when they feel supported by other students (Gonyea et al., 2008; Kuh et al., 2008). One popular example of a learning community that has been found to elicit positive outcomes involves clusters of courses organized around a specific theme (AAC&U, 2008). A cohort of students taking courses together creates a kind of academic family for the student to lean on as well as encourages students to strive to reach their full potential (Gonyea et al., 2008).

Undergraduate Research

Due to the numerous benefits associated with participation in undergraduate research, many colleges are offering this opportunity to students of all disciplines rather than just those in science, technology, engineering and math (STEM) majors (AAC&U, 2008). Through the use of empirical observation and cutting-edge technologies, students work to answer actively contested questions and gain a sense of accomplishment and excitement that comes from creative problem-solving and perseverance (AAC&U, 2013). Research has found participation in an undergraduate research program to be associated with students being more proactive, initiating activities in the classroom, anticipating problems ahead of time, and seeking out help to solve those problems (Zhao & Kuh, 2004).

Following participation in research as an undergraduate, students were more likely to see faculty as having a positive influence on their academic endeavors (Brownell & Swaner, 2010). They also had a greater likelihood of forming more collegial relationships with peers and faculty, (Seymour, Hunter, Laursen & DeAntoni, 2004) as well as being more likely to pursue postgraduate education than their peers who did not participate in research as an undergraduate student (Brownell & Swaner, 2010; Hathaway, Nagda & Gregerman, 2002; Hu, Scheuch, Schwartz, Gayles & Li, 2008). Additional benefits of undergraduate research programs have been known to include improvements in students' writing, communication skills, problem-solving and critical thinking, increased confidence as a researcher (Hu et al., 2008), as well as learning to work independently and take responsibility for one's own educational attainment (Seymour et al., 2004).

Capstone Courses and Projects

Capstone courses or projects call on students to integrate and apply what they have learned throughout their college experience. They can take many forms, such as a research paper, an e-portfolio, a theater or dance performance, or an art exhibit (AAC&U, 2008). This wide range of variation allows for professors to assess students based on both presentation and knowledge content. It also provides for faculty to assess the cumulative abilities of students within the context of one course (Centre for the Study of Higher Education, 2009). Capstone courses and projects can be offered as part of a departmental program or in a general education setting. Prior research on capstone courses has been found to improve students' sense of self-efficacy while simultaneously preparing students for success in their chosen, specified field (Dunlap, 2005).

Project-Based Learning/ Project-Based Assignment

A project-based assignment is a semester-long, problem solving task that allows students to solve a discipline-related problem. This could include collecting data on a research project, developing a novel solution to a problem related to their major, designing, engineering or creating an object, developing an original music score, or helping an organization on or off campus solve a problem (AAC&U, 2008). This collaborative style of learning involves students working in groups to design solutions for authentic questions and problems in the real world (Holmes & Hwang, 2016).

Research suggests that this unique approach helps to provide increases in students' deeper understanding of the material (Holmes & Hwang, 2016). Wurdinger, Haar, Hugg, and Bezon (2007) described project-based learning as “a teaching method where teachers guide students through a problem-solving process which includes identifying a problem, testing the plan against reality, [and] reflecting on the plan while in the process of completing a project” (p. 151). This reflection process has been noted

as being very transformative in students' overall experience of project-based courses (AAC&U, 2008).

While projects will look different for different disciplines, the variety between them allows for an equally varied range of outcomes to be seen. Students gain in their ability to work collaboratively in problem-solving and decision-making as well as in developing ways to investigate the idea further (Holmes & Hwang, 2016). Wentzel (2000) argues that students who work in groups are more motivated and successful, particularly with regards to reasoning and critical thinking skills. Similarly, The Autodesk Foundation (2000) demonstrated that collaborative group work, often experienced as part of project-based learning, has been associated with improvements in students' cognition, work ethics, and interpersonal skills.

While these interpersonal skills are of great value, the research goes on to point out that additional benefits from project-based learning are seen following the occasions in which students are provided the opportunity to work relatively independently over extended periods of time (The Autodesk Foundation, 2000). It is in these moments the student must learn to think in creative and innovative ways as they continue to work toward finding a solution. Additionally, it provides opportunities in which students must learn to advocate for themselves and be able to reach out to other resources, peers, and faculty. This willingness to ask for help is an additional life skill that has been seen to improve with project-based learning (Wurdinger & Qureshi, 2015).

Throughout the duration of a project-based assignment, teachers act more as facilitators, gently guiding the process from the sidelines, while allowing for students to take a more proactive role in the learning process (Holmes & Hwang, 2016). Wurdinger, and Qureshi (2015) suggested that courses designed of projects rather than lectures allow students to practice and develop important life skills and have led to gains in flexibility, organization, self-control, time-management, and task-initiation.

Internship

Internships represent an increasingly popular field-based form of experiential learning that pairs students with partners in the community to provide hands-on experience with relevant issues being studied as part of their curriculum (AAC&U, 2007). These internships provide students with an opportunity to analyze and solve problems that exist in their neighborhoods (Kuh et al., 2008). Internships require that students apply what they have learned in their courses to real-world settings and ask that they reflect on the choices they made as well as on the outcomes that follow as a result. Students gain appreciation for giving back to their community and begin to develop a sense of citizenship, in addition to gaining valuable job experience (Knouse & Fontenot, 2008).

Eaton, MacGregor, and Schoem (1993) argue that focusing students on unscripted problems that mimic those they may face in their profession allows them to broaden their thinking beyond their immediate surroundings and helps them begin to understand what it means to be part of a community. Students benefit from the supervision and feedback of professionals with similar interests, and gain experience with problems that arise in their specific field (AAC&U, 2013). Knouse, Tanner, and Harris (1999) found that students who had participated in an internship were found to have significantly higher-grade point average, were slightly younger upon graduation and were more likely to be employed upon graduation than students not involved in internships (Knouse et al., 1999). Additionally, internships can serve as stepping stones to a full-time job and may inspire students to continue along a new career path of interest following a positive internship experience (Knouse & Fontenot, 2008).

Service Learning

Another popular form of field-based, experiential learning that places students with partners from the community as an effective instructional strategy is service-learning. The goal behind service-learning courses is to provide students direct experience with issues being studied in the classroom, as well as with opportunity to put forth ongoing efforts to analyze and solve real-world issues (AAC&U, 2013). Service-learning courses help to pull students from their comfort zones, forcing them into different experiences than they would normally encounter. This provides students with exposure to new perspectives, challenging their already held views and beliefs about the world around them (Slavkin, 2007).

Oftentimes, students feel motivated to pursue a career in service, or a desire to continue with service participation even after leaving college. Research shows that both students and faculty develop a heightened sense of civic responsibility and personal effectiveness from their participation in service-learning courses (Astin, Vogelgesang, Ikeda, & Yee, 2000). Additional positive outcomes have been known to include an increased sense of self-efficacy and leadership ability as well as increased awareness of the world and of one's own values. The single most important factor associated with these positive outcomes is the student's interest in the subject matter (Astin et al., 2000). This finding points to the idea that service-learning courses may be of most benefit if they are included as part of the student's major.

Another benefit brought about by service-learning is that it brings variation to the learning environment. Bringing students into a hands-on environment requires a deeper level of participation than is usually expected, while still allowing students to benefit from the usual, necessary tasks such as delegation of responsibilities to group members (Slavkin, 2007). When compared to community service, taking a course in service-learning is more likely to generate student-to-student discussions (Astin et al., 2000). In

coming together to complete a common goal, students begin to develop bonds that may last all throughout their college experience. Students connect with one another over their shared sense of accomplishment as they begin to see their work make a difference in their own communities (Slavkin, 2007).

Previous Assessment of High-Impact Practices

Following the declaration by George Kuh in 2008, that a generally positive relationship exists between HIPs and numerous measures of student learning and achievement, including self-reported gains, GPA and retention, further implementation of these practices began to take place, as did the assessment of their outcomes (Kuh et al., 2008). Many of the assessments came from single institution studies that describe the overall implementation of HIPs on one campus. While these descriptive assessments are good for initial research, far greater benefit can be found from conducting more involved, multi-institutional studies (Brownell & Swaner, 2010).

Mayhew, Seifert, Nelson, Pascarella and Blaich (2012), for example, conducted a study of students from 19 different institutions. What they found was that beyond the usual measures, such as retention and GPA, participation in a more engaging form of learning was also associated with students' gains in moral reasoning (Mayhew et al., 2012). The first multi-state study to address the impact of these new and engaging educational practices called *Give Students a Compass*, aimed for the systemic reform of general education and spanned and connected assessment at the campus, system, and national levels (Brownell & Swaner, 2009). This early research found that only a tiny percentage of students are experiencing these engaging opportunities for learning by participating in HIPs, likely due to sparse funding. Again, it was those students that may benefit the most from HIPs that were found to be participating the least (AAC&U, 2013).

In order to reap the greatest possible benefit from these practices, it is recommended that they be worked into the required curriculum and be made a crucial part of the process as opposed to a precious opportunity afforded to only a select few. George Kuh, and others, recommended that each and every student participate in at least two HIPs throughout the course of their college education (Gonyea et al., 2008). One in the first year to get students acquainted with the process, their surroundings, and available supports, and one near degree completion to help students reflect on what they have accomplished. Ideally, however, Kuh suggested that students experience one HIP per year of their program (AAC&U, 2007).

According to AAC&U's 2007 report titled *College Learning for the New Global Century*, experimentation with implementation of HIPs at the campus level is relatively comprehensive. Future efforts then, it is recommended, would best be utilized in moving from regional pilot efforts to a more full-scale style assessment of the existing implementation of HIPs across the nation (AAC&U, 2007). Developing a clearer understanding of the availability of each HIP, as well as students' opinion regarding the implementation of them, will be helpful to future graduates of Fresno State.

The current study aims to do just this. Using a quantitative measure of both participation, and subjective opinion of each HIP, scores will be analyzed to determine if differences exist on either measure by gender or first-generation status. Previous studies have tracked participation in HIPs, as well. This work aims to go beyond this objective measure and will include a subjective measure of students' opinion of the HIPs in which they were involved. This subjective opinion will be measured using students' level of agreement to the statement *There should be more opportunity for participation in [this HIP] at Fresno State*. While counts of participation in HIPs serve to inform an investigation into HIPs, the current study aims to go beyond this typical level of measurement. In gaining insight into students' opinions regarding these practices we

hope to gain a more in-depth understanding of the true impact these HIPs have on our students.

In getting past the more surface issues such as frequency and demographics, while this information does indeed have its place, we hope to gain further insight for future development and implementation of a greater number of HIPs while keeping an eye on the beneficial outcomes associated with each. While it is important that we increase the number of opportunities for HIP participation on campus so as to be able to serve each and every student a minimum of two HIPs, it is perhaps of even greater importance that these practices be worthwhile. If students themselves are testifying to the impact of an experience on personal issues like confidence and self-efficacy, and data continue to show increases in measures like GPA and retention, we can be more confident that additional resources used on these endeavors will be a worthwhile investment.

CHAPTER 3: METHOD

Participants

Participants include 637 undergraduates at California State University, Fresno during the Fall 2017 semester. Dr. Martin Shapiro and I partnered with Chris Hernandez of the Office of Institutional Effectiveness to distribute our survey of high-impact practices as widely as possible. Convenience sampling methods were utilized resulting in a sample not entirely representative of the general undergraduate student population at Fresno State (Fresno State Office of Institutional Effectiveness, 2016). Our sample includes a disproportionate number of females as compared to the population but was representative of the population by first-generation status, as can be seen in Table 1.

Table 1

Gender and First-Generation Status of Survey Respondents vs Population

Variable	Surveyed sample	Fresno State
	Percent	
Gender		
Female	72	59
Male	28	41
First-Generation Status		
Continuing	25	25
First Generation	71	71
Unknown	4	4

The academic level of students surveyed was also not representative of the population (Fresno State Office of Institutional Effectiveness, 2016). This is partially because freshmen were intentionally not targeted due to the survey being administered in

October, thereby not allowing adequate time for freshmen students to have participated in HIPs. The breakdown of students by academic level can be seen in Table 2.

Table 2

Academic Level Representation of Sample vs Population

Academic Level	Surveyed sample	Fresno State
	Percent	
Freshmen	0	24
Sophomore	29	15
Junior	33	26
Senior	38	35

All participants were volunteers. An incentive of the opportunity to win a drawing for one of 50, \$10.00 gift cards to the University Bookstore was offered to encourage participation.

Materials

This work was completed in conjunction with both Strategic Goal #1: High-Impact Practices Task Force and a CAIFE (Creativity and Innovation for Excellence) group at Fresno State. The groups had been assigned the mission to assess and promote high-impact practices on campus. A Qualtrics survey was developed to inform our understanding of the current situation regarding these educational practices and the role they play at Fresno State. The survey (Appendix A), includes questions regarding details of the students' experiences with various high-impact practices, as well as how they feel their experience has impacted their college education and development overall. Question types include both open and closed-ended as well as those with Likert scale responses.

Several demographic questions were also included. Surveys were administered electronically via Qualtrics and were accessed using a link sent via students' email.

Design and Procedure

This research utilized a non-experimental design and survey method to collect data regarding respondents' experience and opinions. Students received a survey link via email. Responses were compiled via Qualtrics. Survey responses were connected to other measures of success (i.e., GPA, time to graduation, etc.) through Tableau. Results were analyzed using Excel and SPSS (Statistical Package for the Social Sciences).

Data Analysis

A total of four one-between-one within ANOVAs were used. Two tested for differences in participation in HIPs: one by gender and one by first-generation status. The last two tested for differences in students' desire for more opportunity to participate in each HIP, again by gender and first-generation status. Each significant finding was followed up by 12 independent samples t-tests, one for each HIP, to test for differences by the independent variable, either gender or first-generation status.

The goal behind this research is two-fold. It aims to gain insight into students' experience and opinions of HIPs. Additionally, it seeks to create an assessment tool to aid in the continued tracking of the ongoing progress of students and of the university regarding the use and experiences of High-Impact Practices.

CHAPTER 4: RESULTS

The sample for this research included a total of 637 survey respondents, all undergraduate students enrolled at California State University, Fresno during the Fall 2017 semester. 72% (n=558) of respondents were women, and 28% (n=179) were men. The first-generation status of the sample included 25% (n=157) continuing generation students, and 71% (n=452) first-generation students.

Objective Measure: Participation in HIPs

Analysis of the data began with an objective measure participation in HIPs as determined by responses to *Were you involved in [this HIP]?* Possible responses included *yes* and *no*. 'Yes' responses were totaled and divided by the total number of responses to calculate percentage of participation in each HIP. Average participation in each HIP, by gender, can be seen in Figure 1.

Figure 1 shows that there are differences in the average level of participation from one HIP to another. Some HIPs are participated in more than others. It also appears that there are differences in the level of participation by gender, meaning that men and women participate in HIPs differently. In order to determine whether these differences are large enough to be significant, a 2x12 one-between-one-within repeated-measures ANOVA on students' participation in HIPs was conducted with gender as the between-subjects factor and HIP as the within-subjects factor. Results show a significant main effect for HIP, $F(1, 11) = 169.42, p < .01, \eta_p^2 = .23$, as well as a significant gender x HIP interaction effect, $F(1, 11) = 2.68, p = 0.02, \eta_p^2 = 0.00$. This tells us that some HIPs are experienced more frequently than other HIPs. For example, looking again to Figure 1, you can see that HIPs such as diversity and supplemental instruction are, on average, a part of students' curriculum more often than study abroad and capstone experience. Additionally, the gender x HIP interaction effect informs us that males and females

participate in HIPs differently from one another. In order to better understand this interaction effect, simple effects analyses were performed using separate independent samples t-tests to compare average percent participation reported for each HIP, by gender. The results of these analyses can be seen in Table 3.

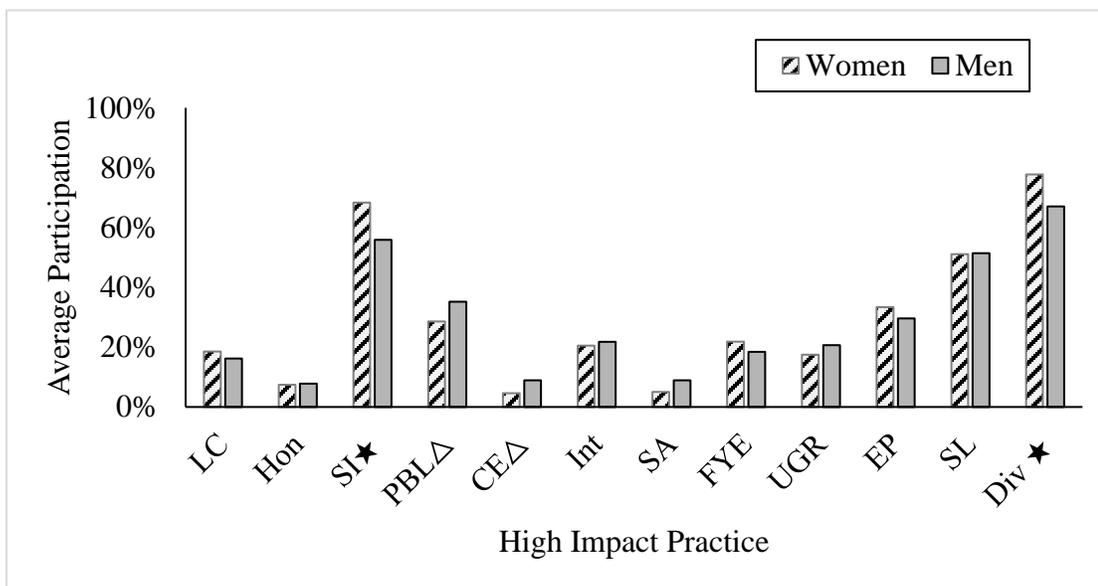


Figure 1. Average percentage of participation in each HIP by gender, Fall 2017, CSU, Fresno.

HIP = High-Impact Practice, LC=Learning Community, Hon = Honors, SI = Supplemental Instruction, PBL = Project-Based Learning, CE = Capstone Experience, Int = Internship, SA = Study Abroad, FYE = First-Year Experience, UGR = Undergraduate Research, EP = E-Portfolio, SL = Service Learning, Div = Issues of Diversity. Stars denote significance at $p \leq .05$. Triangles denote results that approached significance a $p \leq .06$.

Table 3 identifies supplemental instruction and issues of diversity as differing significantly by gender. Specifically, women reported a higher average participation rate for both supplemental instruction ($M = 68.34\%$, $SD = 0.43$) and issues of diversity ($M = 77.73\%$, $SD = 0.37$) as compared to men ($M = 55.87\%$, $SD = 0.56$), ($M = 67.04\%$, $SD = 0.67$), and these differences were found to be significant. Conversely, project-based learning ($M = 35.20\%$, $SD = 0.35$) and capstone experience (8.94% , $SD = 0.09$) both saw

higher participation levels from men than from women ($M = 28.60\%$, $SD = 0.29$) ($M = 4.59\%$, $SD = 0.05$) and these differences approached significance at $p \leq .06$.

Table 3

Independent Samples T-Test Results for Participation in Each HIP by Gender

HIP	<i>t</i>	df	<i>p</i>	Higher for:
Learning Community	0.55	562	.59	-
Honors	-0.26	567	.80	-
Supplemental Instruction	2.71	255.40	< .01*	women
Project-Based Learning	-1.87	269.85	.06±	men
Capstone Experience	-1.92	224.35	.06±	men
Internship	-0.48	576	.63	-
Study Abroad	-1.73	231.12	.08	-
First-Year Experience	0.67	587	.50	-
Undergraduate Research	-1.00	587	.30	-
E-Portfolio	1.32	299.71	.19	-
Service Learning	-0.38	586	.71	-
Diversity	2.22	253.36	.03*	women

(*) denotes significance at $p \leq .05$, (±) denotes results that approach significance at $p \leq .06$.

Additionally, this same objective measure of students' participation in HIPs was explored, this time by a student's first-generation status (Continuing / First Generation). Average participation in each HIP was calculated again by summing the total number of Yes responses to the question '*Were you involved in [this HIP]?*' and dividing by the total number of responses. Average participation in each HIP by students' first-generation status can be seen in Figure 2.

In looking to Figure 2 there appears to be differences in the level of participation for each HIP. Some HIPs clearly seem to be experienced more frequently than other HIPs. You may also notice smaller differences in the participation of each HIP by students' first-generation status. Some HIPs were reported as having higher average participation by students of first-generation status while others appear more popular among those who are continuing generation students. In order to determine if either of

these differences are large enough to be statistically significant, a second 2x12 one-between one-within ANOVA was performed with first-generation status as the between-subjects factor and HIP as the within-subjects factor. Results show a significant FGS x HIP interaction effect, $F(1, 11) = 0.47, p \leq .01, \eta_p^2 = .01$. This tells us that the differences in participation observed from one HIP to the next are, in fact, statistically significant. Some HIPs are experienced more often than other HIPs.

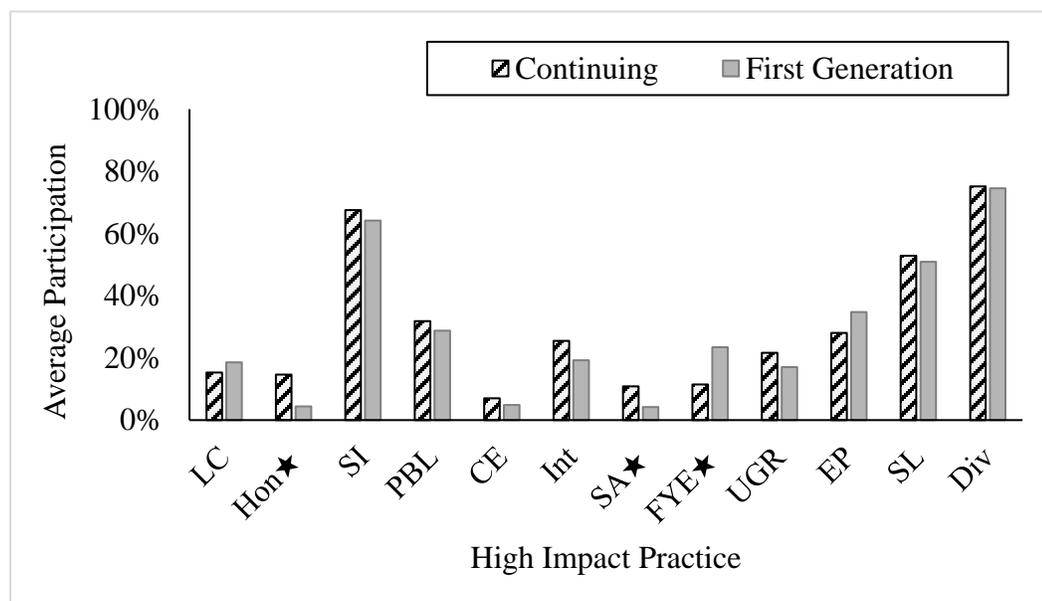


Figure 2. Average percent participation in each HIP by first generation status, Fall 2017, CSU, Fresno.

HIP = High-Impact Practice, LC = Learning Community, Hon = Honors, SI = Supplemental Instruction, PBL = Project-Based Learning, CE = Capstone Experience, Int = Internship, SA = Study Abroad, FYE = First-Year Experience, UGR = Undergraduate Research, EP = E-Portfolio, SL = Service Learning, Div = Issues of Diversity. Star denotes significance at $p \leq .05$.

From Figure 2, it can be seen that there are differences in how some HIPs are experienced, by students' first-generation status. For example, honors programs, study abroad, and internships show higher participation levels by students who are not the first in their family to attend college, while other HIPs, such as first-year experience and e-portfolio, see higher participation by students who identify as a first-generation college student. In order to further understand this interaction of HIP and first-generation status,

simple effects analyses were performed, again, by conducting 12 separate independent samples t-tests comparing average participation in each HIP by students' first-generation status (Continuing/First Generation). The results of these analyses can be seen in Table 4.

Table 4

Independent Samples T-Tests Results for Participation in Each HIP by First-Generation Status

HIP	<i>t</i>	df	<i>p</i>	Higher for:
Learning Community	-1.31	281.43	.19	-
Honors Program	3.34	182.86	< .01*	Continuing
Supplemental Instruction	0.10	542	.92	-
Project-Based Learning	0.49	546	.63	-
Capstone Experience	0.93	547	.35	-
Internship	1.40	238.75	.16	-
Study Abroad	2.43	193.33	.02*	Continuing
First-Year Experience	-3.95	352.92	< .01*	First Generation
Undergraduate Research	1.37	240.22	.17	-
E-Portfolio	-1.80	277.25	.07	-
Service Learning	0.57	559	.57	-
Issues of Diversity	-0.64	560	.52	-

Note. HIP = High-Impact Practice, (*) denotes significance at $p \leq .05$.

Table 4 shows that the differences in mean participation of study abroad, first-year experience and honors programs differ significantly by first-generation status. More specifically, continuing generation students reported higher average participation for study abroad ($M = 10.82\%$, $SD = 0.32$) and honors programs (14.65% , $SD = 0.37$) than first-generation students ($M = 4.20\%$, $SD = 0.21$) ($M = 4.43\%$, $SD = 0.22$). Conversely, first-year experience had higher average participation from first-generation students ($M = 23.45\%$, $SD = 0.44$) as compared to those not identifying as first-generation ($M = 11.47\%$, $SD = 0.33$) and these differences were significant at $p \leq 0.05$.

Subjective Measure: 'More' Rating of HIPS

Following our initial assessment of students' participation in HIPs, we explored a subjective measure of their opinion of HIPs using responses to the statement *There*

should be more opportunity for participation in [this HIP] at Fresno State. Available responses ranged from 1, strongly disagree to 6, strongly agree. Responses for each HIP were averaged across all respondents. Average ‘more’ response for each HIP by gender can be seen in Figure 3.

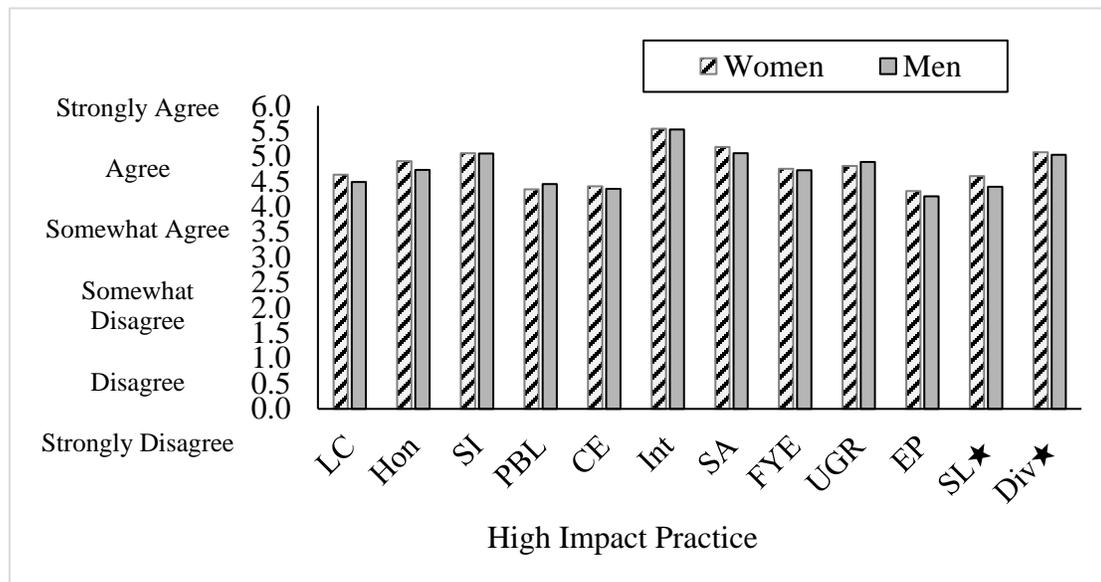


Figure 3. Average ‘more’ response for each HIP by gender, Fall 2017, CSU, Fresno. HIP = High-Impact Practice, LC = Learning Community, Hon = Honors, SI = Supplemental Instruction, PBL= Project-Based Learning, CE = Capstone Experience, Int = Internship, SA = Study Abroad, FYE = First-Year Experience, UGR = Undergraduate Research, EP = E-Portfolio, SL = Service Learning, Div = Issues of Diversity. Star denotes significance at $p \leq .05$.

As can be seen in Figure 3, there appears to be differences in the subjective opinion of each HIP. While all HIPs appear to be at a minimum of somewhat favorable in the opinion of the students, some are favored more highly than others. For example, internships appear to be most highly rated and e-portfolios seem to be among the least preferred HIPs. Differences between the subjective opinions of men and women are less noticeable but still remain. Women seem to have a higher subjective opinion of learning communities and honors programs than men do. In order to determine if these differences we see by HIPs and by gender are statistically significant, a 2 x 12 one-between-one-

within repeated-measures ANOVA on students' rating of their desire for *More* HIPs was conducted with gender (women/men) as the between-subjects factor, and HIP as the within-subjects factor. Results show a significant main effect for HIP, $F(11, 6039) = 80.27, p < .001, \eta_p^2 = .13$, as well as a significant gender x HIP interaction, $F(11, 6039) = 3.47, p < .001, \eta_p^2 = .01$. This tells us that the differences shown in 'More' rating from one HIP to the next are statistically significant. Some HIPs are preferred more highly than other HIPs. The statistics tell us, for example, that the differences we see in Figure 3 between 'More' rating of internships and that of e-portfolios are significant. Internships are rated more highly, on average, than e-portfolios. The statistics also tell us that the less noticeable differences we see between women and men are significant, as well. Men and women do not favor HIPs the same way. Additionally, the interaction effect tells us that women and men do not favor the same HIPs in the same way as other HIPs are favored by women and men. In order to further understand this interaction effect, simple effects analyses were performed using 12 independent samples t-tests to investigate differences in average 'More' rating of each HIP by gender (women/men). Results of these analyses can be seen in Table 5.

Table 5

Independent Samples T-Test Results for 'More' Response to Each HIP by Gender

HIP	<i>t</i>	df	<i>p</i>	Higher for:
Learning Community	1.44	563	.15	-
Honors Program	1.95	566	.05*	women
Supplemental Instruction	0.07	565	.95	-
Project-Based Learning	-0.97	569	.33	-
Capstone Experience	0.54	569	.59	-
Internship	0.25	575	.81	-
Study Abroad	1.40	577	.16	-
First-Year Experience	0.43	578	.67	-
Undergraduate Research	-0.73	578	.46	-
E-Portfolio	1.30	579	.19	-
Service Learning	2.03	580	.04*	women
Issues of Diversity	4.29	225.61	< .01*	women

Note. HIP = High-Impact Practice, (*) denotes significance at $p \leq .05$

Table 5 identifies honors programs, service learning and issues of diversity as differing significantly in 'More' rating by gender. Specifically, honors programs are rated more highly by women ($M = 4.91$, $SD = 0.94$) than by men ($M = 4.73$, $SD = 1.00$). This is true for service learning and issues of diversity, as well. Women rated service learning more positively ($M = 4.61$, $SD = 1.07$) than men did ($M = 4.40$, $SD = 1.23$). Similar results were found for issues of diversity. Women ($M = 5.08$, $SD = 0.85$), on average, responded more highly to the idea of having more opportunity to engage in issues of diversity than men ($M = 5.03$, $SD = 0.95$) and these differences were all found to be significant at $p \leq .05$.

Lastly, we assessed this same subjective measure of students' desire for more opportunity to engage in each HIP by students' first-generation status. Responses to the statement *There should be more opportunity for participation in [this HIP] at Fresno State* ranged from 1, strongly disagree to 6, strongly agree. Responses for each HIP were averaged across all respondents. Average 'more' response for each HIP by first-generation status (Continuing/First Generation) can be seen in Figure 4.

Differences in average 'More' rating from one HIP to the next can be seen in Figure 4. Internships, for example, appear to be more highly rated than project-based learning and capstone experience. Differences can also be seen within each HIP regarding the average 'More' rating reported for first-generation students as compared to continuing generation students. First-generation students, for example, appear to favor learning communities to a higher degree than those who are continuing generation students. Service-learning, on the other hand, appears to be rated similarly by all students, though upon careful review, slight differences can be seen. Specifically, students not identifying as first generation appear to have rated service-learning higher than first-generation students did. In order to determine whether these differences observed in Figure 4 are statistically significant, a 2 x 12 one-between-one-within

repeated measures ANOVA was performed on students' rating of their desire for *More* HIPs with first-generation status (Continuing/ First Generation) as the between-subjects factor and HIP as the within-subjects factor. Results showed a significant main effect for first generation status, $F(1, 524) = 6.80, p \leq .05$, partial $\eta^2 = .01$ with first-generation students ($M=4.81, SD=.38$) reporting higher levels of desire for *More* HIPs than continuing generation students ($M=4.67, SD=.37$). This suggests that first-generation status plays a role in a students' desire for more HIPs. Additionally, results show a significant FGS x HIP interaction effect, $F(11, 5764) = 5.31, p < .01, \eta_p^2 = .01$. This interaction effect tells us that a student's first-generation status can affect their desire for certain HIPs over their desire for other HIPs meaning that some HIPs may be preferred by first-generation students while others may be preferred by those students who are continuing generation students. In order to better understand this interaction effect, simple effects analyses were performed using 12 independent samples t-tests to investigate differences in average '*More*' rating of each HIP by first-generation status (not-FG/FG). Results of these analyses can be seen in Table 6.

Table 6 identifies four HIPs as differing significantly by first-generation status. Each of the four HIPs that were found to differ significantly in average '*More*' rating by first-generation status were more highly preferred first-generation students. The means and standard deviations of these HIPs by first-generation status can be seen in Table 7.

As can be seen in Table 7, each of the HIPs found to differ in average '*More*' rating, by first-generation status, were rated more highly by first-generation students. While each of the HIPs was rated highly by all students, regardless of first-generation status, there were significantly higher '*More*' ratings by first-generation students in Learning Communities, Supplemental Instruction, First-Year Experience, and Issues of Diversity.

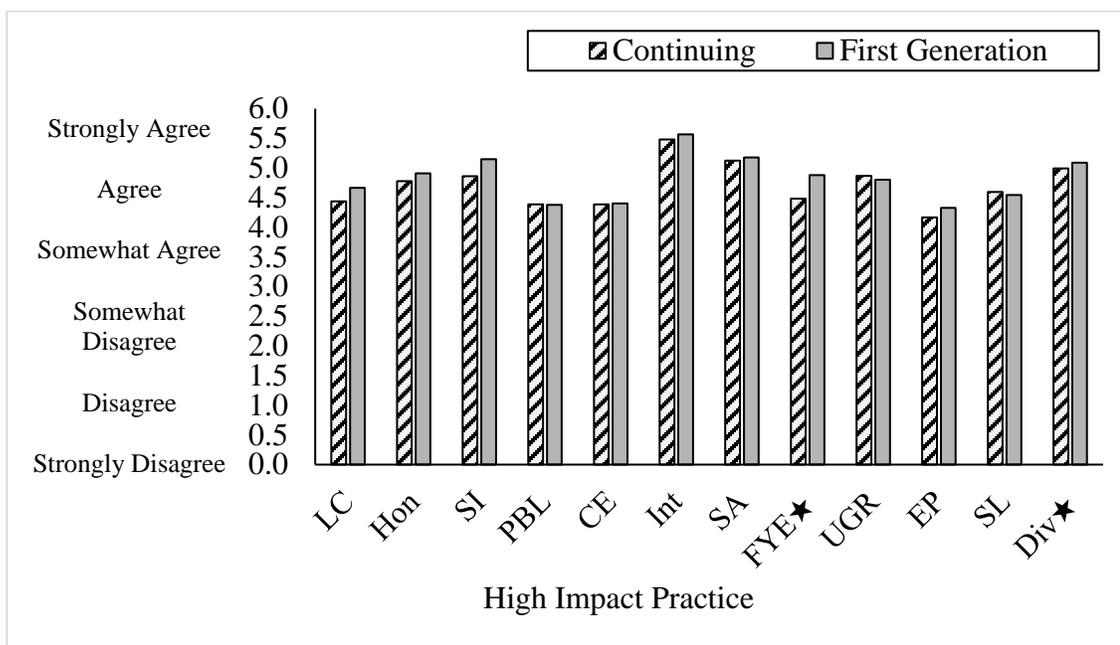


Figure 4. Average 'more' response for each HIP by first-generation status, Fall 2017, CSU, Fresno.

HIP = High-Impact Practice, LC = Learning Community, Hon = Honors, SI = Supplemental Instruction, PBL= Project-Based Learning, CE = Capstone Experience, Int = Internship, SA = Study Abroad, FYE = First-Year Experience, UGR = Undergraduate Research, EP = E-Portfolio, SL = Service Learning, Div = Issues of Diversity. Star denotes significance at $p \leq .05$.

Table 6

Independent Samples T-Test Results for 'More' Rating of Each HIP by First-Generation Status

HIP	<i>t</i>	df	<i>p</i>	Higher for:
Learning Community	-2.23	536	.03*	First Generation
Honors Program	-1.31	213.30	.19	-
Supplemental Instruction	-3.06	538	< .01**	First Generation
Project-Based Learning	0.07	542	.94	-
Capstone Experience	-0.16	544	.88	-
Internship	-1.33	548	.19	-
Study Abroad	-0.61	550	.54	-
First-Year Experience	-3.23	226.29	< .01**	First Generation
Undergraduate Research	0.64	551	.52	-
E-Portfolio	-1.39	553	.17	-
Service Learning	0.46	553	.65	-
Issues of Diversity	-4.92	211.35	< .01	First Generation

Note. HIP = High-Impact Practice, (*) denotes significance at $p \leq .05$, (**) denote significance at $p \leq .01$

Table 7

HIPs Found to Differ Significantly in 'More' Rating by First-Generation Status

HIP	Continuing		First-Generation	
	M	SD	M	SD
Learning Community	4.44	1.09	4.67	1.04
Supplemental Instruction	4.86	1.05	5.15	0.93
First-Year Experience	4.48	1.26	4.88	1.07
Issues of Diversity	4.99	0.91	5.09	0.86

Note. HIP = High-Impact Practice. Significant at $p \leq .05$.

CHAPTER 5: DISCUSSION

The purpose behind this survey research was to better understand what experiences and opinions Fresno State students have regarding High Impact Practices. Issues such as the gender wage gap (Dunn, 2019) and the disproportionate number of men employed in higher-paying research positions (Fisk, 2012), have inspired the assessment of gender differences in HIP participation. The analysis by first-generation status was inspired by the large percentage of Fresno State students (71%) who identify as being the first in their family to pursue a college degree (Fresno State Office of Institutional Effectiveness, 2016). High Impact Practices have been found to aid in closing gaps in achievement that exist for students unprepared for college, of under-represented minority, or low-income backgrounds (AAC&U, 2013; Finley, 2011; Kuh et al., 2008; Zhao & Kuh, 2004). Fresno State holds two Department of Education minority-serving institution designations (Fresno State Office of Institutional Effectiveness, 2016). This, combined with the large number of first-generation students in attendance, establishes Fresno State as an ideal location to investigate the current state of High Impact Practices.

Gender Differences

The topic of gender inequality in education is not a new one. Shavit and Blossfeld (1993), as cited in Breen, Luijkx, Muller and Pollak (2010), reported that in most industrialized countries, gender inequality in educational opportunity based on social and economic differences has been present since the early part of the 20th century. At the time the research was published; this was still true; women's educational participation in higher education was much lower than that of men. In many countries, however, this is no longer the case (Breen et al., 2009). Around the globe, women are attending college in higher numbers (Lorz & Muhleck, 2018). The World Atlas of Gender Equality in

Education (2012) reported that women's enrollment in higher education had grown almost twice as fast as men's over the past four decades, due to a number of factors, including social mobility, enhanced income potential, and international pressure to narrow the gender gap (United Nations Educational, Scientific and Cultural Organization, 2012). This increased pressure brought about increased efforts including the World Conference on Education for All, which proclaimed the need to narrow the gender gap a matter of justice and equality. Representatives from 155 countries launched the Education for All (EFA) movement aimed at meeting basic learning needs of all by 2000. Ten years later participants from 164 countries came together for the 2000 World Education Forum in Dakar to remember their commitment to the idea that education is a fundamental human right and a cornerstone of economic development. Later that same year was the signing of a United Nations Millennium Declaration at which all 192 United Nations member states and 23 international organizations developed a set of Millennium Development of Goals aimed at promoting gender equality and empowering women by eliminating the gender disparity at all levels of education by 2015 (Fisk, 2012).

What followed was an increase of women in higher education. In fact, women now make up a majority of higher education students in many countries, including China, the United States, Brazil and other parts of South America (Breen et al., 2009; Fisk, 2012; Lorz & Muhleck, 2018).

Women have reached parity at the level of the four-year degree, meaning they earn bachelor's degrees in numbers equal to that of men in North America, Latin America, the Caribbean and part of Europe (UNESCO Institute for Statistics, 2008). At the master's level, women make up the majority, with 56% of degrees being earned by women as compared to 44% being awarded to men. This trend disappears, however, at the doctorate level (Fisk, 2012). Unfortunately, though, women's overrepresentation in higher education has yet to translate to proportional representation in the labor market, or

in research positions. Men continue to dominate these positions, with 71% being held by men (Fisk, 2012). Fortunately, however, HIPs such as honors programs, undergraduate research, capstone experience and first-year experience, may help to promote greater post-graduate experience by women.

The survey identified some gender differences in HIPs, as well. Specifically, participation in HIPs was found to vary, dependent on the particular HIP in question. Some HIPs, it was found, are experienced more by women, and some more by men. Both supplemental instruction and issues of diversity were found to have higher participation for women than for men. Role of Gender (2016) also found women participated more frequently in SI than men. That same study found that women were also more likely to have higher GPA after their first semester than men. Additionally, women students who attended the Group SI had even higher average GPA than all men or all women in the study (Role of Gender, 2016). Results such as these support claims that supplemental instruction is an enduring high-impact practice for increasing student success (“About SI,” 2019). Therefore, SI is one HIP that may be helping our women students succeed, which likely increases retention, benefits the learning experience, and even encourages their participation in post-graduate education.

Issues of diversity was the other HIP that was found to differ significantly in participation by gender. Again, women were found to participate at a higher level than men (Figure 1, p. 19). Experience with diverse ethnicities, socioeconomic statuses, languages, sexual orientations, and genders can help students develop effective leadership skills that help in finding their role within the global community (Lindsey, Nuri-Robins, Terrell, & Lindsey, 2018). In this regard, Fresno State is helping prepare students to be effective, confident leaders, prepared for high power jobs on our community.

Interestingly, women also scored higher than men when it came to their desire for more opportunity to participate in issues of diversity. Not only are women experiencing

these issues more often (Figure 1, p. 19), they also desire the opportunity to participate in them more strongly than men do (Figure 3, p. 23). The same goes for Honors Programs and Service Learning: women at Fresno State desire the opportunity to participate in these HIPs significantly more than men (Figure 3, p. 23.)

NSSE does not include a subjective measure of HIPs, only participation frequencies. The current research chose to address student's opinions regarding these practices, in addition to the rate in which they experience them. This measure is believed to provide additional insight regarding students' motivations in order to better understand factors contributing to their participation. We are not the first study to include a subjective measure, however. Role of Gender (2016) also asked students how they felt about HIPs, specifically SI. The study found that students' attitudes toward SI correlated positively with students' academic outcomes, such that women who rated SI as being useful had a higher GPA after their first semester in college than females who did not rate SI as useful (Role of Gender, 2016). This is a finding that might suggest that students are aware of the effects these practices are having on their success. To those students believing HIPs to be useful, they are useful, as evidenced by higher GPA in those who participated.

Additional results of the present study showed women also rated their desire for more opportunity to participate in honors programs significantly higher than men. In trying to differentiate between effects of background characteristics of students in honors programs and the effects of the honors programs themselves, Keller and Lacy (2013) found that one-year retention rates were significantly higher for students in honors programs than for those not in honors programs. A corresponding odds-ratio reported that honors students were 3.1 times more likely to return to school after one year than non-honors students (Keller & Lacy, 2013). Findings such as these support the continued effort of Fresno State to encourage as many eligible and qualified students as possible to

participate in honors programs while enrolled as undergraduates in order to aid in the successful completion of a degree. The same could be said about SL and DIV, both of which were desired significantly more by women than by men. More opportunity with SL, as desired by both sexes but more so by women, would give them more hands-on experience with matters they will likely encounter once they get into their field. Aside from direct experience with their chosen career field, participation in service learning will help students, men and women alike, in their development of leadership skills, improvement of self-esteem, and can contribute in fostering a sense of community as well as an enhanced appreciation for diversity (“Jan and Bud Richter Center”, 2018). This could prove helpful in beginning to decrease the gender gap we see following post-secondary education in the position of researcher or tenured faculty. If anything can be gleaned from our results, it is that more efforts need to be made to promote HIPs like SI to our men students. Now let us take a look at significant differences by first-generation status.

First Generation Students

The Pell Institute (2008) argued that the key to economic stability in the United States lies in increasing the educational attainment of its citizens by improving post-secondary access and success for underrepresented populations, such as first-generation students. On average, 1/3 of undergraduates in the CSU system are first-generation students (CSU: Overview, 2019). Forty-two percent of students throughout the UC system are of first-generation status (McPhate, 2017). According to California State University, Fresno Office of Institutional Effectiveness, in the Fall 2018 semester, 66.4% of Fresno State undergraduate students were first-generation students; a number that far exceeds the average. A study by the Institute for Higher Education Policy found that first-generation students are less likely to attain a degree than other students (18% vs 44%) as

cited by McPhate (2017). First-generation students also report lower levels of belonging, higher levels of stress and anxiety, and lower use of services, as compared to non-first-generation students (Stableton, Soria & Huesman, 2014). Katrevich and Arguete (2017) reported that first-generation students are more likely to have lower grades and lower critical-thinking scores and reported less faculty contact and less time available to dedicate to academic tasks than those who were continuing students. Interestingly, though, there were no significant differences found in motivation between the groups (Katrevich & Aruguete, 2017).

Fresno State Office of Institutional Effectiveness (2009) reported that, similar to national findings, first-generation students from Fresno State are less prepared academically, participate less while on campus and succeed at lower rates, as compared to students who are not the first in their family to attend college. Katrevich and Aruguete (2017), reported academic preparedness and contact with faculty were predictive of success for first-generation students. They suggest that universities should design programs to improve academic skills while also improving the social environment for first-generation students (Katrevich & Aruguete, 2017). In Fall 2009 Fresno State promoted the development of a first-year experience that included learning communities, service-learning, and mentoring to aid students in planning their path and finding their way to a degree (Fresno State Office of Institutional Effectiveness, 2009).

Results from the current research found first-generation status differences in the participation levels of three HIPs, one of which was first-year experiences. Currently, results show that at Fresno State, first-generation students participate in FYEs more often than non-first-generation students. FYEs are typically aimed at freshmen and first-generation students to help familiarize them with the college environment and facilitate positive relationships with possible role models to help navigate the college journey, so these findings are not unexpected (Ray, 2018). Azmita, Sumabat-Estrada, Cheong, and

Covarrubias (2018) found that first-generation students who had persisted in college had emotional support from their friends and family from home or they had developed supportive relationships with staff members, faculty, and peers from their university. This highlights the vital role of the mentoring included in several HIPs such as Fresno State's FYE described above. Researchers also found that first-generation students who persisted in college believed college would allow them access to the future life and career goals they desired (Azmita et al., 2018).

Significant differences by first-generation status were also found in participation of study abroad and honors programs. Both HIPs were found to be participated in at a higher level by non-first-generation students. Due to the selectivity of honors programs and the barriers and lower college preparedness of the average first-generation student, one would expect participation in honors programs to be higher for non-first-generation students (Katreovich & Arguete, 2017). The same could be said for study abroad due to the extra financial cost required to participate. Fresno State, however, has taken steps to aid in this by offering study abroad programs that are able to be paid using students' financial aid to help cover the cost (Fresno State Study Abroad, 2019).

Students' desire for more opportunity to participate in high-impact practices also varied by the interaction of first-generation status and HIPs. First-generation students reported a significantly higher desire for more opportunity to participate in learning communities, supplemental instruction, first-year experience, and issues of diversity, as seen in Figure 4. Despite the additional disadvantages experienced by most first-generation students, there still exists the desire to achieve well beyond the levels of achievement they may have encountered thus far. Fresno State students desire more opportunity to participate in HIPs because they want to succeed. They want access to the tools that will help them do this. Specifically, they have a higher desire for learning communities and supplemental instruction (Figure 4) because they are likely less

prepared for college level work and these practices can help them navigate that deficit. Fresno State currently offers SI for 47 courses offered to undergraduate students. While a wide variety of SI is already being offered, survey findings suggest more could be utilized. First-generation students also want more opportunity for first-year experiences because they feel the disorientation that comes with new experiences, particularly experiences never felt by anyone in their family. Additionally, they welcome the opportunity to interact with individuals from different backgrounds, experience new cultures, races, and genders, perhaps in order to better prepare them for effective communication and enhanced success within the global economy. Or maybe they understand what it feels like to be the minority; to be underserved and hungry for change.

George Kuh recommends that students participate in a minimum of two HIPs over the course of their undergraduate education (NSSE, 2007). Current findings show that less than 14% (88 of 637) of students surveyed reported participating in less than the recommended minimum of two HIPs. Of these 88 students, 17% (n=15) were continuing students and 80% (n=70) were first-generation students. (The remaining 3% (n=2) of students did not provide information regarding their first-generation status). 63% (n=5) of these 88 students not experiencing the recommended minimum of two HIPs were women, and 37% (n=32) were men. Findings' such as these reflect favorably on Fresno State and their ability to allow students access to these important experiences. That being said, it is not clear yet as to the consistency of these practices or the benefit students receive from them. Data have been collected regarding the specific components of each practice. Future analysis of these data could be of great benefit as those details are beyond the scope of this research.

A point should be made that these practices, while argued as being high-impact, are not thought to be the all-encompassing solution to the many challenges related to higher education outlined at the start of this research. An article published in *The Journal*

of Higher Education (2018), as cited in Valbrun, 2018, reported that the quantity of HIPs offered on campus was not related to the institution's graduation rates (Johnson & Stage, 2018). More specifically, the graduation rates from universities where many HIPs were utilized did not differ significantly from graduation rates at universities utilizing little to no HIPs (Valbrun, 2018; Johnson & Stage, 2018). Representatives from the Association of American Colleges and Universities, (AAC&U) suggest that these findings remind readers that when considering the addition of HIPs to a curriculum, the focus should not be on quantity, but rather on which particular practices would fit well with the campus culture, and would be likely to bring about the greatest benefit regarding predetermined student outcomes, not just on decreasing time to graduation.

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APPENDIX: HIP SURVEY

Thank you for choosing to participate in this research study conducted by the Office of the Provost and the Department of Psychology at California State University, Fresno. The purpose of the study is to gather information about the types of experiences students have in their courses. Your responses on this survey could help in designing curriculum made up of engaging class activities. Your views are extremely important to us. Those who complete the survey have a chance to win a **\$10 gift** card from the University Bookstore (a total of 50 winners) via a drawing. The survey will take between **15-30 minutes** to complete. If you give us your permission by writing your name at the bottom of this document, we plan to disclose your information only to the appropriate authorities. Your responses will not affect your standing at the University in any way. Your decision whether or not to participate in this study will not affect your future relations with California State University, Fresno. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty. This research is for educational purposes only. If you have any questions, please ask us by contacting the following sources: - Questions regarding the nature of the research contact Dr. Martin Shapiro, mashapiro@csufresno.edu. - Questions regarding the Rights of Research Subjects: The CSUF Committee on the Protection of Human Subjects (559) 278-2083. - **YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE. YOUR PRINTED NAME INDICATES THAT YOU HAVE DECIDED TO PARTICIPATE, HAVING READ THE INFORMATION PROVIDED ABOVE. (Print Your Name Here)**

Service Learning is an assignment within a course where students are involved in service to the community. The service project assignment is used to help students better

learn the class material. Have you had a class where the teacher used a service-learning project?

Yes

No

To your best knowledge, in how many different courses have you completed a service-learning project since being at Fresno State (please enter a single number)?

Think of a class in which you completed a service-learning project. About what percentage of your overall grade (out of 100) was earned by completing the service-learning project? (Please enter a value between 0 and 100.)

Which of the following did you do when completing your service-learning project? (You may click on more than one).

*I wrote a relatively detailed proposal describing my service project that I planned on doing.

*I wrote a paper demonstrating that I had educated myself about the broader topic related to my service-learning project.

*I kept track of the hours that I worked on my service-learning project.

*I kept a record of my service activities and/or ways in which my service impacted my personal, professional or academic development.

*At the end, I wrote a reflection paper about what I did and how it related to the class.

*I showcased my work to other students or the public (e.g., e-portfolio, website, video, social media, poster, etc.)

*Other _____

I believe that there should be more opportunities for service-learning projects as part of courses.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

The service-learning assignment was meaningful in helping me understand the subject matter in the course.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

I would recommend courses that have service-learning projects to fellow students.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

Click on the ways that you have used e-portfolios (You may click on more than one).

*I completed an assignment (e.g., term paper) and when finished, I uploaded it into an e-portfolio.

*The use of an e-portfolio was integral to an assignment. For example, I displayed different stages of a project or used it to showcase artwork or performance.

*I created a specific e-portfolio in a course to be used for an application for a job, internship or graduate program.

*I used an e-portfolio to keep records of progress of an internship, service-learning project, or specific stages in completing a certification or training.

*Other _____

In which of the following way(s) was the e-portfolio assessed? You may click on more than one.

*The instructor or supervisor used a grading rubric specific to the assignment.

*Written comments were provided by the instructor or supervisor

*I received feedback from fellow students (peer evaluation).

*None of the above

*Other _____

Were you allowed to revise and resubmit your e-portfolios?

Yes

No

It depended on the course

There should be more opportunities to use e-portfolios.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

The e-portfolio helped me to understand the subject matter in the course, major or program.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

I would recommend creating an e-portfolio to fellow students.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

Undergraduate Research typically takes place outside of the classroom with students receiving independent study credit or working on an independent research project with a faculty member and/or graduate student. This could be as part of an independent study, senior project or honors thesis. Have you worked as an undergraduate research project?

Yes

No

In which of the following ways have you participated in undergraduate research?

- *As an undergraduate research assistant.
- *As part of a student research grant/award or fellowship.
- *As an independent project for credit in an Honors or capstone course where I designed my own research project.
- *None of the above.
- *Other _____

Of the following activities, click on which of the following you did as part of your independent research project (You may answer more than one).

- *I collected data (e.g., helped run the experiment).
- *I entered data into spreadsheets.
- *I contributed to the design of the experiment / study.
- *I read journal articles related to the topic.
- *I wrote a reflection paper about the research.
- *I wrote a senior or honors thesis about the research.
- *I worked in groups on a research project.
- *I did none of the above
- *Other _____

Did you present the findings of the research you conducted or were involved with at a conference (on campus or off campus)?

Yes

No

There should be more opportunities to be involved in an undergraduate research project.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly Disagree

Conducting research or being a research assistant was meaningful in helping me understand the subject matter in my major.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

I would recommend conducting research or being a research assistant to other students.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

Sometimes incoming freshmen are involved in a special class or program called a **First-Year Experience**. This might help with study and time-management skills, introduce you to campus resources or allow you to make connections with fellow students and faculty to help with social and academic support. There are several versions of a first-year experience at Fresno State. Were you involved in a first-year experience program or class?

Yes

No

Click on the following that best describes the type of first-year experience with which you were involved. (You may click on more than one.)

*A meeting before the semester started. This program lasted less than a week.

*A semester-long program where students learned about campus resources, study skills and support systems on campus.

*A semester-long program where students learned about their major.

*A year-long program where students took several classes together with the same students.

*Other _____

Click on the activities that were used in your first-year experience program. (You may click on more than one).

*Team-building or peer-building exercises (e.g., game, ropes course, scavenger hunt, craft project).

*Group projects related to an academic major.

*Many students reading and discussing the same book other than a textbook.

*Many students reading and discussing the same articles.

*Writing a reflection paper about my experience in the First-Year Experience program or class.

*Taking different courses with the same group of students (i.e., learning cohort).

Other _____

Was the first-year experience program that you were involved in taught around a theme (e.g., diversity, globalization, sustainability)?

Yes

No

There should be more opportunities to be involved in a first-year experience program at Fresno State.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

A first-year-experience program helped in making my transition to Fresno State easier.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

In any of your courses do you address issues of diversity or human rights (in the US or abroad) such as culture, race, immigration, ethnicity, gender, sexual orientation, social or economic inequalities, etc.?

Yes

No

The following is a list of some, but not all, possible issues related to diversity. Click on the ones addressed as part of the lesson plan within your courses? (You can click on more than one.)

- *Different cultures and ethnic groups living outside the United States.
- *Different cultures and ethnic groups living in and around Fresno.
- *Gay, lesbian, bisexual, asexual, and transgender issues.
- *Issues around how people of different races interact (i.e., race relations).
- *Immigration and emigration.
- *Refugees and displaced people.
- *Inequalities (e.g., income, wealth, healthcare, judicial, social mobility, education).
- *Violations of rights and struggles / actions to address them.

*Other _____

When thinking about a specific course that addressed diversity the most, approximately what proportion of your course (out of 100%) was dedicated to these issues of diversity? (Please type in a number between 0 and 100).

Courses should address diversity issues more.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

While at Fresno State, have you ever participated in a Study-Abroad Program? This could include the following: taking courses, providing service or a short educational program in a different country.

Yes

No

If you did not participate in a study abroad program, please indicate why not (You may click on more than one).

*Cost.

*Family obligations.

*Work obligations.

*No interest in study abroad.

*Not sure I would feel comfortable being in another country.

*Other _____

Which type of study abroad program did you participate in? (You may click on more than one.)

*A year-long study abroad program where I took courses at a college in a foreign country.

*A semester-long study abroad program where I took courses at a college in a foreign country.

*A summer study abroad program where I took classes.

*A program that lasted less than a semester where I visited locations in a foreign country with a faculty member (A short-term, faculty-led program).

*A program that lasted less than a semester where my service to a community in a foreign country was a large part of the trip (a short-term faculty-led program).

*Other _____

There should be more opportunities to be involved in study-abroad programs.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

My study abroad experience was meaningful in helping me learn about my major.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

I would recommend a study abroad experience to fellow students.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

When it comes to incorporating global perspectives or concerns, which of the following have you done in any of your courses? (You may answer more than one.)

*I was assigned to read recent article(s) from a foreign newspaper or periodical.

*I watched a video or movie created by or about individuals from another country or issues within their country.

*I read a book written in modern times by a foreign author.

*I communicated directly with other students in a foreign country (e.g., Skype, social media, e-mail, letters).

*We discussed or read about global issues and or relationships between countries.

*I have not done any of these in my courses.

*Other _____

There should be more opportunities to learn about views of individuals outside the United States (global perspectives).

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

Internships provide students with extensive hands-on experience in work that is directly related to their major, as well as an opportunity to receive mentoring from professionals in their field. Have you ever done an internship?

Yes

No

Which of the following describe what you experienced in your internship? (You may answer more than one.)

*I was paid for the internship.

*I received academic credit for this internship.

*I went through a well-organized orientation.

*Expectations were clearly spelled out and understood at the beginning of the internship.

*I worked directly with a supervisor at the place of the internship.

*I worked directly with a supervising faculty member.

*I received constructive criticism that enabled me to improve.

*I wrote a reflection paper at the end of my internship.

*I performed meaningful work that helped me understand the business or field I worked for.

*I received a written evaluation of performance.

*Other _____

There should be more opportunities to be involved in internships at Fresno State.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

My internship was meaningful in helping me understand content within my major or its application.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

I would recommend an internship to fellow students.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

Instructors often spend the class period giving lectures about course material. Overall, I find lectures to be a good method of teaching.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly Disagree

Instructors often have students participate in small group discussions during class. Overall, I find group discussion to be a good method of teaching.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

Towards the final year in school, a Capstone Experience asks students to integrate several components of their major and experiences at the university. A capstone experience can

take several forms including a thesis or senior project, art exhibit, performance, seminar or course. Have you been involved in a capstone experience?

Yes

No

Click on the type of capstone experience that you had (You may click on more than one).

*Senior thesis or honors project.

*Art exhibit.

*Performance (music, dance, acting).

*Senior seminar or course that was designed for the students to integrate a number of issues in their major.

*Other _____

There should be more opportunities to have a capstone experience at Fresno State.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

My capstone experience was meaningful in helping me understand the content of my major.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

I would recommend a capstone experience to fellow students.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

An instructor in a course may use Project-Based Learning or a Project-Based Assignment. A project-based assignment is a semester-long problem-solving task allowing students to solve a discipline-related or real-world problem. For example, this could be collecting data on a research project, designing a novel solution to a problem related to your major, designing, engineering or creating an object, developing an original music score, helping an organization on or off campus solve a problem, etc. Have you had a course with a project-based assignment?

Yes

No

Of the total grade in the class, what proportion out of 100% was the project-based assignment? Please enter a number between 0 and 100.)

Click on the following components that you experienced in your project-based assignment (you can click on more than one).

- *We worked on the projects in pairs.
- *We worked on a project in a group of three or more.
- *A proposal of the design of the project was submitted to the instructor.
- *Some or all of the project was worked on within the class period.
- *Some or all of the project was worked on outside of class.
- *A reflection paper was written about the project.
- *An oral presentation was given about the project.
- *The project was showcased in some manner (poster, e-portfolio, website, social media, etc.).
- *A person or group outside of the university evaluated your project.
- *Other _____

The project was meaningful in helping me understand the content in the course.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

I would recommend taking a course with a project-based assignment to fellow students.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

There should be more opportunities to do project-based assignments in courses.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

Some courses offer Supplemental Instruction (SI) through the Learning Center which provides a student leader (SI Leader) who facilitates regularly scheduled study sessions outside of class. These study sessions help with course content and study strategies. Have you ever had a class that offered Supplemental Instruction (SI)?

Yes

No

Think of one course where you were involved in a Supplemental Instruction program.

About how many out-of-class sessions did you have during the semester?

Thinking of one course that offered SI, about how many SI sessions did you attend during the semester?

There should be more opportunities to have courses with Supplemental Instruction (SI).

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

The Supplemental Instruction was meaningful in helping me understand the content in the course.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

I would recommend Supplemental Instruction to others.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

Honors programs bring together high-achieving students into a university, college or department program at Fresno State (this is different than a national honors society).

Have you been involved in an honors program at Fresno State?

Yes

No

Which type of honors program have you been involved in? (You may answer more than one.)

*Smittcamp Family Honors College.

*A college-level honors program.

*A department-level honors program.

*Ronald McNair Honors Program.

*Other _____

There should be more opportunities to be part of an honors program at Fresno State.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

We use this statement to discard the surveys of those people who are not reading the questions. Please select "agree" for this question in order to preserve your answers.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

Sometimes students take different courses together as group or cohort. These are often called Learning Communities. Students take two or more linked courses as a group.

Have you ever been involved in a learning community?

Yes

No

Which of the following apply to your experience in your learning community? (You may click on more than one.)

*Two or more courses were linked through the same service-learning project.

*Two courses were linked by a common reading or movie assignment.

*Two or more courses were linked by instructors discussing the same topic in different ways.

*I took courses in different semesters with the same group or cohort.

*The learning community was taught around a theme.

*Other _____

I would like to have more opportunities to be involved in a learning community at Fresno State.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

My learning community helped me do better in my courses.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

I would recommend learning communities to other students.

Strongly agree

Agree

Somewhat agree

Somewhat disagree

Disagree

Strongly disagree

Could you please take a few minutes and describe an academic experience (something related to your major or classwork) that you felt was the most meaningful to you as a student? This should be something that really helped you learn and appreciate your educational experience.
