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ABSTRACT

As the world becomes increasingly connected through technology, preparing students to become appropriately global competent members of society are becoming a key focus of United States higher education institutions. The purpose of this study was to examine how High Impact Practices, various practices in higher education that have been shown to promote student success, can be better utilized by faculty within a college of agriculture. This study examines how behavior change theories, such as Ajzen’s (1999) Theory of Planned Behavior and Bandura’s (2001) Social Cognitive Theory, can assist in predicting faculty’s use of these practices. A mixed-methods approach utilizing an online survey and focus groups provided insight on faculty’s awareness, perceptions, and utilization of High Impact Practices, as well as areas where an increase of professional development resources may be warranted. The survey findings indicate faculty had some awareness of the various High Impact Practices and had positive perceptions of these practices enhancing undergraduate student learning. While expressing that the college did encourage the use of these practices, room for increased targeted professional learning support was identified from the focus group discussions. Although focused on identifying professional development needs of faculty, holistic themes emerged from the focus groups, such as an increase of recognition and appreciation for the use of these practices, along with greater opportunities for faculty interaction and collaboration. Specific barriers toward the implementation of Study Abroad experiences were also identified, as the study had an additional focus on global learning. It is recommended that further research be conducted to determine the fidelity of the integrated High Impact Practices as well as the best ways to provide faculty support and increase the study population to include other colleges of agriculture.
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Chapter 1

Introduction

“Education is a future-oriented business because it aims to prepare today’s children for the future” (Zhao, 2010, p. 422). Educators at all levels are challenged with preparing children and young adults for what the future will bring. Higher Education educators are challenged to identify and utilize practices that prepare students to be aware of what is occurring world-wide as global citizens to increase their ability to be competitive in the employment market. To better integrate global learning development, educators must have available support and resources to comprehend and incorporate global competency in courses to meet the needs of students. (Zhao, 2010).

Global competency is referred to frequently in scholarly literature, but researchers are still challenged with defining specifically what the term encompasses. Various researchers (Gardner, 2004; Reimers, 2009; Zhao, 2009) have written that global competence is:

the knowledge and skills needed to function successfully in the globalized world. More specifically, it includes the ability to speak, understand, and think in a foreign language, knowledge of the global system and world history, geography, and other global issues such as health and economics, and knowledge of other cultures. (Zhao, 2009, p. 427)

Educators are not alone in adjusting to this call for a greater global focus; universities and colleges that employ these faculty are also increasing institutional goals and focus as well.

Stebleton and collaborators (2013) stated that academic institutions within the United States are incorporating terms such as “global citizenship” into their university mission statements. These universities have also shown an increase in global learning opportunities such as internships and work-studies, in addition to an increase in their academic study abroad opportunities, as these are often considered the most common practice to increase global learning and awareness. While study abroad promotes global competency, Stebleton et al. (2013) emphasized the importance of a more holistic approach to student success and development. They
wrote, “…activities and programs that are intentionally developed to foster deeper learning and engagement will lead to the development of outcomes that have a lasting impact on students -- even beyond college as students become global citizens” (p. 3). Examples of these activities and programs, including study abroad, that universities and faculty can utilize to promote and develop student success are referred to as High Impact Practices (Kuh, 2008).

**Potential Solutions for Higher Education: High Impact Practices**

The Association of American Colleges and Universities (AACU) is a national association focused on establishing quality and equitable liberal education at the undergraduate level. Established in 1915, the organization is comprised of public and private colleges, research universities, community colleges, and other comprehensive universities of various distinctions (American Association of Colleges and Universities, 2019). In 2008, George Kuh (AACU, 2008) published a study titled “High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter.” Kuh’s work listed ten High Impact Practices (HIPs), common in university settings, as First-year Seminars and Experiences, Diversity / Global Learning, Learning Communities, Common Intellectual Experiences, Writing Intensive Courses, Undergraduate Research, Collaborative Assignments and Projects, Service Learning, Community Based Learning, Internships, and Capstone Courses or Projects. The outstanding goal and purpose behind these practices was – and is -- to, “…improve the quality of students’ experience, learning, retention, and success, particularly for underserved students” (Kinzie, 2012, para. 3). Moreover, HIPs are associated with outcomes such as improved graduation rates and narrowed achievement gaps between racial–ethnic groups (Kinzie, 2012). HIP’s have potential to represent diverse faculty interventions that can both increase global competency and meet the needs of a larger demographic of students.
Meeting the Needs of All Students

Under-represented minority students (URM’s) face a variety of challenges when entering the university environment, from lack of familial support and general understanding of higher education to academic and financial struggles (Smith, 2013). HIPs “have been shown to be beneficial for college students from many backgrounds, especially historically underserved students, who often do not have equitable access to high-impact learning” (AACU, 2008, para. 1).

In the literature, traditionally underrepresented students in colleges of agriculture are also increasingly rare as participants in study abroad experiences (Smith et al., 2013). The Institute of International Education (2020) reported an increase in non-white students participating in study abroad experiences (see Figure 1-1), however this may simply be due to the increase in enrollment of these students in universities in general (Institute of International Education, 2018; Smith et al., 2013). As colleges of agriculture increase their efforts to improve recruitment and retention for underrepresented students, data is also needed to be collected on factors that will assist in supporting students who wish to participate in international experiences.
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**Total**


Note: Percent distributions may not sum to 100.0 due to rounding.

Note: Dash symbol (-) indicates no data available.

**Engaging the Critical Element: Faculty**

To better meet the demands placed on faculty members such as university learning standards, student expectations, and industry needs, institutions and departments must provide proper training, resources, and support for faculty. As High Impact Practices have been shown to assist both faculty and universities in developing globally competent and successful students, a greater effort needs to be made in informing universities on the importance of investment in their faculty who utilize these practices.

**Challenges in Colleges of Agriculture**

According to William H. Frey, an analyst at the U.S. Census, by the year 2045 over 50% of the population will be non-white (Frey, 2018). The National Center for Education Statistics (NCES), an entity of the U.S. Department of Education (USDE) reported a 5 percent increase in overall college enrollment from 2000 to 2017 (NCES, 2019). Reported data also showed trends of majority increase in enrollment in non-white reported ethnicities (see Figure 1-2) (NCES, 2019). The literature and national studies show conflicting trends on whether enrollment specific to colleges of agriculture is increasing or decreasing; literature shows that enrollment is decreasing and extremely unpredictable (Philpott, 2013) while the Food and Agricultural Education Information System (FAEIS), an entity of the United States Department of Agriculture, reported an increase in overall enrollment of agriculture majors (FAEIS, 2019).
In a summary prepared by Open Doors from a database reporting national data on study abroad, the percentage of students majoring in agriculture who participate in a study abroad experience increased from 1.5% to 2.5% between 2006 and 2016 (see Figure 1-3) (Institute of International Education, 2018). While the increase in student participation overall is positive, agriculture students’ study abroad participation is minimal and is becoming a felt need, particularly as the need for globally competent individuals in agriculture increases; students studying agriculture becoming globally competent in their knowledge of the industry will be vital (Bunch et al., 2013).
### Table: U.S. Study Abroad Students by Field of Study, 2000/01 - 2018/19

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Total: 154,168

Note: Historical data may not always sum to totals.
Note: Percent distributions may not sum to 100.0 because of rounding.
Note: Dash symbol (–) indicates no data available.
Note: All broad field of study categories are based on Open Doors 2020 classifications, which may not match data in historical publications.
Note: The fields of study used in this report are from Classification of Instructional Programs, 2010 Edition, published by the National Center for Education Statistics (NCES) of the U.S. Department of Education.
* Science, Technology, Engineering, and Math
Notes on historical names and classifications:
** Beginning in 2013/14, changes were made in the classification of fields of study reported in the Open Doors U.S. Study Abroad Survey. Figures reported from 2013/14 onward are not entirely comparable to prior years.

*** Beginning in 2013/14, Communications and Journalism and Legal Studies & Law Enforcement were reported separately, and Foreign Language was merged with International Studies.

Significance of the Study

By 2050, the global population is expected to reach over 9 billion (FAO, 2019). As the world adjusts to this increase, globally competent agricultural students will be vital. The American Association for Agricultural Education (AAAE) National Research Agenda (Roberts et al., 2016), expressed the need for a greater global focus in agricultural education, communication, and leadership. Two of the key priority listed include priority 3, “What strategies are effective in recruiting diverse populations into agriculture and natural resources careers?” and priority 5 “What methods, models, and programs are effective in preparing people to work in a global agriculture and natural resources workforce?” As one of the original land grant institutions in the United States, The Pennsylvania State University (PSU) has also identified the need for a greater focus on preparing globally competent students, specifically within the College of Agricultural Sciences. The published 2014-2019 Strategic Plan of the PSU College of Agricultural Sciences stated that two of the core competencies include Valuing and Building Diverse Partnerships and Teaching and Learning by Doing. These two competencies reflect the areas of High Impact Practices, the focus of this research study. Determining needs and perceptions from faculty members will provide the college administration with areas where additional resources or trainings may be needed to increase faculty and student success.
Problem Statement

High Impact Practices have been shown to be extremely beneficial to student success, specifically within underrepresented or non-traditional student populations; however, there remains a need for greater understandings on faculty perceptions of both barriers to implementation and perceived university support of the implementation of HIPs (Murphey et al., 2016).

Purpose and Objectives of the Study

The purpose of the research study is to determine faculty perceptions of professional learning needs and best practices for High Impact Practices (HIPs) within the College of Agricultural Sciences at Penn State. The objectives that will guide the research study include:

1. Determine faculty’s perceptions on the importance of HIPs in undergraduate academic experiences.
2. Determine faculty’s self-reported self-efficacy to incorporate HIPs into undergraduate academic experiences they facilitate.
3. Identify faculty perceptions of college support in implementing HIPs in undergraduate academic experiences.
4. Determine faculty desired professional development experiences to incorporate HIPs in College of Agricultural Sciences undergraduate academic experiences.
5. Describe faculty perceived barriers to facilitating global learning undergraduate experiences.*
6. Explore faculty general recommendations for High Impact Practices within the College of Agricultural Sciences

* The study specifically meets the requirements of the International Agriculture and Development dual-title degree with research objective five.
Conceptual Framework

The study examines the linkages between how greater professional development strategies can impact how faculty influence student success through the implementation of High Impact Practices, specifically study abroad and undergraduate research, to better fulfill the need for a globally aware workforce within and beyond the agricultural industry. The conceptual framework (Figure 1-4), as proposed by the researcher, describes faculty in agriculture, food, and natural resources, where professional development and other resources or training on High Impact Practices may be necessary. This need will be determined by analyzing faculty awareness of HIPs, faculty confidence in utilizing HIPs, and faculty perceived support and resources available from the college. With proper preparation, support, and resources, faculty use of HIPs can lead to greater student success, helping develop a more globally competent workforce, specifically within the agriculture industry.

Figure 1-4
Conceptual Framework
Assumptions

The researcher assumes a general familiarity by study participants with educational High Impact Practices as instructors at a land grant university. With each individual study participant provided a reminder of what each specific practice may entail, the sample population will have prior knowledge and have been selected based on their experience with these practices.

Limitations

This study has limitations in the generalizability of the findings. The sample is a purposive (selective) sample of faculty who are known to have participated in at least one High Impact Practice. Additionally, these faculty are employed at one research focused, Predominately White Institution (PWI) within one college of agriculture. This may impact the results of faculty perceptions as compared to faculty at a community college, Historically Black College or University (HBCU), or Hispanic Serving Institution (HSI). Additionally, due to the global pandemic COVID-19, the data collection process of this study took place in virtual environments. This pandemic stress factors also have a potential of influencing perceptions of the study participants.
**Operational Definitions**

**High Impact Practices (HIPs):** Teaching and learning practices that have been shown to improve student success in a university environment. These can include first-year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research, diversity/global learning, service or community-based learning, internships, and capstone courses or projects (AAC&U, 2008). In the literature, HIPs are also referred to as High Impact Educational Practices (HIEP’s) or High Impact Learning Practices (HILP’s) however HIPs will be used throughout this document for clarity and comprehension.

**Under-Represented Minority Students (URMs):** Students who are from ethnically or racially diverse backgrounds, are first-generation college students, or transfer students (Smith et al., 2013).

**Harbaugh Faculty Scholars:** The Harbaugh Faculty Scholars Program Award for Excellence in Teaching & Learning is a funding program with the goal to inspire innovative teaching and learning in the College of Agricultural Sciences at The Pennsylvania State University. Funding is awarded to full-time faculty members interested in developing new, innovative, non-traditional curriculum, as to enhance student learning and academic performance within the college. This program was utilized as a source to populate the frame for the initial survey on High Impact Practices.
Summary

Chapter one introduces the need for advancing global competency development through High Impact Practices as an increasing priority in higher education, specifically in colleges of agriculture. High Impact Practices are identified as assisting faculty in creating educational settings that promote student success with a global focus. To better understand the needs faculty may have in implementing these practices into their courses and experience planning, studies have been conducted with the goal of identifying barriers and opportunities for professional development, which framed this research study.
Chapter 2

Literature Review

This chapter discusses the literature pertaining to this study. The chapter begins by reviewing the study purpose and objectives and is then organized around the following topics: 1. High Impact Educational Practices; 2. Global Learning, and 3. College of Agriculture Faculty Professional Development Needs. Chapter two then discusses the theoretical framework which guided this research study.

Purpose and Objectives of the Study

The purpose of the research study is to determine faculty perceptions of professional learning needs and best practices for High Impact Practices (HIPs) within the College of Agricultural Sciences at Penn State. The objectives that will guide the research study include:

1. Determine faculty’s perceptions on the importance of HIPs in undergraduate academic experiences
2. Determine faculty’s self-reported self-efficacy to incorporate HIPs into undergraduate academic experiences they facilitate
3. Identify faculty perceptions of college support in implementing HIPs in undergraduate academic experiences
4. Determine faculty desired professional development experiences to incorporate HIPs in College of Agricultural Sciences undergraduate academic experiences
5. Describe faculty perceived barriers to facilitating global learning undergraduate experiences
6. Explore faculty general recommendations for High Impact Practices within the College of Agricultural Sciences.
High Impact Practices

Shown to assist in student success and retention, High Impact Practices are increasingly explored in the literature as institutions and educators seek to better understand how to best utilize the practices. While all disciplines and academic fields can be served by and utilize HIPs, this study focuses on colleges of agriculture. This section summarizes each of the High Impact Practices and areas where they have been discussed in specific educational settings.

First-Year Seminars and Experiences

An increasingly recommended practice within United States postsecondary institutions is to require or encourage first-year undergraduate students to participate in first-year seminars and experiences (Kuh, 2008). The focus of these practices is to “place a strong emphasis on critical inquiry, frequent writing, information literacy, collaborative learning, and other skills that develop students’ intellectual and practical competencies” (AACU, 2018, para. 8). First-year seminars have also been found to increase students’ views of their university as being a supportive environment by emphasizing the available resources and focusing on better time management skills (Brownell & Swaner, 2009). The same study found that as each and every university setting is unique, the practice should make sure to focus on meeting the needs of students as they become apparent or identified. Additional factors that impacted the success of first-year seminars, other than credits earned or hours of contact, included: “(1) the use of instructional teams, bringing faculty, academic advisers, librarians, and computing specialists together to support students; (2) the use of engaging pedagogies, and (3) connecting first-year seminars to other high-impact practices, such as learning communities or service learning” (Brownell & Swaner, 2009, p. 4).
In a study focused specifically on first-year students within a college of agriculture, students from cohorts who were involved in a first-year seminar, as compared to students who were not, showed a higher first-term grade point average, shorter time to degree completion, higher retention in the college, and were placed on academic probation less (Klatt, 2014). Another department in a college of agriculture performed a similar study which examined student retention after completing a first-year seminar course. The study (Reaves & Marchant, 2010) found that students who participated not only showed higher rates of retention and graduation, but also expressed satisfaction at the experience in their transition to the university, in addition to meeting and creating a community with the department, its faculty, and other students.

Learning Communities

The purpose of incorporating learning communities in undergraduate experiences is to build a relationship between students, their courses, and professors, and “big question” topics (AACU, 2018, para. 12). Learning communities can take many forms, such as creating a theme between two or more courses, orientation seminars, or even a themed residential community. Researchers Brownell and Swaner (2009) found that challenges faced when incorporating learning communities may include availability of faculty, classrooms and resources, campus housing, and many others specific to the context of the university or student base. Brownell and Swaner reported also found that learning communities require complex planning and preparation, which calls for substantial faculty development and access to resources. Additionally, Brownell and Swaner promote the idea of instructional teams, which are also encouraged in planning other HIPs as a mechanism to focus on collaboration across courses to develop the most successful learning opportunities possible.
In a study performed at a United States land grant university, Ball and Dyer (2001) examined if participation in a Freshman Interest Group (FIG) learning community, in addition to previously being involved in an agriculturally focused youth organization, such as FFA or 4-H, had any impact on academic performance or retention. While this study did not find that involvement in the FIG had any statistically significant value to the academic success and retention of first-year agricultural students, previous involvement in youth organizations such as 4-H and FFA did show a statistically significant \((p = .001)\) impact on student retention to their second year. Ball & Dyer called for future research to focus on how previous involvement in an agriculturally focused youth organization, such as 4-H and FFA, could be an example of a learning community specifically within the context of HIPs in agricultural colleges.

**Common Intellectual Experiences**

Previously referred to as “core” curriculum, common intellectual experiences (CIEs) are an advanced collaboration between common courses, learning communities, and an overarching theme (AACU, 2018, para. 10). Like other High Impact Practices, such as first-year seminars and experiences and learning communities, common intellectual experiences are only possible and successful with extensive collaboration across faculty members and departments, with the appropriate administrative support and resources (Kezar & Holcombe, 2017). While scant literature is found referencing common intellectual experiences in colleges of agriculture, CIEs were found at another public U.S. university to provide evidence as “effective for student growth and faculty professional development” (Grant & MacLean, 2018, p. 64). Grant and MacLean (2018) also identify several challenged to the CIE experience implemented, a semester long collaboration with a local National Park, which included conflicting perceptions of academic
rigor from faculty and students, in addition to a lack of administrative support on the university side to assist with logistical challenges.

**Writing Intensive Courses**

Writing intensive courses are utilized through all years of higher education curricula. The purpose of these courses, or foci within courses, is said to have “led to parallel efforts in such areas as quantitative reasoning, oral communication, information literacy, and, on some campuses, ethical inquiry” (AACU, 2018, para. 14). Ravela (2019) outlined several challenges faced by faculty when leading writing intensive courses, which mainly consisted of the amount of time necessary to provide students with critical and purposeful feedback on their writing. The same study noted that “effective HIP pedagogies not only rely on instructor commitment, expertise, and training, but also, they are contextually determined (in part) by the culture and material conditions of institutions” (Ravela, 2019, p. 10).

In a study performed in a college of agriculture, Leggette and Homeyer (2015) examined student experiences in writing-intensive courses. Following focus group interviews, Legette and Homeyer reported that students’ experiences varied across the courses they took, mainly focusing on how much and how quickly they received feedback. Overall, having taken a writing intensive course provided students with skills to “research and develop thoughts about information pertinent to their career” (p. 120). The researchers reported that the study should be “replicated at different institutions to determine students’ perspectives of writing across colleges of agriculture and begin to develop a literature base that can be used to enhance writing instruction in agriculture” (p. 120).
Undergraduate Research

Research opportunities at the undergraduate level provide students with experience working with faculty and industry in order to “involve students with actively contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions” (AACU, 2018, para. 18). Benefits identified by students who have completed undergraduate research experiences included: “gains on a variety of disciplinary skills, research design, information or data collection and analysis, information literacy, and communication,” in addition to professional advancements such as entering the scholarly learning community (Lopatto, 2010, p. 1).

Agricultural, and land-grant institutions are called to increase the incorporation of experiential learning, which recently has been primarily focused on undergraduate research (Splan et al., 2011). As funding in land grant universities becomes increasingly competitive, faculty are encouraged to incorporate undergraduate research, as their role is to, “create experiences which challenge and develop the student appropriately in cognitive, affective and behavioral domains” (Splan et al., 2011, p. 60). Splan, Porr, and Broyes (2011) found that an essential factor to the success of an undergraduate research experience is the faculty mentorship provided because it is the backbone behind a student-oriented approach as a commitment to student success.

Collaborative Assignments and Projects

Designed to encourage teamwork and understanding of other perspectives and insights, collaborative assignments and projects can take the form of study groups, team-based assignments, or cooperative projects and research (AACU, 2018, para. 16). Robertson & Riggs (2018) reported that collaborative assignments and projects are adaptive to the changing
educational settings “given the rise of globalization, asynchronous collaboration is increasingly common in professional workplaces; therefore, asynchronous collaboration in coursework, regardless of the topic, is by nature an authentic learning experience,” (p. 72).

Service Learning, Community Based Learning

Service learning, or community-based learning opportunities allow students to apply areas of study to real world situations through field-based “experiential learning” (AACU, 2018, para. 26). One key distinction which separates service or community-based learning from volunteerism is that it must tie directly back to the content being covered in the classroom (Brownell & Swaner, 2009). Recommendations presented for students to benefit the most from these experiences include direct contact with the client, quality supervision and frequent constructive feedback, and significant length of experience.

As education and the world become ever interconnected, researchers found that service-learning can serve “as an authentic learning methodology that can be cultivated to advance cross-cultural education” (Woods, 2004, p. 17). In a research study focused on the importance of cultural competency in agriculture students, researcher Woods (2004) emphasizes the need for a “comprehensive system of professional development opportunities for agricultural educators regarding multicultural education and service learning” (p. 16). Brownell and Swaner (2009) have also found that “…service learning brings experiential learning to the learning community experience. It focuses students on "real" world (unscripted) problems and issues and broadens students' thinking about what it means to be a part of a community beyond the campus” (p. 6).
**Internships**

Another form of experiential learning, internships have proven beneficial for student success by allowing them to participate in direct work-place experiences (AACU, 2018, para. 28). While internship experience is becoming more common during a student’s collegiate experience, the effort that must be put into structuring these experiences to be beneficial is highlighted by one researcher. O’Neill (2010) wrote that internships must be a team effort and that “faculty, advisors, career development professionals, and employers - must agree to help students set and fulfill explicit learning and career development goals” (p. 7).

In agricultural fields, employers have identified internships as valuable experiences for students to partake in during their college careers, as students who have completed an internship tend to be considered more favorably when seeking employment opportunities over those who have not (Hart Research Associates, 2015). Jones et al. (2002) found that while some students who participated in an internship opportunity named benefits such as “the positive public relations aspects, the enhancement of their students presentation skills, and opening the door for future student internships” (p. 164), others felt as though their experiences lacked worth, reemphasizing the importance of the quality of the internship and collaboration between industry and educational facilitators.

**Capstone Courses or Projects**

A common way for educational programs to assess the culmination of learning for an undergraduate senior, capstone courses and projects allow students to synthesize what they have learned in an applied project aimed at their interests (AACU, 2018, para. 30). In a study examining the long-term effects of student participation in High Impact Practices on student learning and success, Kilgo et al (2014) found that participation in a capstone course or
experience was “a significant, positive predictor for inclination to inquire and life-long learning” (p. 521).

At one United States land-grant university, capstone courses were incorporated to include an “emphasis on teamwork, communication, decision-making, problem solving, and critical thinking” (McCubbins et al., 2016, p. 72), all of which are identified as characteristics of globally competent students. In another study, Andreasen & Threde (2000) examined the perceived benefit by students in participating in a capstone course, which found that students benefited in their professional careers as the course “provided a culminating experience and allowed course graduates to apply the knowledge gained from previous courses” (p.53).

Diversity / Global Learning

With the goal of educating students of different cultures and worldviews, diversity and global learning experiences encompass ideas such as “racial, ethnic, and gender inequality, or continuing struggles around the globe for human rights, freedom, and power” (AACU, 2018, para. 22). Popular with students seeking to expand their educational experiences, universities have developed and are offering more opportunities for their students, such as yearlong, semester, and short-term trips, in addition to volunteer, internship, and work abroad options (Stebleton et al., 2013).

While identified as a key High Impact Practice, specifically in colleges of agriculture, global learning, through study abroad experiences, has been identified as being difficult or very difficult to facilitate, from a faculty perspective (Murphey et al., 2016). Zhai and Scheer (2002) found that students who participated in a study abroad experience reported increased levels of global perspective, cultural diversity, and self-efficacy, in addition to global knowledge and skills regarding their host country and area of study.
Global Learning

Terms such as “global learning” and “global engagement” were often used vaguely and interchangeably in the literature. Additionally, classification of an experience as “study abroad” did not always correspond to an individual traveling to another country. For the context of this research, the terms will be used according to the Association of American Colleges and Universities (AACU) definition, which states that global learning is defined as “... a critical analysis of and an engagement with complex, interdependent global systems and legacies (such as natural, physical, social, cultural, economic, and political) and their implications for people's lives and the earth's sustainability” (Epps, 2017, para. 3). Due to the inconsistencies in definitions and recorded data, this study will focus on one specific type of global engagement: study abroad.

Study Abroad in Collegiate Agriculture Education

To gain an understanding of the presence of a global agricultural focus in agricultural education, Wright, Vincent, and Epps (2019) discuss the importance of agricultural education in the development of international agriculture in their journal article titled “International Agricultural Education from 1975 to Present: A Research Synthesis.” The purpose of the article was to summarize research literature from 1975 to present on the topic of international agricultural education and how it relates to Mezirow’s (1991) Transformative Learning Theory (Mezirow, 1991). The authors identified the following themes: studies on education abroad, explorations of other nations’ agricultural education systems, globalization of American curriculum, and extension efforts abroad.

Wright, Vincent, and Epps found that in studies about education abroad trips focused on agriculture and encouraging aimed at serving agriculturally focused students, student participation was substantially affected by cost and the design of the course. These studies also
collected faculty perceptions, and implications of the experiences on the faculty members’ future courses. The authors developed themes in their analysis about study abroad experiences focused on exploring other nations’ agricultural education systems. The three primary themes identified were: competencies and professional development needs of both students and educators, program and curriculum development, and impacts of agricultural education. Additionally, the authors looked at studies focused on globalizing American agricultural curricula, with the literature reinforcing the idea that global learning does not have to take place outside of the United States. Finally, Wright, Vincent, and Epps summarized studies focused on extension efforts abroad, which mainly address the effectiveness of programing and training of extension educators to their specific region of service.

**College of Agriculture Faculty Professional Development Needs**

To properly prepare students to be global citizens and well-prepared employees, faculty must have the proper resources and professional development trainings available to them, often provided for them by the institution at which they work (Rocca, 2010). In a study examining faculty in university agricultural education program and their attitudes toward the implementation of High Impact Practices (HIPs), Murphey et al (2016) found that additional research was needed to determine how resources and support at the administrative level can support faculty members’ motivations toward incorporating HIPs into their classrooms. There was ample data from faculty that more information and opportunities for increased knowledge specifically about study abroad opportunities were needed. The same study also found that duration of teaching experience may have a direct correlation to the perceived benefit that agricultural education faculty have about the impact HIPs can have on students’ learning. While this study focused on a single department
(Agricultural Education) within a college of agriculture at a university, areas identified for future research highlight a need for other programs to be examined.

One method that has been seen in the literature to identify areas of need for increased professional development is the Borich Needs Assessment Model, which was developed by researcher Gary Borich (1980) at the University of Texas, Austin to identify discrepancies in trainings for pre-service educators. The Borich Model has been utilized specifically with agricultural educators to determine faculty professional development needs, an example being a study done in Texas examining areas where Social and Emotional Learning gaps were found in educators (Yopp et al, 2017). Discrepancies are identified using the Means-Weighted Discrepancy Score, which calculates the difference between importance and competence, and then multiplying the discrepancy score by the mean importance (Garton & Chung, 1997).

**Effectiveness of High Impact Practices**

In a recent study, Zilvinskis (2019) examined how the claims of utility of High Impact Practices made by Kuh (2008) and others are reinforced or change over time. In the study, Zilvinskis found that simply implementing or facilitating High Impact Practices would not always create a positive impact on students, and that a greater emphasis was needed on the quality of the practice and how it would meet specific learning needs of the students participating. Additionally, due to the complexities of High Impact Practices, simple student participation is not always enough for a direct effect on higher graduation rates or quicker completion of degrees. Their impact may not always be able to be measured in a linear, positive direction. Johnson and Stage (2018) found that the implementation of High Impact Practices did not improve 4-year graduation rates, and in some cases even negatively affected them, such as when internships added a term to time to degree, however these authors noted that the lasting impacts of the usefulness of
participation may outweigh the traditional timeline of a university student. Johnson and Stage note a key limitation of their study is that it only examined graduation rates as a determinant of HIPs success, but that there is also, as seen in many other pieces of literature, a call for an increase of research to examine further the impacts of utilizing High Impact Practices. This study shows that High Impact Practices are not a simple fix that results in student success during and following their collegiate experience but can still be beneficial when incorporated appropriately in certain contexts with proper facilitation at the faculty and administration level. As each student, each college, and each university has their own unique challenges and areas for opportunity, a specialized approach to which and where HIPs can be used is essential for the desired outcome: increasing students short and long term benefits.

**Theoretical Foundation**

Several theories are consistent in the literature around High Impact Practices and faculty motivations within colleges of agriculture, specifically when looking at participation in study abroad opportunities. The theoretical foundations for this research study exist with Ajzen’s (2006) Theory of Planned Behavior and Bandura’s (1986) Social Cognitive Theory, both of which have been used in the literature when examining students’ perceptions and motivations to participate in High Impact Practices, specifically study abroad. However, little research focuses on faculty perceptions and motivations to implement and the importance of these practices in terms of student success under their facilitation. Each theory will be discussed below.
*Ajzen’s Theory of Planned Behavior*

Ajzen’s (1991) Theory of Planned Behavior (TPB) highlights the relationship between the subject’s attitude toward a behavior change, how accepted the behavior change is within their circle of influence (subjective norm), and how much control the subject has on their ability to execute the behavior change (perceived behavior change). These three factors influence the intention of behavior change, coupled with perceived behavior change, lead to actual behavior change (Ajzen, 1991). An agriculturally related study examining how TPB may affect faculty’s perceptions and their use of High Impact Practices; that study found that faculty members’ perceptions were impacted by their perceived abilities to implement HIPs and by the level of support provided by their college and administration. (See Figure 2.1)

In a hypothetical situation, the behavior of a faculty member can be explained by this theory. In the case of a first-year plant science faculty member considering the incorporation of a service project into their first-year course, they will consider how confident they are (perceived behavioral control) in adding that to their syllabus. They will also consider how other faculty and administration will view this action (subjective norm) and past experiences they may have had taking a course with the same action or adding the action to a course in the past and what the outcome may have been (attitude toward behavior).
Figure 2-1

*Theory of Planned Behavior (Ajzen, 1991)*

![Diagram of Theory of Planned Behavior](image)

**Banduras Social Cognitive Theory**

Bandura’s (1999) Social Cognitive Theory discusses the relationship between cognitive factors, behavioral factors, and environmental factors and their impact on human behavior. Cognitive, or personal, factors include the knowledge, expectations, and attitudes the subject has about the specific behavior change. Behavioral factors include the skills, practice, and self-efficacy of the subject. Finally, the environmental factors include social norms, access to community, and the influence on others or ability to change their own environment. In the literature, Social Cognitive Theory has been discussed as an advancement to the idea of self-efficacy (Stajkovic & Luthans, 1998). Figure 2.2 illustrates Social Cognitive Theory and shows the relationship between behavioral determinants, personal determinants, and environmental determinants.
In one study, Social Cognitive Theory was used to identify factors influencing faculty behavior utilizing technology in the classroom (Dusick, 1998). While not directly related to faculty use and perceptions of High Impact Practices, this study is analogous and found that a) environmental factors, such as the tools and setting, data or information, and incentives, b) behavioral factors, like motivations, and c) personal factors, motivation, and skills and knowledge had an influence on how, when, and why faculty were performing a certain behavior (Dusick, 1998).

Social Cognitive Theory has also been applied when examining students’ behaviors. Raczkoski et al. (2018) studied how students’ motivations to participate in a global learning (study abroad) experience were impacted by all three factors. These researchers found that several environmental factors, including outside cost, influence of others, and utility, had an impact on their decision to participate in study abroad. This study found that an altered and targeted approach by faculty, which includes promoting and highlighting the benefits to participating in a study abroad trip, may have a more positive effect on students who may opt out simply due to the burden or size of the outside cost (Raczkoski et al., 2018). In another study, Social Cognitive Theory was used to examine how High Impact Practices influence the success of first year first-generation students. The researchers found that the greater involvement in numerous High Impact Practices, which was measures by qualitative evaluation of reflections of participants, led to increased academic success and adjustment (Conefrey, 2018).
Harbaugh Faculty Scholars Program

One funding source available directly to faculty within the College of Agricultural Sciences at the Pennsylvania State University is the Harbaugh Faculty Scholars Program Award in Teaching and Learning. The purpose and goals of the program is to promote innovative teaching and learning practices. Proposals submitted by faculty must include but are not limited to: new and innovative approaches to teaching, quantity of students impacted, and proposed collaborative initiatives. This funding program is one specific avenue where faculty in the College of Agricultural Sciences could receive additional funding to potential incorporate one or more High Impact Practice into their course or courses.
Summary

In summary, the literature shows that some research has been done evaluating the barriers students and faculty within colleges of agriculture face when considering participation or facilitation of a study abroad experience, along with insightful evaluation of the programs post-completion (Stebleton et al., 2013). As found in the literature, greater student involvement in the university can lead to greater enrollment in study abroad and other global experiences (Rust, 2008). Additionally, literature indicates that employers and students both understand the benefits that study abroad can have on them after completing their degrees. However, little is known about the initial awareness of students or faculty to consider participating in an international experience or on what determines the support at the university and college level regarding faculty and student benefit of participation. Ajzen’s (1991) Theory of Planned Behavior and Bandura’s (1999) Social Cognitive Theory provided the theoretical foundation to examining behavior change in both faculty and then students. The proposed research topic stemming from this review of literature is to examine how to best increase faculty awareness and utility of High Impact Practices, specifically study abroad, as the literature has shown that faculty have a direct impact on the motivations of students.
Chapter three presents the research approach that was used to guide the study, including study population selection methods, survey instrument, focus group participant methods, and focus group question prompts. Protocols for survey distribution and focus group facilitation are also included, along with methods for collecting and analyzing survey instruments and focus group responses.

Purpose of Study

The purpose of the research study was to determine faculty perceptions of professional learning needs and best practices for High Impact Practices (HIPs) within the College of Agricultural Sciences at Penn State University. The objectives that guide the research include:

1. Determine faculty’s perceptions on the importance of HIPs in undergraduate academic experiences.
2. Determine faculty’s self-reported self-efficacy to incorporate HIPs into undergraduate academic experiences they facilitate.
3. Identify faculty perceptions of college support in implementing HIPs in undergraduate academic experiences.
4. Determine faculty desired professional development experiences to incorporate HIPs in College of Agricultural Sciences undergraduate academic experiences.
5. Describe faculty perceived barriers to facilitating global learning undergraduate experiences.
6. Explore faculty general recommendations for High Impact Practices within the College of Agricultural Sciences.
Mixed Methods Research Design

A mixed methods approach was used for this research study to provide robustness through triangulation, to identify the needs and perceptions of faculty, along with areas for improvement to recommend to the College of Agricultural Sciences. This approach was selected because it allows for a greater degree of understanding than would be able with either qualitative or quantitative alone (Creswell & Clark, 2011). The research study took place within the academic year Fall 2020 to Spring 2021. For the quantitative portion of the research study, I adapted the survey instrument over Summer 2020. During Fall semester 2020, the faculty were asked to participate in the survey. Focus groups were formed in early 2021 from survey respondents who opted into the focus group process. Data analysis occurred throughout the Spring semester of 2021.

The study population was asked to complete a survey designed following a Borich Needs Assessment Model (Borich, 1980). The survey measured faculty’s perceptions of their confidence with HIPs in comparison to the HIPs’ perceived importance level. After completion of the survey, I analyzed results to inform the development of protocol for conducting focus groups. Focus groups were formed from a purposive sample of faculty to create three focus groups of six to seven participants, excluding the researcher as the moderator. This number of groups, and participants within those groups, is the suggested amount to reach saturation, which is the point where a range of ideas have been heard and new information ceases to be collected (Krueger, 2014). The focus groups discussed best practices and tips when incorporating HIPs, in addition to areas where professional development or learning could be incorporated in faculty trainings for the college (research study breakdown shown in Table 3-1).
Table 3-1
Research Study Breakdown

<table>
<thead>
<tr>
<th>Study Research Objective</th>
<th>Collection Method</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>RO1. Determine faculty’s perceptions on the importance of HIPs in undergraduate academic experience.</td>
<td>Survey Questions 1, Survey Questions 3 and 4</td>
<td>Descriptive statistical analysis</td>
</tr>
<tr>
<td>RO2. Determine faculty’s self-reported self-efficacy to incorporate HIPs in undergraduate academic experiences they facilitate.</td>
<td>Survey Question 2, Survey Question 5</td>
<td>Descriptive statistical analysis</td>
</tr>
<tr>
<td>RO3. Identify faculty perceptions of college support in implementing HIPs in undergraduate academic experiences.</td>
<td>Survey Questions 6 and 7</td>
<td>Descriptive statistical analysis</td>
</tr>
<tr>
<td>RO4. Determine faculty desired professional development experiences to incorporate HIPs in College of Agricultural Sciences undergraduate academic experiences.</td>
<td>Focus Group Prompt 1. How were faculty introduced to HIPs? Focus Group Prompt 2. Who served as mentors to faculty using HIPs? Focus Group Prompt 3. Where can more resources be offered to faculty using HIPs? Focus Group Prompt 4. What are faculty best practices for using HIPs?</td>
<td>Content analysis</td>
</tr>
<tr>
<td>RO5. Describe faculty perceived barriers to facilitating global learning undergraduate experiences.</td>
<td>Focus Group Prompt 5. What are barriers to incorporating or continuing to lead study abroad experiences?</td>
<td>Content Analysis</td>
</tr>
</tbody>
</table>
Study Population

The target audience for this study included faculty members within the College of Agricultural Sciences at The Pennsylvania State University, University Park. The population consisted of faculty who had engaged in one or more of the following College of Agricultural Sciences facilitated High Impact Practices (HIPs) a) study abroad, b) undergraduate research, and c) Harbaugh Faculty Scholars program within the timeframe of Spring 2015 through Fall 2019. Study abroad participants included those who had led an embedded course trip or international research internship. Undergraduate research participants were faculty who had worked with an undergraduate student on a research project, with funding by the College of Agricultural Sciences. Harbaugh Faculty Scholar participants included those who had been funded by the college. A comprehensive list was obtained from the Associate Dean for Undergraduate Education of the College of Agricultural Sciences, the Assistant Director for Student Global Engagement within the International Programs office, and online public records. Individual counts were made per High Impact Practice (study abroad, undergraduate research, or Harbaugh Faculty Scholar), which I then cross compared to eliminate duplicates in the participant count, as a small percentage of the population were percentage of the population were involved in more than one of the practices listed.
Quantitative Approach

The quantitative portion of this research study was informed by the results collected from an adapted survey, which was based on the Faculty Perceptions of High Impact Practices survey (Paulson, 2012).

Population

The target audience for this portion of the research study were faculty members within the College of Agricultural Sciences at The Pennsylvania State University, University Park. The population consisted of faculty who had engaged in one or more of the following High Impact Practices (HIPs) a) study abroad, b) undergraduate research, and c) Harbaugh Faculty Scholars program within the timeframe of Spring 2015 through Fall 2019.

Table 3-2

<table>
<thead>
<tr>
<th>Population Area from 2015-2019</th>
<th>Number of Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Abroad through the College of Agricultural Sciences</td>
<td>77</td>
</tr>
<tr>
<td>Undergraduate Research funded by the Office of Endowments/Departmental Support in the College of Agricultural Science</td>
<td>40</td>
</tr>
<tr>
<td>Harbaugh Faculty Scholar [Faculty Innovation Grant Winners]</td>
<td>13</td>
</tr>
<tr>
<td>Total (with duplication)</td>
<td>130</td>
</tr>
<tr>
<td>Total (removing duplicates)</td>
<td>112</td>
</tr>
</tbody>
</table>
**Inclusion/Exclusion Criteria:** Faculty members no longer employed by the College of Agricultural Sciences were excluded from the study frame.

**Instrumentation**

The survey instrument was adapted from the instrument distributed in the 2012 American Association of Colleges and Universities study “Faculty Perceptions of General Education and The Use of High-Impact Practices” as led by researcher Dr. Karen Paulson (Paulson, 2012). The adapted survey instrument included (4) four separate blocks of questions which asked faculty to identify their familiarity with High Impact Practices, the frequency of which HIPs are found in their teaching or educational methods, their perceived importance of HIPS, their perceived comfort incorporating HIPS, and finally the level of encouragement and support from the college to use HIPS in their courses.

**Instrument Error, Reliability, and Validity**

According to Dillman (2011), there are four types of instrument error in survey design and distribution. All four types are addressed below, along with a discussion on plans to reduce this error. Validity and reliability threats are also discussed and addressed.

**Coverage Error:** Coverage error occurs when the sample surveyed does not represent the larger population of the study (Dillman, 2011). As I surveyed the entire study population, coverage error was eliminated, as every participant had the opportunity to participate.
**Sampling Error:** Sampling error occurs when only a portion of the study population is surveyed (Dillman, 2011). As all study participants received the survey, sampling error was eliminated.

**Non-Response Error:** Non-response error refers to differences in participants responses across from when some respond to when all respond (Dillman, 2011). Due to the small values of participants and the violated normality assumption, I ran a non-parametric Mann-Whitney test to determine the non-response error between early and late respondents. 3 out of 60 questions analyzed showed significant differences between early and late respondents.

**Measurement Error:** Measurement error occurs when study participants have a lack of clarity on the survey instrument and provide responses inaccurate to what the researcher was trying to ask (Dillman, 2011). I accounted for measurement error by confirming the validity of the survey instrument. Due to the nature of the study, reliability was not able to be assured.

**Validity.** Validity was confirmed through multiple methods. The survey was followed by qualitative focus groups which reinforced that the survey had content validity, based on survey respondents responding to survey items as anticipated. In the development of the survey, definitions of the various high impact practices were provided on the survey instrument to aid in clarity for content validity. Additionally, a panel of experts with experience in higher education practice reviewed the instrument. This research was informed by another survey used previously, which provided valid results about the use of HIPs in general education (Paulson, 2012). Therefore, the survey instrument used in this study was assumed to have construct validity. Finally, based on the review of the survey instrument and adaptations suggested by members of the thesis committee, who are representative of the population to be studied, face validity was
confirmed. Criterion validity could not be determined because there is no related instrument with which to compare; however, testing the correlation of an individual faculty members’ previous use of HIPs (based on how many of the activities they participated in to be included in the study) with their survey responses was a simple step toward establishing criterion validity.

**Reliability.** A pilot test was not conducted. The instrument was deemed reliability based on previous utilization with similar populations. A threat to reliability was the online distribution method.

**Data Collection**

Table 3-3 presents the timeline for the quantitative data collection of the study. The study participants were contacted on November 10th, 2020 via email with an invitation to participate in the study. The email included a PDF version of the survey instrument with the notice that a link to the digital survey would arrive via email two days later. On November 12th, 2020 study participants received their second email reinforcing the purpose and need for the study, reiterating encouragement to participate, and providing a link to the digital survey, created, and administered through Qualtrics. After two weeks, a reminder email was sent to participants, followed by another email reminder two weeks later (one month after the initial distribution) which was the final reminder to complete the survey.
**Table 3-3**  
*Faculty Survey Administration Timeline*

<table>
<thead>
<tr>
<th>Time Point</th>
<th>Action</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Days Pre-Electronic Survey Administration (11/10/2020)</td>
<td>Email</td>
<td>Study introduction email, copy of survey instrument</td>
</tr>
<tr>
<td>Electronic Survey Administration (11/12/2020)</td>
<td>Email</td>
<td>Link to electronic survey instrument (via Qualtrics)</td>
</tr>
<tr>
<td>2 Weeks Post- Electronic Survey Administration (11/24/2020)</td>
<td>Email</td>
<td>Reminder to complete survey</td>
</tr>
<tr>
<td>1 Month Post- Electronic Survey Administration (12/10/2020)</td>
<td>Email</td>
<td>Reminder to complete survey</td>
</tr>
</tbody>
</table>

**Data analysis**

Data was analyzed using descriptive statistics through the statistical program, SPSS. I ran frequency counts, means, and standard deviations. Of the 112 faculty initially contacted to complete the survey, 52 completed the survey, resulting in a 46.4% response rate (shown in Table 3-4). I utilized the Borich Needs Assessment (1980) Means Way Discrepancy Model (Figure 3-1) to identify areas where increased professional development was needed by comparing faculty’s perceptions of important and confidence in utilizing High Impact Practices.

**Figure 3-1**

*Mean-Weighted Discrepancy Score Equation*

Mean Weighted Discrepancy Score = \((\text{importance rating} - \text{availability rating}) \times \text{importance rating}\) \(\div\) number of observations
Table 3-4
Summary of Survey Participants

<table>
<thead>
<tr>
<th>Item</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Surveys Received</td>
<td>58</td>
<td>51.8</td>
</tr>
<tr>
<td>College of Agricultural Sciences Faculty (112 Surveyed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usable Surveys Received</td>
<td>52</td>
<td>46.4</td>
</tr>
<tr>
<td>College of Agricultural Sciences Faculty (112 Surveyed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Rate</td>
<td>52</td>
<td>46.4</td>
</tr>
<tr>
<td>College of Agricultural Sciences Faculty (112 Surveyed)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Qualitative Approach

The qualitative portion of this study used focus groups, to allow faculty to share their experiences utilizing High Impact Practices within the College of Agricultural Sciences and to allow the researcher to identify areas where increased support in the form of professional development could be provided by the College.

Population

The population for this portion of the research study consisted of faculty who had engaged in one or more of the following High Impact Practices (HIPs) a) study abroad, b) undergraduate research, and c) Harbaugh Faculty Scholars program within the timeframe of Spring 2015 to Fall 2019 and who responded to the High Impact Practices survey administered during the Fall 2020 term. Participants specifically opted in to participating in the focus groups, by indicating their willingness on the final question in the survey previously distributed. Faculty also had the opportunity to select that they would like to participate in a dedicated Study Abroad focused focus group, which allowed the me to fulfill the 5th research objective of the study.
**Inclusion/Exclusion Criteria:** Faculty members who did not respond completely to the survey and did not express an interest in participating in the focus groups were excluded from this portion of the study.

**Interview Protocol**

Participants were informed that they were chosen to participate in the focus groups in early January 2021. Those chosen had previously agreed to participate from a prompt at the end of the survey distributed in November. The timeline for communication with focus group participants can be seen in Table 3-5. Participants were notified via email two weeks prior to the scheduled focus group times to thank them for agreeing to participate and to sign-up for one of the available times, which were available on a Doodle Poll online form. I set aside time during a 1-week period to moderate these focus groups. One week prior to the scheduled times, the participants received another email reminding them to sign up. As soon as faculty availability highlighted common times, all participants who had signed up received an email from me informing them of their assigned time/date and providing them with the Zoom link for the meeting.
During each focus group meeting on Zoom, the researcher began by introducing herself and the purpose behind the focus group. Participants were reminded that their responses were to remain confidential to the research team and that all findings were to be analyzed and grouped into themes. The researcher also reminded participants to refrain from sharing who other participants were and what ideas were shared in the focus groups. The researcher then proceeded to the four prompts, as stated in the High Impact Practices: Faculty Perception and Professional Development Needs Focus Group Protocol found in Appendix B (the Study Abroad specific focus group received one additional prompt, as stated in the High Impact Practices: Faculty Perception and Professional Development Needs Study Abroad Focus Group Protocol, Found in Appendix C). Upon completing the discussion, the researcher thanked the participants for their time and provided her contact information in case they had any further questions or comments they wanted to provide. A summary of focus group participation is summarized in Table 3-6.

### Table 3-5

*Faculty Focus Group Communication Timeline*

<table>
<thead>
<tr>
<th>Time Point</th>
<th>Action</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Weeks Prior to Focus Group</td>
<td>Email</td>
<td>Thank you for agreeing to participate, link to Doodle Poll</td>
</tr>
<tr>
<td>Meetings</td>
<td></td>
<td>sign-up document</td>
</tr>
<tr>
<td>1 Week Prior to Focus Group</td>
<td>Email</td>
<td>Reminder to sign-up</td>
</tr>
<tr>
<td>Meetings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior to Focus Group</td>
<td>Email</td>
<td>Email with focus group time and Zoom link</td>
</tr>
<tr>
<td>Meetings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Week Following Focus</td>
<td>Email</td>
<td>Thank you for participating follow-up email</td>
</tr>
<tr>
<td>Group Meetings</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

During each focus group meeting on Zoom, the researcher began by introducing herself and the purpose behind the focus group. Participants were reminded that their responses were to remain confidential to the research team and that all findings were to be analyzed and grouped into themes. The researcher also reminded participants to refrain from sharing who other participants were and what ideas were shared in the focus groups. The researcher then proceeded to the four prompts, as stated in the High Impact Practices: Faculty Perception and Professional Development Needs Focus Group Protocol found in Appendix B (the Study Abroad specific focus group received one additional prompt, as stated in the High Impact Practices: Faculty Perception and Professional Development Needs Study Abroad Focus Group Protocol, Found in Appendix C). Upon completing the discussion, the researcher thanked the participants for their time and provided her contact information in case they had any further questions or comments they wanted to provide. A summary of focus group participation is summarized in Table 3-6.
Table 3-6

*Summary of Focus Group Participants*

<table>
<thead>
<tr>
<th>Item</th>
<th>College of Agricultural Sciences Faculty (112 Surveyed)</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteered to Participate</td>
<td></td>
<td>22</td>
<td>19.6</td>
</tr>
<tr>
<td>Responded to Doodle Poll</td>
<td></td>
<td>18</td>
<td>16.0</td>
</tr>
<tr>
<td>Actual Participants</td>
<td></td>
<td>16</td>
<td>14.3</td>
</tr>
</tbody>
</table>

**Data Collection**

Qualitative data was collected by recording the focus group discussions in Zoom. The purpose of the focus group discussions was to gain additional insight on the findings from the survey, allow the researcher to ask more open-ended questions regarding faculty perceptions of High Impact Practices, and to allow faculty the chance to share their input in a small group setting. The audio files were transcribed by the Zoom platform itself, which I opted into when scheduling the Zoom meetings. The researcher reviewed the preliminary transcriptions and cross compared them to the recorded audio files to fix transcription errors. The cleaned focus group transcripts were then uploaded into the analysis software, MAXQDA.

**Data Analysis**

Qualitative data was analyzed using Content Analysis with the qualitative analysis software MAXQDA. Focus group transcripts were taken from Zoom recording cloud, cleaned for misinterpretation with audio recordings, and then uploaded into MAXQDA for coding. I initially began by coding in-vivo to pull out evident themes. Later, I organized and cleaned themes and re-coded all transcripts. The following is a summary of the analyzed focus groups.
The qualitative data collected through focus groups was analyzed using content analysis. Content analysis is defined as “The systematic, objective, quantitative analysis of message characteristics” (Neuendorf, 2017, p. 1). I developed the coding system, which recorded frequencies of terms and concepts as they were introduced by focus group participants. The extraction of these terms and concepts formed themes, which are reported in the findings portion of this study. Credibility, transferability, dependability, and confirmability are all factors of qualitative research that must be considered when analyzing data (Merriam & Tisdell, 2015).

**Credibility:** Credibility is the measure at which “the research findings represent plausible information drawn from the participants’ original data and is a correct interpretation of the participants’ original views” (Korstjens & Moser, 2018, p. 121). Credibility was assured through triangulation, as the findings will be compared with survey results.

**Transferability:** Transferability examines how well the findings can be applied to settings other than the actual research study (Korstjens & Moser, 2018). Transferability was accounted for by the researcher providing rich descriptions and a written log of findings.

**Dependability:** Dependability measures how well results will stand over time and “involves participants’ evaluation of the findings, interpretation and recommendations of the study such that all are supported by the data as received from participants of the study” (Korstjens & Moser, 2018, p. 121). Audit trails were kept showing transparency of the research project and findings.
**Confirmability:** Confirmability applies to how well the findings of the qualitative research study can be confirmed and understood by other researchers (Korstjens & Moser, 2018). Again, audit trails were maintained throughout all steps of the research project to show confirmability.

**Role of the Researcher**

My educational and professional experiences prior to the research study were essential. Earning my Bachelor of Science degree in Agricultural Science from California Polytechnic State University the spring prior to enrolling at The Pennsylvania State University, I had first-hand experience with High Impact Practices during her undergraduate experience. Some of my involvements included internships, service learning, ePortfolios, undergraduate research, and global learning. The latter was a significant factor in my decision to attend graduate school and work towards a dual title in International Agriculture and Development. My professional goals include employment at a United States university with an agricultural program and working with undergraduate students.

In this study, I worked with advice and input from my thesis committee to develop the initial survey instrument, as adapted from the 2012 survey distributed by AAC&U. I was also the PI when submitting and obtaining IRB approval for this project. I was the main person of contact when inviting the study population to participate in the survey. Once data was collected, I determined which faculty members to participate in the focus groups, which I facilitated. Finally, I analyzed the results of the focus groups using content analysis.
Summary

This chapter explained the mixed-methods approach to determine if faculty within the College of Agricultural Sciences were aware of High Impact Practices, how often they utilized them, how comfortable they were doing so, if they felt supported or encouraged by administration within the college, and finally, areas where increased professional development training or other resources would assist them. The quantitative data gathered on the survey was used to identify how aware and comfortable faculty reported they were, in addition to their frequency of use of HIPs. This survey was also used to obtain volunteers to participate in the focus groups.
Chapter 4

Results

Chapter four describes the data analysis and findings for each of the five research objectives that guided the study. Findings from both the quantitative survey and qualitative focus groups are presented in chapter four.

Purpose and Objectives

The purpose of the research study was to determine faculty perceptions of professional learning needs and best practices for High Impact Practices (HIPs) within the College of Agricultural Sciences at Penn State University. The objectives that guide the research include:

1. Determine faculty’s perceptions on the importance of HIPs in undergraduate academic experiences.
2. Determine faculty’s self-reported self-efficacy to incorporate HIPs into undergraduate academic experiences they facilitate.
3. Identify faculty perceptions of college support in implementing HIPs in undergraduate academic experiences.
4. Determine faculty desired professional development experiences to incorporate HIPs in College of Agricultural Sciences undergraduate academic experiences.
5. Describe faculty perceived barriers to facilitating global learning undergraduate experiences.
6. Explore faculty general recommendations for High Impact Practices within the College of Agricultural Sciences.
**Research Objective 1**: Determine faculty’s perceptions on the importance of HIPs in undergraduate academic experiences.

Table 4-1 presents the ranking of the faculty’s familiarity of the High Impact Practices from highest to lowest based on mean score. Faculty were asked to complete a Likert scale from 1 to 5 with 1 being unfamiliar and 5 being familiar. The average perception score for familiarity was 4.21, which is between somewhat familiar and familiar. Undergraduate Research and Writing Intensive Courses both ranked the highest for familiarity at 4.69. Common Intellectual Experiences ranked the lowest at 3.40.

**Table 4-1**

*College of Agricultural Sciences Faculty Means and Standard Deviations of Familiarity of High Impact Practices*

<table>
<thead>
<tr>
<th>Question Prompt: “How familiar are you with the following practices?”</th>
<th>Faculty Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Impact Practice</td>
<td>N</td>
</tr>
<tr>
<td>Undergraduate Research</td>
<td>52</td>
</tr>
<tr>
<td>Writing Intensive Courses</td>
<td>51</td>
</tr>
<tr>
<td>Internships</td>
<td>52</td>
</tr>
<tr>
<td>Capstone Courses or Projects</td>
<td>52</td>
</tr>
<tr>
<td>First-year Seminars and Experiences</td>
<td>52</td>
</tr>
<tr>
<td>Collaborative Assignments and Projects</td>
<td>52</td>
</tr>
<tr>
<td>Diversity / Global Learning</td>
<td>52</td>
</tr>
<tr>
<td>Service Learning, Community Based Learning</td>
<td>52</td>
</tr>
<tr>
<td>Learning Communities</td>
<td>52</td>
</tr>
<tr>
<td>Common Intellectual Experiences</td>
<td>52</td>
</tr>
</tbody>
</table>

*Note.* 1=Unfamiliar, 2=Somewhat Unfamiliar, 3=Unsure, 4=Somewhat Familiar, 5=Familiar.
Table 4-2 presents faculty’s perceived importance of High Impact Practices to the learning of all undergraduate students by average score on a Likert scale of 1 (strongly disagree) to 6 (strongly agree). The average ranking for familiarity 5.06, which is between agree and strongly agree. Internships ranted the highest for importance at 5.56, whereas Common Intellectual Experiences ranked the lowest at 4.67.

Table 4-2

*College of Agricultural Sciences Faculty Means and Standard Deviations of Perceived Importance of High Impact Practices on Undergraduate Learning*

<table>
<thead>
<tr>
<th>High Impact Practice</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internships</td>
<td>50</td>
<td>5.56</td>
<td>0.86</td>
</tr>
<tr>
<td>Undergraduate Research</td>
<td>52</td>
<td>5.50</td>
<td>0.90</td>
</tr>
<tr>
<td>Capstone Courses or Projects</td>
<td>51</td>
<td>5.27</td>
<td>0.98</td>
</tr>
<tr>
<td>Diversity / Global Learning</td>
<td>51</td>
<td>5.14</td>
<td>1.08</td>
</tr>
<tr>
<td>Writing Intensive Courses</td>
<td>51</td>
<td>5.10</td>
<td>0.98</td>
</tr>
<tr>
<td>First-year Seminars and Experiences</td>
<td>50</td>
<td>5.06</td>
<td>0.98</td>
</tr>
<tr>
<td>Service Learning, Community Based Learning</td>
<td>51</td>
<td>4.88</td>
<td>1.14</td>
</tr>
<tr>
<td>Collaborative Assignments and Projects</td>
<td>51</td>
<td>4.76</td>
<td>1.31</td>
</tr>
<tr>
<td>Learning Communities</td>
<td>51</td>
<td>4.69</td>
<td>1.01</td>
</tr>
<tr>
<td>Common Intellectual Experiences</td>
<td>51</td>
<td>4.67</td>
<td>0.86</td>
</tr>
</tbody>
</table>

*Note.* 1=Strongly Disagree, 2=Disagree, 3=Slightly Disagree, 4=Slightly Agree, 5=Agree, 6=Strongly Agree.
Table 4-3 presents faculty’s perceived importance of High Impact Practices to the learning of underserved undergraduate students ranked by mean scores on a Likert scale of (strongly disagree) to 6 (strongly agree). The average ranking for familiarity 5.17, which is between agree and strongly agree. Internships ranked the highest for importance at 5.64, whereas Collaborate Assignments and Projects ranked the lowest at 4.78.

Table 4-3

<table>
<thead>
<tr>
<th>High Impact Practice</th>
<th>Faculty Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internships</td>
<td>50</td>
</tr>
<tr>
<td>Undergraduate Research</td>
<td>51</td>
</tr>
<tr>
<td>First-year Seminars and Experiences</td>
<td>49</td>
</tr>
<tr>
<td>Diversity / Global Learning</td>
<td>50</td>
</tr>
<tr>
<td>Capstone Courses or Projects</td>
<td>50</td>
</tr>
<tr>
<td>Learning Communities</td>
<td>49</td>
</tr>
<tr>
<td>Service Learning, Community Based Learning</td>
<td>49</td>
</tr>
<tr>
<td>Common Intellectual Experiences</td>
<td>49</td>
</tr>
<tr>
<td>Writing Intensive Courses</td>
<td>50</td>
</tr>
<tr>
<td>Collaborative Assignments and Projects</td>
<td>50</td>
</tr>
</tbody>
</table>

Note. 1=Strongly Disagree, 2=Disagree, 3=Slightly Disagree, 4=Slightly Agree, 5=Agree, 6=Strongly Agree.
Summary of Focus Group Content Analysis Coding related to Research Objective 1

Figure 4-1 illustrates isolated statements from focus group participants where specific High Impact Practices were mentioned or described. The following count is not representative of how frequently faculty facilitate said High Impact Practices, merely a visual depiction of when various practices were discussed (or lack thereof). The following counts also exclude any mentions of Study Abroad during specific the specific prompt only discussed in the Study Abroad specific focus group.

Figure 4-1

Focus Group Mentions of High Impact Practices

Figure 4-2 illustrates themes that emerged across all three focus groups. The question prompt which guided the discussion was “As a participant in this study, you have been identified as a faculty member utilizing one or more High Impact Practices, how did you become introduced or involved with this(these)?” A follow-up probe question “How did you hear about leading a study abroad experience, becoming a Harbaugh Scholar, or undergraduate research?” was asked to remind faculty of the inclusion criteria for being a participant of the study. The majority of participants responded to the prompt, which resulted in the following themes.
Focus Group Participants Introduction to High Impact Practices

The themes that emerged from this prompt varied from participant to participant, in addition to the High Impact Practice they were discussing their introduction to. Several participants expressed that they initially became introduced to one of the High Impact Practices they utilize as it was previously part of their departmental degree program and was handed down to them upon their hire. Several of these same faculty members then developed or initiated future utilizations of another High Impact Practice where a need was found.

Participants also stated that their introduction to High Impact Practices was directly led from the advertisement of the Harbaugh Scholars program facilitated by the College of Agricultural Sciences. Another faculty member stated that their introduction came from advising several students who also belonged to the Schreyer Honors College. Finally, many faculty did not state how they became introduced to High Impact Practices, they simply described which practices they were currently utilizing. The researcher felt that enough faculty failed to fully answer this prompt that it was significant enough to mention. Examples of statements from focus group participants that exemplify these themes include:

“I was introduced to that by [faculty member], who had taught the course before I did, and she asked me to co-teach it with her. And so, we had one year, where we overlapped and taught it together and then I’ve been teaching it on my own since then.” – Participant N
“Through the Harbaugh grants, you know just having that opportunity to really get me, as a young faculty member, especially or younger faculty member a few years back, thinking about what are some of these opportunities that I could, so I guess just having that push, if you will, from the potential to secure some funding to increase the quality of a course or to design a new project. We did a lot of project based learning in our agricultural mechanics courses that I teach so good opportunities, so I guess just having that opportunity really introduced me to, not introduced me to high impact experiences, but it gave me an outlet to do some of that.” – Participant G

“Sure, I’ll just say I also got involved through the undergraduate research type thing mostly with honors students. That seems like we have a lot of our students in our program and in the veterinary biomedical sciences Program. As a teaching Professor I don't have a research appointment and so, for me it was actually a way that I could do some continue to do some research and have some students help out and come up with some ideas of their own and projects of their own and that's been really rewarding to be able to have that.” – Participant J

Figure 4-3 illustrates themes that emerged across all three focus groups. The question prompt which guided the discussion was “Did another faculty member serve as a mentor or leader when you were first incorporating High Impact Practices into your educational experiences?” A follow-up probe question “Did you work as a team with another faculty member or did someone assist you directly along the way?” was asked to dive deeper into how faculty were working with others in their use of High Impact Practices. The majority of participants responded to the prompt, which resulted in the following themes.
Focus Group Participants Identified Leaders or Mentors to High Impact Practices.

The first theme that emerged from this prompt was the mentorship found from a fellow Penn State (usually College of Agricultural Sciences), faculty or staff member. Several participants mentioned that fellow faculty within the departments, assigned mentors, and faculty who were previously in their position or teaching their courses, all mentored or guided them into their usage of High Impact Practices. Previous experiences at leading courses or experiences at other universities also repeatedly came up during discussion.

The final theme that emerged, which was largely found in the final focus group (although was mentioned briefly in another) was the influence of a previous mentor. Several participants mentioned that they were guided or led into High Impact Practices from a previous mentor, specifically during their own graduate education. A resounding theme that followed this was that most faculty had less than pleasant graduate school experiences or graduate advisors yet used those lessons and experiences to guide themselves into becoming better leaders and mentors to both undergraduates and graduates, especially when utilizing High Impact Practices. Examples of statements from focus group participants that exemplify these themes include:
“But yeah I mean, I think that part of it is just us being mature enough to realize what you take the good and then you adjust that to you, know change it to be even better now.” – Participant F

“The writing intensive class, I think it was important for me that the Professor that was retiring, I actually sat in on the class for the second half of this semester, and we talk through some of the you know key objectives of the class and how it was laid out and then, of course, I could you know, make it my own, but I thought that was probably not the norm. I think a lot of times from what I’ve seen, faculty have a class just assigned to them, they don't necessarily get to sit in and talk to the person before them. Because this was a retiring professor, and it was planned, of course, then that worked out really well so that helped me a lot for that writing intensive class.” – Participant C

“I joined in 2016 also when we join that was one of the first discussions in with department head and mentor and with colleagues, like who and where we can get the resources, how we can get started. The undergrad research was mentioned as one of the first opportunity to us so.” – Participant D

Research Objective 2: Determine faculty's self-reported self-efficacy to incorporate HIPs into undergraduate academic experiences they facilitate.

Table 4-4 presents faculty’s perceived confidence in utilizing High Impact Practices ranked by mean scores on a Likert Scale of 1 (not confident) to 5 (confident). The average ranking for confidence was 4.10, which is between somewhat confident and confident.
Undergraduate Research ranted the highest for confidence at 4.67, whereas Learning Communities ranked the lowest at 3.35.

**Table 4-4**

*College of Agricultural Sciences Faculty Means and Standard Deviations of Perceived Confidence of Utilizing High Impact Practices on Undergraduate Learning*

<table>
<thead>
<tr>
<th>High Impact Practice</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Research</td>
<td>49</td>
<td>4.67</td>
<td>0.59</td>
</tr>
<tr>
<td>Collaborative Assignments and Projects</td>
<td>49</td>
<td>4.45</td>
<td>0.77</td>
</tr>
<tr>
<td>Internships</td>
<td>49</td>
<td>4.37</td>
<td>0.99</td>
</tr>
<tr>
<td>Capstone Courses or Projects</td>
<td>49</td>
<td>4.27</td>
<td>0.91</td>
</tr>
<tr>
<td>Diversity / Global Learning</td>
<td>49</td>
<td>4.18</td>
<td>0.91</td>
</tr>
<tr>
<td>Writing Intensive Courses</td>
<td>49</td>
<td>4.18</td>
<td>0.95</td>
</tr>
<tr>
<td>First-year Seminars and Experiences</td>
<td>49</td>
<td>4.04</td>
<td>1.14</td>
</tr>
<tr>
<td>Service Learning, Community Based Learning</td>
<td>49</td>
<td>3.92</td>
<td>1.13</td>
</tr>
<tr>
<td>Common Intellectual Experiences</td>
<td>49</td>
<td>3.59</td>
<td>1.06</td>
</tr>
<tr>
<td>Learning Communities</td>
<td>49</td>
<td>3.35</td>
<td>1.05</td>
</tr>
</tbody>
</table>

*Note.* 1=Not Confident, 2=Somewhat Not Confident, 3=Uncertain, 4=Somewhat Confident, 5=Confident.

**Summary of Focus Group Content Analysis Coding related to Research Objective 2**

Figure 4-4 illustrates themes that emerged across all three focus groups. The question prompt which guided the discussion was “What are some best practices or recommendations for success that you have found in using High Impact Practices?” A follow-up probe question “What specific approaches or strategies have helped you become more successful or efficient” was
asked to examine faculty’s own perceptions of their success in using High Impact Practices. The majority of participants responded to the prompt, which resulted in the following themes.

**Figure 4-4**

*High Impact Practices Best Practices*

Focus group participants expressed that emphasizing opportunities for students to exercise critical thinking skills was found to be a best practice when continuing to lead High Impact Practices. An additional theme that emerged was making the time before, during, and after utilizing a High Impact Practice to reflect, both for students and faculty. Allowing for flexibility in planning and implementing, depending on certain situations and each set of students was also expressed as a best practice.

Another core theme that emerged from this prompt was allowing for student ownership and leadership. This was said to take some strain off faculty, while allowing students to have a greater sense of responsibility of their own outcomes and experience with the practice, which usually resulted in more positive results and success. A subset theme expressed within this was allowing and promoting student communities. This not only allowed for group work and
discussions, but for students to feel a greater sense of belonging during the experience or course. Finally, participants said that in order to successfully continue to make a difference in student success and lead future High Impact Practices, faculty members must absolutely be driven and motivated by the want to help students. Examples of statements from focus group participants that exemplify these themes include:

“But the students have didn't have any ownership of it, I was like okay, how do I do this and [faculty member] happened to mention to me that he had facilitated a class that was an experimental class that there was no syllabus that the first couple weeks of the class. The students collectively develop the syllabus of what they were going to teach, what they were going to learn, and then they developed it and I realized from talking to him in that student experience that giving students ownership of the process, that would nurturing they can take advantage of that and it's okay, not as a profit, not to feel I’m in control of everything, and that that gave me the confidence to approach the capstone class the right way.” – Participant P

“And the one thing for me is you have to want to make a difference. If you're not in it just for doing it because you want to change up the experience these students for me, I was hooked the first time I did this, and I saw how it changed the lives of these [identifier] kids you know. They weren’t your typical Penn State student in the 90s was like that, but today they're very different, for the most part. But I was hooked you know it was amazing to see the effect that this experience had on those kids and if you can keep reminding yourself, this is why I’m doing it. When you're worried about where that kid is at one in the morning and they haven't checked in you know, and you deal with that situation appropriately that night or the next day. You know you got to know you're going to go into situations where it can be stressful but your experience and training that Penn
State’s given you and you always have a phone call home something’s going wrong, and you need advice or you've got your chaperone on that trip. You know it's like the buddy system at camp you've got lots of buddies you got to play off of but always remind yourself why you're doing this and how it matters. and tell the students that, because if you tell them this up front, they keep that in their head and they'll think twice about bad decisions because it'll reflect on the experience that trip that year will always be known as a trip that this because she did that.” – Participant B

“I’m increasingly kind of impressed with the value of reflection in the classroom and one of the classes that I teach is a sophomore seminar for students who are new to the major and it's one credit and I’ve taught it twice and I decided to take a risk of starting each class with about 10 to 15 minutes of contemplative writing. Each class, I have a writing prompt regarding their, you know their value to see kind of the career directions, what challenges they found regarding what kinds of things they like doing. Contemplative stuff, reflections on why they're here in college, what they want to get out of it, what kinds of experiences they had it and I was really, put music on it's quiet, for you know 10 minutes to do that and then often classes five to 10 minutes a small group discussion with the students will talk about what they wrote and I was really afraid that students would think this is way too touchy feely. But consistently students who really like that time quiet to think about and reflect and pull stuff together. Enough so that there's a research methods class and teaching this semester that I’ve added a reflection at the end of the semester for them to think about and reflect on how their skills, that knowledge have changed over the course of the semester, where they were at the beginning to where they are at the end, just for them to think about and assess what they've learned, how they've learned it, where they are with that.” – Participant P
Research Objective 3: Identify faculty perceptions of college support in implementing HIPs in undergraduate academic experiences.

Table 4-5 presents the average score of faculty’s perceived encouragement in utilizing High Impact Practices, from the College of Agricultural Sciences ranked by mean scores on a Likert Scale of 1 (strongly disagree) to 6 (strongly agree). The average ranking for encouragement was 4.54, which is between slightly agree and agree. Undergraduate Research ranted the highest for encouragement at 5.20, whereas Learning Communities ranked the lowest at 3.72.

Table 4-5

<table>
<thead>
<tr>
<th>High Impact Practice</th>
<th>Faculty Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Undergraduate Research</td>
<td>50</td>
</tr>
<tr>
<td>Internships</td>
<td>48</td>
</tr>
<tr>
<td>First-year Seminars and Experiences</td>
<td>49</td>
</tr>
<tr>
<td>Diversity / Global Learning</td>
<td>49</td>
</tr>
<tr>
<td>Writing Intensive Courses</td>
<td>48</td>
</tr>
<tr>
<td>Capstone Courses or Projects</td>
<td>48</td>
</tr>
<tr>
<td>Collaborative Assignments and Projects</td>
<td>47</td>
</tr>
<tr>
<td>Service Learning, Community Based Learning</td>
<td>47</td>
</tr>
<tr>
<td>Common Intellectual Experiences</td>
<td>47</td>
</tr>
<tr>
<td>Learning Communities</td>
<td>46</td>
</tr>
</tbody>
</table>
Table 4-6 presents the average score of faculty’s perceived support in utilizing High Impact Practices, from the College of Agricultural Sciences, ranked by mean scores on a Likert Scale of 1 (strongly disagree) to 6 (strongly agree). The average ranking for support was 4.18, which is between slightly agree and agree. Undergraduate Research ranked the highest for support at 5.12, whereas Common Intellectual Experiences ranked the lowest at 3.59.

Table 4-6
College of Agricultural Sciences Faculty Means and Standard Deviations of Perceived Support of Utilizing High Impact Practices from Administration

<table>
<thead>
<tr>
<th>High Impact Practice</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Research</td>
<td>48</td>
<td>5.12</td>
<td>1.25</td>
</tr>
<tr>
<td>Diversity / Global Learning</td>
<td>46</td>
<td>4.70</td>
<td>1.35</td>
</tr>
<tr>
<td>First-year Seminars and Experiences</td>
<td>45</td>
<td>4.44</td>
<td>1.39</td>
</tr>
<tr>
<td>Internships</td>
<td>45</td>
<td>4.40</td>
<td>1.54</td>
</tr>
<tr>
<td>Capstone Courses or Projects</td>
<td>45</td>
<td>4.29</td>
<td>1.31</td>
</tr>
<tr>
<td>Collaborative Assignments and Projects</td>
<td>45</td>
<td>3.93</td>
<td>1.21</td>
</tr>
<tr>
<td>Writing Intensive Courses</td>
<td>45</td>
<td>3.89</td>
<td>1.48</td>
</tr>
<tr>
<td>Service Learning, Community Based Learning</td>
<td>45</td>
<td>3.89</td>
<td>1.39</td>
</tr>
<tr>
<td>Learning Communities</td>
<td>44</td>
<td>3.59</td>
<td>1.06</td>
</tr>
<tr>
<td>Common Intellectual Experiences</td>
<td>44</td>
<td>3.59</td>
<td>1.15</td>
</tr>
</tbody>
</table>

Note. 1=Strongly Disagree, 2=Disagree, 3=Slightly Disagree, 4=Slightly Agree, 5=Agree, 6=Strongly Agree
Research Objective 4: Determine faculty desired professional development experiences to incorporate HIPs in College of Agricultural Sciences undergraduate academic experiences.

Table 4-7 presents the average Mean Weight Discrepancy Score (MWDS) between perceived importance and perceived confidence of faculty using High Impact Practices, from the College of Agricultural Sciences ranked by MWDS scores from high to low. Internships ranked the highest for increased professional development needs, with a MWDS of 6.73. Collaborative Assignments and Projects ranked the lowest, with a MWDS of 1.38.

Table 4-7
Professional Development Needs of College of Agricultural Sciences Faculty Using the Borich Needs Assessment Model

<table>
<thead>
<tr>
<th>High Impact Practice</th>
<th>N</th>
<th>MWDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internships</td>
<td>47</td>
<td>6.73</td>
</tr>
<tr>
<td>Learning Communities</td>
<td>48</td>
<td>6.32</td>
</tr>
<tr>
<td>Capstone Courses or Projects</td>
<td>48</td>
<td>5.38</td>
</tr>
<tr>
<td>First-year Seminars and Experiences</td>
<td>47</td>
<td>5.13</td>
</tr>
<tr>
<td>Common Intellectual Experiences</td>
<td>48</td>
<td>4.94</td>
</tr>
<tr>
<td>Diversity / Global Learning</td>
<td>48</td>
<td>4.93</td>
</tr>
<tr>
<td>Writing Intensive Courses</td>
<td>48</td>
<td>4.79</td>
</tr>
<tr>
<td>Service Learning, Community Based Learning</td>
<td>48</td>
<td>4.53</td>
</tr>
<tr>
<td>Undergraduate Research</td>
<td>49</td>
<td>4.48</td>
</tr>
<tr>
<td>Collaborative Assignments and Projects</td>
<td>48</td>
<td>1.38</td>
</tr>
</tbody>
</table>

Note. Importance Level: 1=Strongly Disagree, 2=Disagree, 3=Slightly Disagree, 4=Slightly Agree, 5=Agree, 6=Strongly Agree. Confidence Level: 1=Not Confident, 2=Somewhat Not Confident, 3=Uncertain, 4=Somewhat Confident, 5=Confident.
Figure 4-5 illustrates themes that emerged from all three focus groups. The question prompt which guided the discussion was “In order to be successful in using High Impact Practices in further educational experiences, what new or continued resources can the College of Agricultural Sciences offer to faculty?” A follow-up probe question “This support could include increased professional development trainings, funding, etc.” was asked to promote elaboration on specific needs as identified by participants. The majority of participants responded to the prompt, which resulted in the following themes.

**Figure 4-5**

*Faculty Calls For Increased Support*

![Diagram of Faculty Calls For Increased Support]

Several key themes emerged when asking participants what their needs for support were. The first theme that emerged was the need for increased acknowledgement at the college and departmental level for those faculty who were utilizing High Impact Practices. Examples expressed specifically included acknowledgement or additions to End of Year Review process and SRTE scores. On a similar note, participants also expressed incentives or encouragement at
both levels would also encourage faculty to continue or begin utilizing High Impact Practices in their courses or experiences. Professional development events, formal and informal, were also brought up frequently by participants, as they would like access to knowledge, trainings, and community regarding the use of High Impact Practices.

The need for additional resources was brought up many times during all three discussions. The main resource expressed as a need was a support staff person to assist departments in coordinating existing and additional High Impact Practices. Additionally, teaching assistants were expressed as a need for those who are utilizing High Impact Practices with larger class sizes or labs, as faculty do not have the time or resources to fully integrate them themselves. Another resource needed by faculty is additional technology, both in order to meet the needs of students during virtual learning but also to remain present in the ever-evolving times. Finally, participants called for timely resources, as often needs are not met quick enough for a faculty to be able to utilize a new practice. Examples of statements from focus group participants that exemplify these themes include:

“I would add that I think it's important that the timeline, the turnaround time between requesting it and getting assistance needs to be relatively short it can't be applied wait for months for somebody to decide, yes, they can do that, that's too late.” – Participant P

“This how the College can encourage us. You know, we do we get an annual evaluation of our activities and what we did well and, and that is being more and more standardized across departments in terms of. The things that they asked for and then our evaluation should be based on those things, I would say in the past, there has not been much incentive. Nor much support.” – Participant O
“It's carrots and sticks right, what incentives do you have for faculty to do these or what. You know consequences are you going to enact sets if they don't and I’m not sure you want to go down that stick path of making faculty do something that they don't want to do, to begin with, or find arduous, I think the more incentive more. probable route of this being successful is, if you incentivize those faculty who don't currently do this to incorporate those components. In a way that makes sense for their tenure and promotion, or whatever you know, whatever makes them in a way, feel positive towards engaging in that behavior is a good thing.” – Participant L

Research Objective 5: Describe faculty perceived barriers to facilitating global learning undergraduate experiences.

Figure 4-6 illustrates themes that emerged from the Study Abroad specific focus group. The question prompt which guided the discussion was “What are some perceived barriers or challenges you have faced or heard when facilitating or exploring implementing study abroad experiences in your courses?” A follow-up probe question “For those who have not led an experience, why?” was asked as one participant had not previously led a study abroad experience. All five participants responded to the prompt, which resulted in the following themes.
One of the main themes that emerged was financial barriers, a challenge identified heavily in the literature. Participants went further to discuss two main subsets to this challenge, which were student finances and trip funding or cost. The challenge of cost to students caused some to be unable to participate at all and then also some to have limited engagement during the trip as they were not able to participate in additional programs or activities as their funds solely allowed them to pay for the minimum trip expenses. Another theme that emerged which is related to challenges in student participation was assumptions. Focus group participants identified this as a challenge as they had worked to remove the assumption that study abroad experiences were simply “fun” trips and not academically rigorous.

Another theme that emerged as a challenge to facilitating study abroad experiences was risk. This theme illustrated faculty’s apprehension to continuing to lead trips as the risk and responsibility to the safety and wellbeing of students is left solely on them. On a similar note, focus group participants also identified lack of faculty preparedness, specifically in relation to mental health trainings, to be lasting point of stress and worry. However, faculty felt that the impact and importance to students having these experiences is what continued to motivate them to overcome both challenges.
Convenience barriers, such as not having courses typically including a study aboard experience, were identified as barriers to the faculty member who had not previously led an experience. Additionally, it was discussed that some degree programs and departments did not seem to have study abroad experiences as a priority for their students or faculty members. The final theme identified and emphasized by nearly all participants was the time and energy spent on the logistical side of facilitating these experiences, specifically the paperwork required by the university. Examples of statements from focus group participants that exemplify these themes include:

“We did not go last May, because of COVID but, so I didn’t really feel the full impact of it, but I was, we were bracing ourselves for some of the issues with just the nuts and bolts of making hotel reservations and paying for them and what the university will allow in terms of using my P card and things like that, I mean it just seems so petty and ridiculous. You know that, and I would agree with [faculty member] is it’s time consuming we don't go through an outside agency, I do all the booking of hotels and everything myself. And it's time consuming but, but you can get through that it's just the roadblocks that Penn State puts in your way in order to try to do you know just to try to make this happen, and it just it seems like that part of it gets more and more frustrating all the time.” – Participant E

“I think in the big picture in the back of my head is always the risk of putting myself in leading these trips. And over you know the 20 years that I’ve been doing this, I think that risk is getting greater because of… I think students today are less common sense focused than 20 years ago and I think they're actually less worldly in some respects. Common sense thing is a really big one, and lack of common sense, coupled with alcohol can
mislead devastating decisions and I don't know if this is the helicopter parent phenomena or what or the rite of passage phenomena that we deal with but it is the risk, the risk factor is scary. But risk is it's scary when you realize how quickly your career can be over because of someone saying something or a student making a decision. Even if you do everything right at the end of the day, I always have in the back of my head Penn State will come down on me. And it will be harsh, but I still do this because you know I'm adamant that a lot of the problems we have today are because people aren't exposed to other cultures, they aren't putting those decisions where they have to think. They don't have those international experiences yeah so.” – Participant B

“As a young faculty who is in tenure track, I don't know like whether I’ll take an opportunity for a study abroad program if it’s given to me. Because it's a lot of work, and so you know the emphasis and the credit, the faculty gets teaching regular course and the study abroad program as [faculty member] was mentioning before, with the emphasis on research, teaching definitely is emphasized, but then depending on like whether you teach a normal course versus a study abroad program how much additional benefit it's a lot of lot of additional work but how much credit.” – Participant D

Research Objective 6: Explore faculty general recommendations for High Impact Practices within the College of Agricultural Sciences.

Figure 4-7 illustrates key themes (separate from those directly related to question prompts) that emerged during the three focus group discussions. These themes reached broader and expanded past the set question prompts asked by the moderator yet spoke directly to the overall theme of faculty use of High Impact Practices, which led the me to describe these separately.
Emergent Discussion Themes

The first larger theme that evolved across all three of the focus groups was perceived barriers to using or incorporating High Impact Practices, because of the “Penn State” and “Research 1” image or mindset. Some faculty felt that the college did encourage the use of High Impact Practices, yet they felt that they would never be able to become fully utilized or developed, with the current goals and systems of the larger university. A sub-theme that also emerged from this idea were the challenges faced between tenured and non-tenured faculty, in addition to the college specific teaching vs research appointments. These sentiments are exemplified in the following statements:

“You know, and if you think about it, when you get hired in at the tenure track. The only thing you care about is making it through tenure and promotion. And so, you're going to focus on the evaluative mechanisms that the department and college put in place, and you are going to respond to those, and if the college wants to change behaviors, it can do that by making it clear in the annual evaluation at an tenure promotion package that we are
valuing these things. When I came here, I felt like we were way behind the ball and entrepreneurship and I complained and, of course, when you complain at a university get put on a committee. And so I was involved in then putting entrepreneurship in into our college strategic plan and being involved in the implementation committee and, but you know what is a what is a filed patent worth what is it awarded patent worth what happens when a patent gets licensed none of that stuff is clear and So what do we default to well we default to what we know and what's clearly articulated in that evaluation, because we do not want to fail at tenure and promotion.” – Participant O

“I’ll say something that first because it kind of touches on the things that I wanted to talk about the last question and bleeds into this, I would say one thing that I’ve noticed about faculty, in general, as scientists is we're our own worst enemies and have the ability to promote the things that we're doing and visibly promote our students, we think about putting these as one line items on our annual review or whatever 10 year packets, or whatever it hoping that somebody sees them and the reality is the service part of your tenure packet probably doesn't get that much of a look right it doesn't have that high of an impact. I think that one thing that could be better in terms of getting recognition and I don’t mean awards I think we've all agreed that recognition doesn't necessarily mean awards. is just creating that visibility of all the cool things that are hundred graduates our research what our colleagues, research, whatever that may be and this is something that I’ve been very involved with and I don't think we've quite hit it [department], but like I mean we went to the point of just saying like let's hire.

Two undergraduates from the College of communication, who handle and manage content creation for stories and promotional materials and developing content for every
single aspect of you know platform, you can imagine, from our website to Twitter to Instagram and to everything and it's a slow process but it's already starting to work for us and that there's visibility and sometimes when we promote our own things. And we make sure that it gets in front of the College people right, the College communications team, then they say oh that's a story that's worthy so rather than us sending them 50 stories that they have to choose from. We just put out hundreds of stories and when they find a story that's worthy that they want to write up about then they'll contact the people that are associated with it. And, and so we're finding that it's a good way to drive promotion of our people.” – Participant F

“So, having done this type of stuff now at a bunch of different places I’ve worked at several institutions, not just Penn State. I would say, from my perspective there's lots of Talk around these types of things at Penn State and there's lots of talk to the idea that we are a teaching focused program with high impact activities. But frankly, compared to a lot of the places I worked, especially that small school in [state], the support for faculty is really talk only to some degree and that's because we're a research institution or R1. And I think that is probably been more clearly expressed the last few weeks in our department, with the hiring of our new department head in the marching orders coming from him and the dean. And I think that's only going to get worse over time at Penn State because of the need to, you know grow. You don't grow, and this will sound cynical as heck but I’m coming I’m coming at you from perspective 20 years in academia at a lot of other ... R1 one schools have a big problem with teaching and I think Penn State has a big problem with teaching and young faculty are not rewarded for teaching just look at the trends and hiring faculty who are non-tenure track to teach. So, I guess my point is what's Penn State want to be. And I think we can keep doing what we're doing and reach
a handful of students in this way, but compared to a lot of other schools and you might
speak to liberal arts schools, you might speak to tier three land grant like schools or state
schools where you have these cross college experiences across university experiences
that carry through academic programs. I don't think you're ever going to see that Penn
State.” – Participant B

An additional theme that emerged from focus group discussions was faculty’s own
perceived importance of their Scholarship of Teaching and Learning. Faculty felt that the proper
graduate student experience and training, community of practices between themselves and other
colleagues, and mentorship within the college were all sub-themes focused on faculty’s felt
importance to their own and others professional development. In addition to discussing areas
where increased support or additional professional development could be improved, several
participants mentioned some innovative ideas in relation to their use of High Impact practices.
One key sub-theme that emerged within this idea was increased collaboration, between faculty
and across departments, to encourage and further develop the use of High Impact Practices within
the college, particularly with newer faculty members. These sentiments are exemplified in the
following statements:

“I think part of the problem here is that…teaching is pretty much a solo activity. I rarely,
if ever talked with other faculty about co-teaching my classes, you know I designed the
syllabus by myself, I do the canvas I don't it's not like research or other kinds of
opportunities, where within the fact we're just kind of discussing to find overlap and
collaborate and in because, they're limited opportunities for people to talk and share,
about what they're teaching. I know what I’m doing, but I have no idea what other faculty
in my department teach, or how they teach. And so there isn't the opportunity for me to
learn from others, to get others ideas from others, or whatever, it's just it's solely on my own shoulders to say, “Okay, what do I want to fix, what I want to look at, what I want to track down,” and so, if there's some way and has enough time, but if there's some way to have at least at a dialogue or a discussion or for people to talk about teaching methods by itself, I think, would help kind of spur oh yeah you're doing this hey I’d like to try that.” – Participant P

“I think find you know finding other people who are really engaged in these high impact practices, you don't know who they are, so you don't know to talk to them, I mean I know a few, and you know I visit regularly with one other faculty member in my department about you know different activities that I’ve incorporated into my class and she tells me what she's incorporated and you know we kind of throw around ideas and actually I do find that very, very helpful. perfect but, but you know, having a wider network would certainly help yeah.” – Participant N

“You know this this past year has been very tough with COVID and on our grad students, I feel, and I started to think in the summer, “How can I help my students that get through this time?” And, like, I have one grad students, she was a master student, she is from [country]. She is here for two years, but this COVID it is right and smack in the middle, she was telling me I really feel I’m missing out on, so much so, and I think what they're missing out on is the personal the interaction and networking the talking to other people and I said, you know I like to take walks in the evening and my grad students, two of them, they happen to live in my neighborhood. So I had never done that, before, and this was like way out if I think of my own, professor, my advisor he would never do such a thing, but I said to my students, would you guys like join me I go and use walks. And they
both loved it and we I, it was very informal I never really sometimes I just like half an
hour before I went I said I'm going my walk now you guys know where to find me I'm
going this route join me if you want, and many times they did, and we didn't really talk
about work I really didn't I didn't want to talk about that, but we talked about a lot of
things just really mundane things but I really felt it it's really strengthen the relationship,
I had with my graduate students and I think for us to raise good professionals people in
our disciplines. I think that is very important to have that personal relationship like with
[faculty] was saying about your graduate school experience is so life transforming. And
you hear that some I was, I still remember I had, there was, I don't remember who it was,
but she was one of the graduate students of [scientist] very famous scientist and she said
that he would have them over at his house regularly and he would have they would have
some wine, and they would have some snacks and they would just spend the evening there
with other students. And they just really appreciate it that's hospitality and just being
around them and they got to know his wife and everything his family and I think it really
it made a big difference in their own life and in their motivation to continue working, he
was a very motivated passionate guy about soil science and I think. A lot of his Grad
students continued with that and they became very passionate scientists themselves, so I
think that is really high impact.” – Participant I

“How do we create this kind of social environment? People are just busy, what we
noticed before pandemic even prior to the pandemic. me and one of our research
associates, last postdoc. fellow person, that people in our building in Tyson we started
kind of a social listserv right, this is like in January, so it's a little bit. didn't work,
because the pandemic hit and it stopped, but the idea was to provide opportunities for
people to engage with each other. outside of the office and we've talked about it
internally like coffee sessions right like just have an 8am coffee session that everybody could go to if they wanted to, or a lunch session. But try to create some kind of social environment where people enjoy spending time with each other, outside of the idea of work and I don't have kids and so people always fought me like well yeah, but you have all the time in the world, you don't have any kids. I think if you're really interested in engaging with other faculty and learning about Grad students and undergraduates in particular, a happy hour somewhere or a lunch gathering that's impromptu than anybody can show up to the those are things that I think could improve the overall inclusiveness within a unit of department of college or whatever it is. And because we always feel like we have so much to do people just want to leave and get the heck out of dodge when it comes time to the end of the day and that's a balance, but I haven't figured out how to make that work, but something that I think would really improve the engagement and the interaction across all levels and intersectionality at the you know, the College of the unit, whatever it may be.” – Participant F

“I think that people don't see how this helps them in their career. And, in reality, it is very important, but I don't, I often we think when people are going to coffee hour, we think oh, I still have to work on this. I have to get this administrative duty done or I have to work on this presentation or at to do this paper. And you don't think that that is important, but you don't realize that when you go to this coffee hour you establish relationships with other people. That when later, you have to write a research proposal now you, you have a person that can be part of your team and or perhaps you can talk about writing a paper together or something. I think, often we think these meetings are kind of a waste of our time and we need to perhaps think more and articulate more about what is important about those things, I think we don't appreciate it.” – Participant I
“I would just say that you know I’m sitting on my crazy social science stuff here, but what we're talking about its culture, we’re talking about organizational culture and I’ll tell you that in business in universities, culture eats strategy every day. Eats it for breakfast and we need to be thinking about the culture of our college, our departments have at this place. And people will come to us because we're Penn State and all the research and blah, blah, blah, but they will also be attracted to come in big ways because it's a place where people want to be because of culture, the culture, the organizational culture. it's well documented and the reason can the kind of research that so much.” – Participant K

“When you're at is faculty at Penn State, ideally, they are assigned a mentor when they're going through the promotion and tenure process, and you know it's like life, some of those mentors suck some of them are good, to be frank, and if you have a good department head they're going to put your solid mentors. If I were mentoring young faculty I would make sure to point out that yeah, this is a high risk maybe time sucking activity, but if you tie it to research, where you have an international collaboration and link that class the research, it could be wicked rewarding and really up the research. I was lucky, having come to Penn State and had that experience of running courses like this before, so all that, how do I do this, the fear went away and kind of [faculty member] predecessor and then [faculty member] have allowed me to keep doing that, without getting bogged down, and all the bureaucracy at times I get very flustered as she knows but she always talks me off the clip. But I would encourage you know one thing [International Programs] could do is somehow reach out to faculty who are willing to do this in a way it's not her office's responsibility to mentor these faculty. But uh maybe putting us tenured faculty in a position to coach young faculty on how to do this in a way
that's productive and not a time suck, but it can link their research with you know the
goal being an awesome teacher and why that matters to your research, you know there's
lots of really good researchers who are horrible teachers. But I don't know, many people
who are really good teachers who aren't really good researchers when they can do that
research and, unfortunately, some people are so tied up with the teaching, their research
program is what it is, but it's not recognized by the University as being as important as
the people with the 75% research appointment, who are still horrible teachers. So that's
such an important message to get across to Penn State that I think it's this loss at this
point I don't think there's any way to save that. At this point, I think there is a way to find
them faculty who want to do these experiences properly coach them, so they don't
sacrifice their research program and get in trouble." – Participant B

An additional primary theme that emerged addressed the underlying reason that
participants expressed for incorporating or using High Impact Practices in their courses or
experiences. The first sub-theme that emerged from this was the felt importance and/or impact
directly to students. The other sub-theme that emerged from this discussion was that faculty
added or incorporated additional High Impact Practices that were perceived as important by the
college administration. These sentiments are exemplified in the following statements:

“And so that kind of impact you don't get a chance to do that so students have to
overcome that fear, to some extent of travel. And we have to make it easier for them, and
that is not only money it's also just getting them accommodated to different environments,
different cultures those types of things so. I guess it goes without saying, but there is a lot
of impact here, and I think I think it's well worth the College funding any way we can to
help students, especially those who can't afford to go or have never traveled before. It is a
life changing experience for them." – Participant C
“One thing I’ll mention is, I think, when I started about 10 years ago, or so we tried to be intentional about looking at ways to provide the study abroad experience specifically to students in the various majors and did that by approaching faculty who we knew had an international interest or international research or already teaching or department heads, and so I think it's been great to see that build up and that dedication really to these classes, because it is definitely extra work and a lot of extra... not just the teaching a typical class so that's something that we've really appreciated and keep you know, working with people going forward.” – Participant A

“I guess I can start I initially got involved with this I think the first time we did an international an embedded course for [major] was six years ago, I think because you know it came to our attention that you know the college of ag sciences has really started to emphasize international experiences more for undergraduates and we didn't have anything that existed at that time in [major] and so our program coordinator and I kind of got the ball rolling, with it, with the first program. Since then we've done that every other year since then and we've had a had a good student response.” – Participant E

“and then also some of the international embedded coursework that I’ve done I’ve helped with, my colleagues have encouraged me to or did encourage me to take part in that, and looking back at some of the best experiences for our students in terms of being able to, previously, being able to travel and I know we'll be able to do that again the future but just some of the experiences that we were able to provide off site, off of Penn State campus, away from our computers have just been very impactful, not only for the students but also for me as a faculty member." – Participant G
The final theme that emerged was longevity or sustainability to the use or incorporation of High Impact Practices. Several participants expressed that without appreciation or recognition, specifically to the additional time and effort faculty put in when using High Impact Practices, they would not be able to continue their work at the level of rigor necessary. An additional sub-theme to the time faculty spend developing and incorporating these practices is the expressed need for additional support at the administrative level to assist them in the coordination and paperwork stages. These sentiments are exemplified in the following statements:

“And I think that needs to improve, if we are being asked to transform the way we do things and we, and I think we need to do that to stay competitive. We need to have that support and that needs to be conveyed from the deans all the way down through the department heads saying we value this activity and be really intentional about it. And so, I would say that we do need to go, I would say my sense right now, is that we work very hard with very little support and we're asked to do more. I don't know that's a shared sort of feeling, but I don't think that we're where we need to be in terms of support for this type of activity.” – Participant O

“And sort of recognize that adding these elements does take additional time and then those evaluations. And we've got to reward people for doing taking the time and energy to do this because if they're not rewarded for doing this instead, they're going to focus their energies on things that are reward.” – Participant P

“I wanted to follow up with comments that both [faculty name] made, and so one is regarding the grants for the undergraduate students right, they only cover the salary of the students, but he said those things are great incentive. Also, takes a lot of time from the
faculty to train these undergraduate students. And so, I think if in our new innovations that were led, higher evaluated compared to grants and papers and things like that I think more faculty you know, you will get into doing this type of activity.” – Participant H

“In terms of study abroad, we really were innocent for three years and I really couldn't keep going with the paperwork. Okay, I think the paperwork logistics wore so much of my time and also absolutely not recognized or evaluated all right, so all the hours I spend looking for housing, their housing there, following it by paperwork for each student, you know the state has a lot of paperwork required to experience, overall, and so it was just such as an amount of time there was been on that he decided not to do it anymore. So, I love to have the students in [country], and we had a blast and with the really nice research they've won awards for the for the posters, but just the logistics, the paperwork, it was just too much time, so maybe if they if they provided an administrative person that will do that for us, maybe more faculty will be willing to do it. But definitely I felt like my time was not being used the most effective way just filling out paperwork.” – Participant G
Summary

Chapter 4 included the results from both stages of the mixed-methods approach, as reported in the descriptive statistics found from the online survey and the content analysis coding of three focus groups. Survey findings reported faculty’s overall awareness of HIP’s, faculty’s degree of perceived importance to student learning, in all undergraduates and specifically under-represented students, faculty’s perceptions of confidence in utilizing HIP’s, and finally faculty’s perceived encouragement and support directly from the College of Agricultural Sciences, A Borich Needs Assessment model also expressed which specific High Impact Practices were identified as top priority for increased professional development, using a Means Weight Discrepancy Model. The chapter also included various findings from the focus groups which identified faculty’s introduction to High Impact Practices, their mentorship experiences, identified best practices, and areas where increased support was needed, in addition to general recommendations. Chapter 4 also identified specific challenges to faculty when implanting study abroad experiences.
Chapter 5

Conclusion and Recommendations

Chapter 5 presents the conclusions, discussions, and recommendations for the six research objectives, in addition to the overarching themes which emerged in focus group discussions. Chapter 5 also covers broad study implications and limitations, as well as recommendations towards future research.

Purpose and Objectives

The purpose of this research study was to determine faculty perceptions of professional learning needs and best practices for High Impact Practices (HIPs) within the College of Agricultural Sciences at Penn State University. The objectives that guided the research include:

1. Determine faculty’s perceptions on the importance of HIPs in undergraduate academic experiences.
2. Determine faculty’s self-reported self-efficacy to incorporate HIPs into undergraduate academic experiences they facilitate.
3. Identify faculty perceptions of college support in implementing HIPs in undergraduate academic experiences.
4. Determine faculty desired professional development experiences to incorporate HIPs in College of Agricultural Sciences undergraduate academic experiences.
5. Describe faculty perceived barriers to facilitating global learning undergraduate experiences.
6. Explore faculty general recommendations for High Impact Practices within the College of Agricultural Sciences.
Key Findings

*Research Objective 1: Determine faculty’s perceptions on the importance of HIPs in undergraduate academic experiences.*

**Conclusion 1.1:** Faculty participants had some degree of familiarity (awareness) with HIPs, as seen in Table 4-1. The degrees of familiarity and use of High Impact Practices by faculty within the College of Agricultural Sciences varies from practice to practice.

**Discussion 1.1:** While expressing some degree of familiarity with High Impact Practices, participants were also given a list of the practices and their definitions at the beginning of the survey, which may have impacted the results shown. The larger standard deviations values in survey results show that there is still quite a bit of difference in what faculty are reporting per high impact practice. When looking at which HIPs were not mentioned at all in the focus groups, as expressed in Figure 4-1, many of the practices are the same for which faculty expressed the least amount of familiarity, such as Common Intellectual Experiences and Learning Communities.

**Recommendations 1.1:** Based on the College of Agricultural Science’s own goals towards faculty use of High Impact Practices, it is recommended that college administration use these results to further develop those practices that are a goal but may be seen by faculty as less important or for which they are less confident in using. Some practices may simply not be of recognized importance to the college or faculty, at which point no action is recommended.
**Conclusion 1.2:** Faculty agreed that High Impact Practices to some extent are important contributors to undergraduate student learning, for all undergraduates as well as for Under-Represented Minority groups.

**Discussion 1.2:** The higher standard deviation values reported on the survey show that there is still quite a bit of variance in what faculty are reporting per high impact practice. From the population of faculty surveyed, internships and undergraduate research had the some of the highest levels of importance to student learning. These finding may be skewed as the faculty who were selected to participate in the research study may have first-hand experience in leading undergraduate research projects, as this was one of the selection criteria for the participants. While importance to student success in Under-Represented Minority student groups was slightly higher in Table 4-3 and faculty placed a greater importance on First-Year Seminars and Experiences, there was no practical difference between the two groups. Once again, both questions found Learning Communities and Common Intellectual Experiences to have the least amount of importance to student success, although both were still seen as somewhat important.

**Recommendations 1.2:** As faculty have expressed that they perceive these practices to be important to student success, continued support and encouragement should continue to stem from the College of Agricultural Sciences for these practices to continue to be incorporated in student learning experiences. The slight increase in perceived importance towards Under-Represented Minority students is not statistically significant, however an interesting trend which should be explored more deeply is that High Impact Practices have been reported in the literature to specifically benefit these student groups (Kinzie, 2012).
**Conclusion 1.3:** The majority of faculty who participated in the focus group discussions expressed that their use of High Impact Practices began through the College of Agricultural Sciences. However, when asked about mentorship or leadership from others in using these practices, much fewer faculty expressed that this form of support also came from the college.

**Discussion 1.3:** Figure 4-2 shows areas identified by faculty as significant influences towards their introduction to the use of High Impact Practices. Many faculty members expressed that the practices they were using were already established in their degree program, which could show a positive reflection on the college or the department for having these practices be a long-standing expectation or measure of student success. Several other faculty members identified funding, such as the Harbaugh Scholars program, or the Schreyer Honors College as their introduction or reason for utilizing High Impact Practices, in their courses. However, in Figure 4-3, only a portion of faculty expressed that they received mentorship or leadership from the college or the university when using High Impact Practices, rather most discussed previous graduate, or work experiences.

**Recommendations 1.3:** From these findings, it is recommended that the College of Agricultural Sciences explore areas where increased mentorship and leadership regarding the use of High Impact Practices can be expanded. Several faculty members mentioned specifically mentorship programs across disciplines including more senior faculty who have experience utilizing these practices and newer faculty who may have yet be introduced.
Research Objective 2: Determine faculty's self-reported self-efficacy to incorporate HIPs into undergraduate academic experiences they facilitate.

Conclusion 2.1: Faculty expressed a degree of confidence in their ability to implement most of the various High Impact Practices in their course planning (Table 4-4), but several practices were ranked by faculty members as having low confidence in implementation. This finding was despite all faculty reported in these results to have been known to utilize High Impact Practices in their student learning experiences, as per the inclusion criterion of the study population. No practice was greater than a “slightly agree” degree of confidence in incorporating.

Discussion 2.1: Due to the small sample size, large standard deviations still show variance in faculty’s perceptions, however Undergraduate Research again reported somewhat high in confidence with a low standard deviation. This result may be due to the participation criterion for faculty who were asked to complete this survey. Collaborative Assignments and Projects, Internships, and Capstone Courses and Projects also ranked with some degree of confidence. Diversity and Global Learning ranked lower in confidence, which may be slightly explained when exploring barriers towards implementation. These findings show that although faculty have some degree of awareness about High Impact Practices, and perceive them as important to undergraduate student learning, a distinct lack of confidence in incorporating them does exist. As these results are only reflective of a small portion of faculty within the entire college, it can be expected that other faculty who were not identified in this survey as utilizing the three practices (undergraduate research, Harbaugh Scholars Program, and study abroad) would probably also express similar or lesser degrees of confidence with HIPs.
**Recommendations 2.1:** A need for increased professional development resources and trainings related to High Impact Practices for faculty in the College of Agricultural Sciences is present. Some of these ten High Impact Practices may not be a specific goal or of importance to the college and faculty, so not all practices would need to be covered. It is recommended that resources be offered specifically to each practice, as necessary.

**Conclusion 2.2:** Focus group coding for faculty’s reported best practices when utilizing High Impact Practices identified areas where confidence can be assumed, as seen in their own perceptions of strategies or tactics have made their use of HIP’s successful.

**Discussion 2.2:** During focus group discussions, faculty were prompted to share their best practices and tips/tricks they had found from their past experiences utilizing High Impact Practices. Ideas such as increasing flexibility and student ownership, in addition to reflection and connection to critical thinking skills, all stemmed from faculty seeking to improve these experiences by continuing to incorporate them. Faculty mentioned the importance for those leading or facilitating the experiences to remain focused on the goal to promote student success and improve the learning experience.

**Recommendation 2.2:** As the use of High Impact Practices grows and develops throughout the College of Agricultural Sciences, it is recommended that additional opportunities be offered for sharing and mentorship between faculty members who are currently utilizing these practices, as well as those who may not be using High Impact Practices at all.
Research Objective 3: Identify faculty perceptions of college support in implementing HIPs in undergraduate academic experiences.

Conclusions 3.1: Faculty expressed that the College of Agricultural Sciences encouraged the use of High Impact Practices to a degree; however, when asked how they perceived support in using or incorporating said High Impact Practices, less support and resources were seen to be offered or available to faculty.

Discussion 3.1: Faculty reported that for all High Impact Practices, except for Common Intellectual Experiences and Learning Communities, they saw encouragement from the College of Agricultural Sciences to use these practices (Table 4-5). When asked how they perceived support and resources from the college, discrepancies of support between the practices were reported (Table 4-6). Half of the High Impact Practices (Collaborative Assignments and Projects, Writing Intensive Courses, Service Learning, Learning Communities, and Common Intellectual Experiences) were reported by faculty as having a lack of support or available resources. Diversity / Global Learning, First-Year Seminars and Experiences, and Capstone Courses and Projects were all reported by faculty as receiving some level of support. Undergraduate Research showed a much greater level of support from the college, although this number may have been slightly skewed as the inclusion criteria for the study population targeted those faculty who were participating in undergraduate research projects funded by the college. Another noticeable discrepancy was evident when responding to survey prompts about internships. Internships were ranked high in importance to success of all and underserved students, in addition to being seen as encouraged by the college; however, Internships also showed room for substantial increased support and resources towards implementation.
**Recommendations 3.1:** While survey results indicate that an increase or adjustment of support is called for by faculty, the bigger picture shows that the college is expressing encouragement towards these practices in addition to faculty viewing them as important to student success. From these findings, it is recommended that an increase of general and specific professional development and resources be made available to faculty. To reiterate, some High Impact Practices may not be a priority to the college, therefore may not need to be encouraged or supported with resources. For those practices which are seen and expressed as a clear priority, goal, or expectation of the college, further work should be done on how best to communicate current and future resources to faculty.

*Research Objective 4: Determine faculty desired professional development experiences to incorporate HIPs in College of Agricultural Sciences undergraduate academic experiences.*

**Conclusion 4.1:** Internships have the highest need for increased professional development. Other High Impact Practices which also ranked high in need were Learning Communities and Capstone courses. Ranking the lowest by were Collaborative Assignments and Projects.

**Discussion 4.1:** While scoring the highest for perceived importance to all undergraduate and under-represented student learning, it is not surprising that there is a need for increased training regarding incorporating Internships into courses. Not all degree programs have internships as a direct element in their curriculum. Additionally, the literature indicates that although internships are seen by students as beneficial to their career goals, some internship opportunities lack structure and depth in the form of collaboration between industry and education (Jones et al., 2002).
Recommendations 4.1: College of Agricultural Sciences Administration focus on the topic of Internships for increased professional development opportunities.

Conclusion 4.2: Faculty expressed that support could be shown from the college for High Impact Practices through incentives, resources, professional development, and public acknowledgement.

Discussion 4.2: Figure 4-5 shows several themes identified by faculty as areas where increased support from the College of Agricultural Sciences could be incorporated. Several of the themes, such as incentives and resources, have also been expressed by faculty in related literature focused on barriers to incorporating High Impact Practices (Grant & MacLean, 2018). Woods (2004) called for a “comprehensive system of professional development opportunities” for faculty to be better supported in their use of High Impact Practices.

Recommendations 4.2: It is recommended that the College of Agricultural Sciences examine these support needs and determine which could be incorporated, for faculty to feel specifically supported in their use of High Impact Practices.

Research Objective 5: Describe faculty perceived barriers to facilitating global learning undergraduate experiences.

Conclusions 5.1: Faculty participants listed assumptions, risk, faculty preparedness, convenience, paperwork, and finances as barriers or challenges to leading or developing study abroad experiences.
**Discussion 5.1:** While describing barriers and challenges faced when incorporating or leading study abroad experiences into their courses, faculty reinforced using this High Impact Practice because they understood the importance it has for student success. These findings are supported by the survey results as faculty reported Diversity / Global Learning experiences with moderately high importance to undergraduate student learning, including Under-Represented Minority students (Tables 4-2 and 4-3). Similarly, the survey showed that faculty have less confidence utilizing this practice than others (Table 4-4), which may have been due to a lack of awareness and familiarity (Table 4-1), but faculty also expressed a encouragement provided by the college for incorporating this practice (Table 4-5). It should also be stated that although faculty did express several challenges and barriers that had to do with incorporating study abroad experiences into their courses, they also clearly noted that the college currently offers extensive support, as seen in the survey as Diversity / Global Learning ranked second highest as perceived support and resources being offered by the college (Table 4-6). This sentiment was also echoed extensively during the focus group discussions as many faculty specifically highlighted the importance and help offered directly by the International Programs Office within the College of Agricultural Sciences.

As stated in the literature (Wright, Vincent, & Epps, 2019), and expressed as important to both faculty and administration within the College of Agricultural Sciences, study abroad or global learning experiences are key opportunities for agriculture students. While the college currently supports faculty as they incorporate these experiences, additional, specific resources and opportunities could continue to be incorporated to improve and refine these experiences, in addition to inspiring a broader group of faculty to begin incorporating them.
**Recommendations 5.1:** It is recommended that additional discussions between the Office of International Programs, College of Agricultural Sciences administration, and related faculty continue, for the needs of faculty to be better understood by all related stakeholders. To alleviate the strain of financial barriers, both from a faculty and student perspective, continued support in funding is recommended, along with continued support in exploring creative solutions and outside funding sources to make future trips feasible to both faculty and students. The fear of risk and faculty ill-preparedness could be reduced by creating additional opportunities for faculty to meet with other individuals who have already led or plan on leading study abroad experiences. Convenience barriers, such as study abroad being a rare occurrence in a course or department, could be alleviated by the encouragement of faculty teaming up across disciplines, or by working to create opportunities for those majors or programs where study abroad is not common. Assumption barriers, such as students not seeing value in the experience, must continue to be addressed with dialogue across the college.

*Research Objective 6: Explore faculty general recommendations for High Impact Practices within the College of Agricultural Sciences.*

**Conclusion 6.1:** For faculty within the College of Agricultural Sciences to continue to incorporate -- or begin to incorporate in some cases -- High Impact Practices into their educational learning experiences, a greater focus on the longevity and sustainability of faculty’s commitment to these practices must be supported by college administration.

**Discussion 6.1:** One key theme that emerged across the various focus group discussions was the idea of how to continue to support faculty so that the use of High Impact Practices is sustainable. On one hand is the issue of time, both in terms of commitment from faculty and the need for increased support at the administrative level so that faculty can focus on developing
these experiences to better student learning. From this theme emerged the need for a better understanding faculty’s investment in High Impact Practices and a recognition from the college that for faculty to introduce these practices and to implement them to their fullest potential, the college needs to appreciate that the process is not an immediate one.

**Recommendation 6.1:** As the College of Agricultural Sciences continues to strive towards providing the best opportunities for student success, greater support needs be provided to faculty who are utilizing High Impact Practices to better the educational experiences of their students. One participant exemplified this recommendation in the following statement:

“Sorry I’ll just jump in really quickly; I think a connection that -- something I thought that I had -- was around, you know, just recognition not like an award or anything like that, but recognition of, you know, department and -- I’m not saying this isn’t already happening, but -- continued recognition by department heads and, you know, those that serve on promotion / tenure committees that these high impact opportunities that we provide to students, whether it's at the undergraduate or graduate level, it takes time and if it's truly important, then it should be reflected in those types of reviews and at least noted. One because that then helps us talk to younger faculty members like, ‘hey, this is recognized here and it matters, and you are rewarded for it.’ So, you know, and then, if that's not happening, we can't tell them that otherwise they will lead them down the wrong path in their professional development. In terms of what others are looking for, so I just wanted to get that in, that thought in there, while it was fresh in my mind, thank you.” – Participant G
Conclusion 6.2: The ideas of collaboration, mentorship, advising towards graduate students were all heavily discussed as faculty spoke about their own growth and development using HIPs.

Discussion 6.2: For faculty to fully invest in the use and implementation of High Impact Practices, they must have a personal investment and belief that these practices will improve student learning and are worth their time. White (2018) exemplified these thoughts by stating that for “implementation of high-impact practices to spread, faculty members need development and encouragement to make changes in the classroom, they need the resources to obtain the right tools and environment for developing these practices” (p. 128). It was also found that for faculty to feel as though they are in an encouraging environment to use these practices, they must have “professional development opportunities [to] introduce faculty (full-time and part-time) to high impact practices, assessments, and course designs as well as individual faculty mentoring for collaborative teaching” (p. ???). These calls for increased collaboration and mentorship can also be seen in Discussion 1.3 previously in this document, where faculty expressed very little mentorship coming directly from their experiences within the college and the university. The following statements summarize some direct thoughts from focus group participants:

“So, I’ve been thinking about this and I think it would be really good to have perhaps more, I don't know, how it's probably could come from even our own colleagues, like going through something like how to become a better professional, how to become a better advisor, to bring some of these things that I talked to you about in and tell others that they don't have to take 20 years to learn that, like I did. About say, for example, a book like that seven habits of highly effective people, it could be, there are other resources also...But to perhaps have just little study groups or something like that. I don't like so much the top down from like some professional from another college, perhaps just
have some talks with your own colleagues in your own, and especially younger faculty. How to be effective, how can you best get tenure. What, what are the good strategies for using your time, how can you find projects that are high impact that you don’t perhaps spend a lot of time on frivolous things so that you waste a lot of time things like that and create more a culture of understanding of helping each other out to become to be more successful.” – Participant I

“Yeah, my thought is that once this pandemic is decreased well so anyway, and that we do have permission to get back in touch with each other, closer I think that's going to happen, really, naturally. Because everybody's going to realize how much they missed that face to face contact before and I have a feeling that you know my optimism is that once we are back in our offices those connections are going to be made than maybe what they had been pre pandemic, when we were also busy and didn't have time to meet each other.” – Participant J

“We could also think about those like say coaching programs with [faculty member] was mentioning about like maybe young faculty could tag in with the already existing courses, already existing study abroad programs to try it a few times and then maybe they can implement in their course and maybe the students in that program so maybe that's another source to help organizing some of these or like say facilitating the programs, and like how to get started with those so it will be a learning experience for them, it would benefit to reduce the faculty lot of it and also it could benefit all. Some of these programs like say. It’s not just department boundary right like we could have a lot of these programs like say something's [faculty member] is doing, like they understand me, what do they know so similar things like with the courses to so it depends on specific courses,
but need not be just department bounded programs say maybe I don't know that there is an international travel program in [major], but if it's with some courses which [other major] is offering or like something that [faculty member] is offering then that's a that's a good opportunity for others who might be interested in joining like are trying this out in their department or a new course in the department.” – Participant D

**Recommendations 6.2:** The College of Agricultural Sciences should strive to increase incentivized opportunities for faculty collaboration and mentorship. These do not need to be extensively structured or formal, simply opportunities for faculty to get to know one another, learn about the work that others are doing, and provide guidance to those who may be newer to the university.

**Conclusion 6.3:** The reasons faculty incorporate High Impact Practices were the recognized importance as expressed by the goals of the college and the impact that these experiences have directly on the students themselves.

**Discussion 6.3:** As seen in similar studies based upon Ajzens (1991) Theory of Planned Behavior, faculty’s actions are influenced by levels of support and encouragement at the administrative level, in addition to the beliefs of others. Similarly, the level of investment in High Impact Practices is reflective of faculty’s available resources and opportunities to collaborate and implement (Murphey et al., 2016).

**Recommendation 6.3:** The College of Agricultural Sciences should continue encouraging incorporation and utilization of High Impact Practices while intentionally providing widespread recognition of the impact of HIP’s on student learning.
Conclusion 6.4: Faculty perceive the challenge of juggling the tenure track process, various teaching and research appointments, and maintaining the overall reputation of a Research-1 institution as hindrances to their use of High Impact Practices.

Discussion 6.4: During focus group discussions, several participants expressed challenges towards continuation of use of High Impact Practices due to the tenure process, end of year reviews, and various appointments. Kezar (2012) discussed the importance of sufficient opportunities for professional development and resources to be made available to those faculty who are not tenure-track, in addition to those made available to tenure-track faculty.

Recommendations 6.4: As the faculty within the College of Agricultural Sciences hold various appointments, ranks, and experiences, it is recommended that support and encouragement towards using High Impact Practices become a tailored approach, specific to the needs and situations of the different types of positions among the faculty. Additionally, for those who are tenure-track, an increased value on utilizing these practices should be taken as well as communicated to faculty such as recognizing these activities in the promotion and tenure process.
Implications and Recommendations

While the results of this study should not be generalized to other colleges of agriculture or faculty groups, several key conclusions can be made from the findings. First, faculty had an overall positive view of High Impact Practices and their relationship to student learning. While this is a positive finding, the findings show that more work can be done to reduce the variance in perception across and within each practice. When exploring how faculty perceived their confidence in including the various High Impact Practices in their own courses, room was shown for growth. This finding points to the need for future research on how best faculty can be supported to increase their confidence in utilizing said High Impact Practices.

One limitation of this study is that it only examined a selective and limited number of faculty at one college of agriculture in a land-grant university. The faculty chosen to participate in the research project were known to already be participating in at least one High Impact Practice. A recommendation for future research would be to widen the scope of the population to include all faculty within a college of agriculture to gain a more robust view on the High Impact Practices being completed across the college and specifically within academic departments and majors. It is also recommended that this study, or a similar study, be replicated at other land-grant and agriculturally focused universities to examine trends in their own colleges of agriculture.

Summary

Chapter 5 presented the conclusions, discussions, and recommendations for each of the five research objectives, in addition to the overarching themes which emerged from focus group discussions. The chapter also covered larger study implications, limitations, and recommendations towards future research.
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Appendix A: Survey Instrument
High Impact Practices – Faculty Perceptions and Professional Development Needs Instrument

Welcome to the Research Study!

We are interested in understanding how faculty in the College of Agricultural Sciences are aware of and utilize High Impact Practices. You will be asked a series of questions regarding your awareness, frequency of use, comfort with, perceived importance, and perceived support and encouragement from the College of Agricultural Sciences with regard to High Impact Practices. Please be assured that your individual responses will be kept confidential within the research team.

The study should take approximately twenty (20) minutes to complete. Your participation in this research is voluntary. You have the right to withdraw at any point during the study, for any reason, and without any prejudice. If you would like to contact the Principal Investigator in the study to discuss this research, please e-mail Jana Russell at jlr896@psu.edu.

By clicking the button below, you acknowledge that your participation in the study is voluntary, you are 18 years of age, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason.

Please note that this survey will be best displayed on a laptop or desktop computer. Some features may be less compatible for use on a mobile device.

1. I consent, begin the study (proceed to survey questions)
2. I do not consent; I do not wish to participant (proceed to end of survey)
Below is a list of High Impact Practices and their definition, as defined by the Association of American Colleges and Universities. Please review these practices and their definitions prior to completing this survey.


1. **First-Year Seminars and Experiences**: Many schools now build into the curriculum first-year seminars or other programs that bring small groups of students together with faculty or staff on a regular basis. The highest-quality first-year experiences place a strong emphasis on critical inquiry, frequent writing, information literacy, collaborative learning, and other skills that develop students’ intellectual and practical competencies. First-year seminars can also involve students with cutting-edge questions in scholarship and with faculty members’ own research.

2. **Common Intellectual Experiences**: The older idea of a “core” curriculum has evolved into a variety of modern forms, such as a set of required common courses or a vertically organized general education program that includes advanced integrative studies and/or required participation in a learning community (see below). These programs often combine broad themes—e.g., technology and society, global interdependence—with a variety of curricular and cocurricular options for students.

3. **Learning Communities**: The key goals for learning communities are to encourage integration of learning across courses and to involve students with “big questions” that matter beyond the classroom. Students take two or more linked courses as a group and work closely with one another and with their professors. Many learning communities explore a common topic and/or common readings through the lenses of different disciplines. Some deliberately link “liberal arts” and “professional courses”; others feature service learning.

4. **Writing-Intensive Courses**: These courses emphasize writing at all levels of instruction and across the curriculum, including final-year projects. Students are encouraged to produce and revise various forms of writing for different audiences in different disciplines. The effectiveness of this repeated practice “across the curriculum” has led to parallel efforts in such areas as quantitative reasoning, oral communication, information literacy, and, on some campuses, ethical inquiry.

5. **Collaborative Assignments and Projects**: Collaborative learning combines two key goals: learning to work and solve problems in the company of others and sharpening one’s own understanding by listening seriously to the insights of others, especially those with different backgrounds and life experiences. Approaches range from study groups within a course, to team-based assignments and writing, to cooperative projects and research.

6. **Undergraduate Research**: Many colleges and universities are now providing research experiences for students in all disciplines. Undergraduate research, however, has been most prominently used in science disciplines. With strong support from the National Science Foundation and the research community, scientists are reshaping their courses to connect key concepts and questions with students’ early and active involvement in systematic investigation and research. The goal is to involve students with actively contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions.

7. **Diversity/Global Learning**: Many colleges and universities now emphasize courses and programs that help students explore cultures, life experiences, and worldviews different from their own. These studies—which may address U.S. diversity, world cultures, or both—often explore “difficult differences” such as racial, ethnic, and gender inequality, or continuing struggles around the globe for human rights, freedom, and power. Frequently, intercultural studies are augmented by experiential learning in the community and/or by study abroad.

8. **Service Learning, Community-Based Learning**: In these programs, field-based “experiential learning” with community partners is an instructional strategy—and often a required part of the course. The idea is to give students direct experience with issues they are studying in the curriculum and with ongoing efforts to analyze and solve problems in the community. A key element in these programs is the opportunity students have to both apply what they are learning in real-world settings and reflect in a classroom setting on their service experiences. These programs model the idea that giving something back to the community is an important college outcome, and that working with community partners is good preparation for citizenship, work, and life.

9. **Internships**: Internships are another increasingly common form of experiential learning. The idea is to provide students with direct experience in a work setting—usually related to their career interests—and to give them the benefit of supervision and coaching from professionals in the field. If the internship is taken for course credit, students complete a project or paper that is approved by a faculty member.

10. **Capstone Courses and Projects**: Whether they’re called “senior capstones” or some other name, these culminating experiences require students nearing the end of their college years to create a project of some sort that integrates and applies what they’ve learned. The project might be a research paper, a performance, a portfolio of “best work,” or an exhibit of artwork. Capstones are offered both in departmental programs and, increasingly, in general education as well.
I. Familiarity and Frequency of Use of High Impact Practices

The purpose of this section is to gain insight on how familiar faculty are with High Impact Practices and how often they are utilizing or incorporating them. For the first item, please choose the one response (Unfamiliar, Somewhat Unfamiliar, Unsure, Somewhat Familiar, Familiar) that best describes you. For the second item, please enter a value (you may enter zero (0) if you did not utilize the practice). Please answer all of the questions.

Q1. How familiar are you with the following practices?

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<tr>
<th>Practice</th>
<th>Unfamiliar</th>
<th>Somewhat Unfamiliar</th>
<th>Unsure</th>
<th>Somewhat Familiar</th>
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Q2. In the past three academic years (2016-2019), how often did you teach courses, supervise, or facilitate experiences that contain any of the following practices?

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<th>Practice</th>
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II. Perceived Importance of High Impact Practices

The purpose of this section is to gain insight on the importance of these practices as positive experiences or benefits to students, as perceived by faculty. For each item, please choose the one response (Strongly Disagree, Disagree, Slightly Disagree, Slightly Agree, Agree, Strongly Agree) that best describes you. Please answer all of the questions.

Q3. To what extent do you agree that the following practices can improve the learning of all undergraduate students?

<table>
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<tr>
<th>Practice</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
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4. To what extent do you agree that the following practices can improve the learning of underserved undergraduate students (i.e., underrepresented minority students, students from low-income families, transfer and first-generation students)?

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<tr>
<th>Practice</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Slightly Agree</th>
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<th>Strongly Agree</th>
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### III. Perceived Confidence of Incorporating High Impact Practices

The purpose of this section is to gain insight on how comfortable faculty are incorporating High Impact Practices into their course planning and development. For each item, please choose the one response (Not Confident, Somewhat Not Confident, Uncertain, Somewhat Confident, Confident) that best describes you. Please answer all of the questions.

Q5. Indicate how confident you are implementing the following practices in your course planning.

<table>
<thead>
<tr>
<th>Practice</th>
<th>Not Confident</th>
<th>Somewhat Not Confident</th>
<th>Uncertain</th>
<th>Somewhat Confident</th>
<th>Confident</th>
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IV. Perceived Support of Implementing High Impact Practices

The purpose of this section is to gain insight on how much the College of Agricultural Sciences encourages these practices, as well as offers support or resources, as perceived by faculty. For each item, please choose the one response (Strongly Disagree, Disagree, Slightly Disagree, Slightly Agree, Agree, Strongly Agree) that best describes you. Please answer all of the questions.

Q6. To what extent do you feel the College of Agricultural Sciences encourages the incorporation of these practices by faculty in their courses or experiences?

<table>
<thead>
<tr>
<th>Practice</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
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Q7. To what extent do you feel the College of Agricultural Sciences offers support (for example: funding, training, and/or other resources) for faculty to implement these practices?

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<th>Practice</th>
<th>Strongly Disagree</th>
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Thank you for taking the time to participate in this research study! Following initial collection and analysis of these results, the researcher intends to facilitate focus groups to more deeply discuss the use of High Impact Practices within the College of Agricultural Sciences, specifically areas where increased support and professional development may be needed.

These focus groups will take place early Spring Semester, 2021 and will last approximately 50 to 70 minutes. Your input and insight are highly appreciated. Would you be willing to participate in a focus group? If so, please indicate so below and the research team will be in contact with you regarding further steps.

1. I do wish to participate in a focus group.
2. I do not wish to participate in a focus group.

Participants will be provided a doodle poll with times to participate at a later date. Thank you again for your time!
Appendix B: Focus Group Moderator Guide
High Impact Practices: Faculty Perceptions and Professional Development Needs
Focus Group Protocol

Focus Group Research Goals

1. Describe how faculty members in the College of Agricultural Sciences became introduced to or began utilizing High Impact Practices in their educational experiences.
2. Describe mentors or leaders in High Impact Practices, as identified by faculty members in the College of Agricultural Sciences.
3. Identify areas where increased support from the College of Agricultural Sciences would assist faculty members in utilizing High Impact Practices more often.
4. Identify best practices, as described by faculty, when utilizing High Impact Practices.

Timing guide

- Introduction 5 minutes
- Questions
  - Introduction to High Impact Practices 10 - 15 minutes
  - Leadership or Mentorship in High Impact Practices 10 - 15 minutes
  - Needs for Increased or Improved Use of High Impact Practices 10 - 15 minutes
  - High Impact Practices Best Practices 10 - 15 minutes
- Conclusion 5 minutes

Setting Expectations

Thank you for joining our focus group discussion. Today we will be talking about the use of High Impact Practices by faculty within the College of Agricultural Sciences. We are hoping to hear your own personal opinions, needs, and experiences. Our session should last between 50 and 70 minutes. Before we start, I would like to share some guidelines and expectations for this discussion.

- There are no right or wrong answers; we want to hear your personal opinions, needs, and experiences.
- Please keep the ideas and opinions discussed in this session to yourself and refrain from sharing what other participants have said with others.
- We want to hear from everyone, so please do not be shy.
- If you do not wish to answer any specific question, you do not have to, but any insight you can provide is valuable.
- You are welcome to converse and ask follow up questions with your fellow participants, just keep in mind our limited time together today.
- We will not plan official breaks.
- Please allow for only one person speaking at a time.
- This session is being recorded for later analysis.

Before we get started, what questions can I answer?
Question Guide (40-60 minutes)

[Introduction to High Impact Practices (10 - 15 minutes)]

1. As a participant in this study, you have been identified as a faculty member utilizing one or more High Impact Practices, how did you become introduced or involved with this(these)?
   - Probe: How did you hear about leading a study abroad experience, becoming a Harbaugh Scholar, or undergraduate research?

[Leadership or Mentorship in High Impact Practices (10 - 15 minutes)]

2. Did another faculty member serve as a mentor or leader when you were first incorporating High Impact Practices into your educational experiences?
   - Probe: Did you work as a team with another faculty member, or did someone assist you directly along the way?

[Needs for Increased or Improved Use of High Impact Practices (10 - 15 minutes)]

3. In order to be successful in using High Impact Practices in further educational experiences, what new or continued resources can the College of Agricultural Sciences offer to faculty?
   - Probe: This support could include increased professional development trainings, funding, etc.

[High Impact Practices Best Practices (10 - 15 minutes)]

4. What are some best practices or recommendations for success that you have found in using High Impact Practices?
   - Probe: What specific approaches or strategies have helped you become more successful or efficient?

Conclusion (5 Minutes)

As we wrap up, are there any additional thoughts or concerns that anyone would like to share? If not, I would like to again thank you for your time and your willingness to share with me today. If you have any questions about the rest of this study, please contact me, Jana Russell at jlr896@psu.edu. Thank you once again for your time and participation.

Moderating the group: Pro-Tips for the Facilitator

Taskmaster:
- Let’s return to the main point
- Let’s to move on to the next question

Encourager:
- That’s an interesting thought
- That’s a great answer

Probe: (see examples above)
- I wonder what the rest of you have to say about that.
- One thing that I’m surprised no one has mentioned is ____. Does it matter or not?

Clarifier
- I recall that some of you mentioned something a little different earlier, and I wonder how things like ___ fit into the picture?
- Can you tell me a little bit more about that so I can be a little clearer on what you’re discussing?
Appendix C: Study Abroad Focus Group Moderator Guide
High Impact Practices: Faculty Perceptions and Professional Development Needs
Focus Group Protocol

Focus Group Research Goals

1. Describe how faculty members in the College of Agricultural Sciences became introduced to or began utilizing High Impact Practices in their educational experiences.
2. Describe mentors or leaders in High Impact Practices, as identified by faculty members in the College of Agricultural Sciences.
3. Identify areas where increased support from the College of Agricultural Sciences would assist faculty members in utilizing High Impact Practices more often.
4. Identify best practices, as described by faculty, when utilizing High Impact Practices.

Timing guide

- Introduction 5 minutes
- Questions
  - Introduction to High Impact Practices 10 - 15 minutes
  - Leadership or Mentorship in High Impact Practices 10 - 15 minutes
  - Needs for Increased or Improved Use of High Impact Practices 10 - 15 minutes
  - High Impact Practices Best Practices 10 - 15 minutes
- Conclusion 5 minutes

Setting Expectations

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- There are no right or wrong answers; we want to hear your personal opinions, needs, and experiences.
- Please keep the ideas and opinions discussed in this session to yourself and refrain from sharing what other participants have said with others.
- We want to hear from everyone, so please do not be shy.
- If you do not wish to answer any specific question, you do not have to, but any insight you can provide is valuable.
- You are welcome to converse and ask follow up questions with your fellow participants, just keep in mind our limited time together today.
- We will not plan official breaks.
- Please allow for only one person speaking at a time.
- This session is being recorded for later analysis.

Before we get started, what questions can I answer?
Question Guide (40-60 minutes)

[The proposed script includes the questions in the suggested order. Some questions include probing follow up questions if needed, others include context at the beginning of the question. The time markers are an anticipated range for each section of questions.]

Introduction to High Impact Practices (10 - 15 minutes)

1. As a participant in this study, you have been identified as a faculty member utilizing one or more High Impact Practices, how did you become introduced or involved with this(these)?
   o Probe: How did you hear about leading a study abroad experience, becoming a Harbaugh Scholar, or undergraduate research?

Leadership or Mentorship in High Impact Practices (10 - 15 minutes)

2. Did another faculty member serve as a mentor or leader when you were first incorporating High Impact Practices into your educational experiences?
   o Probe: Did you work as a team with another faculty member, or did someone assist you directly along the way?

Perceived Barriers on Incorporating Study Abroad Experiences (10 - 15 minutes)

3. What are some perceived barriers or challenges you have faced or heard when facilitating or exploring implementing study abroad experiences in your courses?
   o Probe: For those who have not led an experience, why?

Needs for Increased or Improved Use of High Impact Practices (10 - 15 minutes)

4. In order to be successful in using High Impact Practices in further educational experiences, what new or continued resources can the College of Agricultural Sciences offer to faculty?
   o Probe: This support could include increased professional development trainings, funding, etc.

High Impact Practices Best Practices (10 - 15 minutes)

5. What are some best practices or recommendations for success that you have found in using High Impact Practices?
   o Probe: What specific approaches or strategies have helped you become more successful or efficient?

Conclusion (5 Minutes)

As we wrap up, are there any additional thoughts or concerns that anyone would like to share? If not, I would like to again thank you for your time and your willingness to share with me today. If you have any questions about the rest of this study, please contact me, Jana Russell at jlr896@psu.edu. Thank you once again for your time and participation.

Moderating the group: Pro-Tips for the Facilitator

Taskmaster:
- Let’s return to the main point
- Let’s move on to the next question

Encourager:
- That’s an interesting thought
- That’s a great answer

Probe: (see examples above)
- I wonder what the rest of you have to say about that.

Clarifier:
- One thing that I’m surprised no one has mentioned is ____. Does it matter or not?
- I recall that some of you mentioned something a little different earlier, and I wonder how things like ____ fit into the picture?
- Can you tell me a little bit more about that so I can be a little clearer on what you’re discussing?