EFFECTIVE TEACHING:

A Foundational Aspect of Practices That Support Student Learning

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The American Council on Education (ACE), through the generous support of Strada Education Network, is engaged in research on the connections between instructional quality, improved student outcomes, and increased institutional efficiency. As part of this work, ACE is highlighting practices that support teaching and learning, and exploring the impact these practices are having at three distinct public colleges and universities—California State University, Fullerton; Indiana University-Purdue University Indianapolis; and Housatonic Community College (CT). This paper provides a brief overview of effective pedagogical practices and explores the outcomes, challenges, and future strategies associated with their implementation. The authors further examine the foundational aspect that good teaching plays in implementing evidence-based practices that positively affect student learning and outcomes.

Quality instruction directly influences student learning and motivation, pass rates, and subject-matter interest, and positively affects student retention (Haras et al. 2017). Additional research found that effective teaching practices are a strong predictor of graduation because of their influence on academic achievement (Pascarella and Terenzini 2005). There are explicit linkages between improvements in student learning and instructors' pedagogical development; thus, instructors are the single most important influence on their students' success in and outside the classroom (Haras et al. 2017). Examples of effective teaching improving student learning include improving pedagogical approaches, assessment, and improving learning environments.

Researchers found a link between different types of pedagogical approaches and the enhancement of student learning, including active learning, on college campuses (Barrows 1996). A study from Karen Singer-Freeman and Linda Bastone (2016) found that using evidence-based pedagogical practices like active learning led to increased retention for underserved students. Improving instruction also includes improving assessment, a key mechanism for helping students learn. Evans (2013) found that receiving feedback from multiple sources, as a form of assessment, led to students becoming more self-regulated learners. Self-regulated learners, ones that use reflection to find meaning in the coursework, are more likely to graduate and persist (Jankowski 2017). This indicates that "active participation of students in their learning is a necessary component of the interaction between instruction and student outcomes" (Jankowski 2017, 8). All of these approaches point to student success as an important dependent variable of effective teaching.

George D. Kuh put forth a set of 10 high-impact practices (HIPs)—benchmark practices that focus on improving teaching and learning—in a 2008 report titled *High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter*. The 10 HIPs Kuh identified are first-year experiences and seminars, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments, undergraduate research, diversity and global learning, service learning, community-based learning, internships, and capstone courses and projects. However, not all institutions offer students the opportunities to engage in primary research, study abroad, service- or community-based learning, internships, or capstone courses, nor do all students engage in these activities if they are available. Therefore, in the following case studies, we focus on the first five of the previously listed HIPs, which we believe center on effective pedagogy, a necessary component of HIPs, and have higher potential to reach more significant numbers and a greater diversity of students.

What follows are three case studies, each highlighting the implementation of at least one of the first five HIPs—first-year experiences and seminars, common intellectual experiences, learning communities, writing-intensive courses, and collaborative assignments—as well as other practices tailored specifically to the institution's mission and student population.

CALIFORNIA STATE UNIVERSITY, FULLERTON

Photo courtesy of California State University, Fullerton.

California State University, Fullerton (CSUF), part of the nation's largest four-year public university system, is a Hispanic-Serving Institution with 4,100 full- and part-time faculty and staff, and roughly 40,000 students (The California State University 2016), 46 percent of whom are Pell Grant recipients (National Center for Education Statistics 2016). CSUF contributes significantly to the state's economy, generating $2.26 billion in economic activity annually and sustaining more than 15,000 jobs in the region (California State University, Fullerton 2017c). CSUF has become an emerging national model for supporting student success through innovative high-impact educational and co-curricular experiences, including faculty-student collaborative research. The university's undergraduate demographic data demonstrates that the campus-wide implementation of HIPs was a natural choice for CSUF to help enhance student learning, reduce the achievement gap, and increase retention and graduation rates (Swarat and Sullivan 2015).

The institution already utilizes several practices to address the needs of the student population; for example, supplemental instruction has been widely implemented. Supplemental Instruction (SI) provides students with a systematic and disciplined approach for processing the subject material in gateway and historically difficult courses—with low pass and high withdrawal rates—accomplished through weekly, peer-led group study sessions (California State University, Fullerton 2017b). In 2015, the SI program received a CSUF Teamwork and Collaboration Award for its work in producing a 25 percent increase in the passing rate of students in bottleneck and gateway courses.

Based on CSUF's history of integrating high-impact practices into courses, the university established in 2013 a HIPs Task Force to define and assess HIPs, and—more importantly—to develop a system for creating a "HIPs campus" (CSUF 2013). The plan focuses on the establishment of a model for identifying and evaluating high-impact practices around learning outcomes, retention, and graduation (CSUF 2013). Leaders also implemented a campus-wide HIPs model called REACH (research, experiential learning, active learning, community, and human exploration) to promote the HIPs mission.

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Based on data available from CSUF's Office of Assessment and Institutional Effectiveness (OAIE) and interviews with other campus units responsible for leading the high-impact practices assessment efforts at CSUF, we note several key outcomes from the REACH initiative.

- Participation in HIPs contributed to increased retention and graduation rates, as well as reducing the achievement gap (e.g., students who participated in HIPs classes demonstrated, on average, a 12 percent learning gain within a semester). Students self-reported increases in their perceived learning gains, which correlates with the positive learning gains observed by faculty. These learning gains also positively correlated with retention.
- Students reported having satisfactory experiences in their HIPs classes, referencing interaction with faculty, feedback opportunities, and exposure to experiential learning as key factors positively affecting the experience.
- Faculty teaching HIPs classes felt part of a collegial community and engaged in self-reflection and peer reflection on their teaching experience. They also received pedagogical support on course development and delivery, timely feedback through the HIPs tracking mechanism, and data analysis specific to their classes.

CHALLENGES AND FUTURE STRATEGIES

With a large campus such as CSUF, the launch process of the HIPs initiative resulted in some challenges (Swarat and Sullivan 2015). CSUF leaders recognized that implementing a HIPs tracking process and integrating data collection would require a systematic and thorough approach to faculty development. This is not dissimilar from the support site leads needed to implement co-curricular HIPs. Regular and sustentative development activities for faculty were put in place to help faculty and co-curricular site leads gain a full understanding of the HIPs components. Recognizing that high-quality instruction utilizing high-impact practices leads to increased student success rates and satisfaction, CSUF leaders invested in support systems to provide faculty and staff with resources and guidance to implement HIPs into curricular and co-curricular experiences. Further, leaders recognized that to coordinate HIPs implementation among such large numbers of faculty and classes requires dedicated personnel, so the university designated a full-time HIPs project coordinator to work individually with the faculty on the smooth implementation of HIPs into course design and classroom instruction. Faculty have mostly viewed the experience positively, and some faculty are utilizing HIPs to pursue the scholarship of teaching and learning (SoTL).

Higher education leaders and faculty have a critical role in promoting student engagement and success. Institutions that focus on data experience gains in their student success initiatives (Yeado et al. 2014). In the case of CSUF, the institution has made strides in how it leverages technology (i.e., the iFullerton app) to track HIPs data and outcomes (Swarat et al. 2017). Former Provost José L. Cruz (2016) encouraged the use of data as a key focus on student success. As a result, the university established a digital dashboard of students' data extracted from various data systems across campus; advisors use the dashboard to identify students at risk of delayed graduation and who might benefit from available support services.

INDIANA UNIVERSITY-
PURDUE UNIVERSITY INDIANAPOLIS

Photo courtesy of Indiana University–Purdue University Indianapolis.

Since its founding in 1969, Indiana University-Purdue University Indianapolis (IUPUI) has been a premier urban research institution. The university boasts a total 2017 student enrollment of 29,790, with an undergraduate enrollment of over 20,000 students. The 2012 edition of *U.S. News & World Report*'s *Best Colleges* ranked IUPUI third among national universities in the "up-and-comers" category. The university was also recently awarded, for a fifth consecutive year, the Higher Education Excellence in Diversity (HEED) Award from *INSIGHT Into Diversity* magazine, the oldest and largest diversity-focused publication in higher education. The HEED award recognizes institutions that have possessed a strong commitment to diversity and inclusion through their innovation programs, hiring practices, training curricula, and on-campus support systems. Part of the university's recognition stems from its commitment to high-impact practices such as first-year experience, service learning, and themed learning communities.

As part of IUPUI's strategic planning process in 2008, institutional leaders created the RISE (research, international study, service learning, and experiential learning) program to institutionalize co-curricular learning experiences for college students. The Office of Institutional Research and Decision Support estimates that 5,300 students enroll in RISE courses each year (Hansen and Thorington Springer 2017). With this in mind, IUPUI sets specific goals to engage faculty more deeply in HIPs and facilitate faculty members' ability to research HIPs and their contribution to student success.

IUPUI is committed to providing consistently high quality, high-impact educational experiences for its students. The RISE program enhances institutional strengths to "brand" the unique aspect of an IUPUI undergraduate degree. The experiential pedagogical approaches in the RISE program better prepare students to meet the challenges they face as students and following graduation, and prepares students as productive citizens (Baker, Fisher, and Johnson 2012).

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This paper uses data reported from the IUPUI Office of Institutional Research and Decision Support (IRDS). Based on the various methodologies used by the IRDS to assess the effects of high-impact practices, the data revealed the following outcomes:

- Improved student outcomes for RISE participants. Students participating in first-year HIPs were retained at higher levels, had improved graduation rates, and had a marked increase in GPAs.

- Faculty at IUPUI have also greatly benefited from the implementation of RISE. Since the campus-wide enactment of HIPs, faculty have been more deeply engaged in faculty development activities, have enhanced the quality of HIPs experience for students, and have conducted institutional research on HIPs teaching strategies, particularly at the student level to understand success.

- Tenure-track faculty reported being more likely to supervise research than other faculty at IUPUI, and lecturers were more likely to teach as part of a themed learning community (TLC). According to the 2015 IUPUI faculty survey, tenure-track faculty were more likely than lecturers to report requiring an undergraduate research project as part of a course or mentoring an undergraduate student on a research project in the past two years. Lecturers were more likely to report teaching as a part of a TLC, and more than 50 percent of both tenure-track faculty and lecturers reported providing periodic and structured opportunities for reflection.

- IUPUI has also been able to extend HIPs into student and faculty development with the addition of ePortfolio, the 11th HIP to Kuh's 10 original practices. The ePortfolio allows for further documentation of student learning, provides students with an opportunity to reflect on their individual growth and development, and functions as a useful institutional tool for accountability and assessment.

CHALLENGES AND STRATEGIES

Despite the relatively successful implementation of HIPs at IUPUI, the university experienced challenges. Included among the challenges is the fidelity and quality of RISE courses offered. For example, there have been inconsistencies regarding how schools and departments at IUPUI tag the different components of the RISE acronym. To address these challenges, IUPUI developed taxonomies it will use to increase the quality of teaching using high-impact practices (Hansen, Graunke, and Thorington Springer 2016). Each unit with responsibility for a high-impact teaching practice developed a taxonomy that serves as a framework and acts as a guide for quality course design, implementation, assessment, and improvement. Additionally, the university will offer more faculty and professional development and peer learning opportunities to promote best practices for HIPs implementation.

Overall, IUPUI administrators believe the taxonomies benefit faculty, staff, and students in several ways. First, the taxonomies can support schedulers and committees who need to tag each RISE course. Second, the taxonomies allow for the quality of the HIPs to be measured and evaluated. Third, taxonomies act as a course development guide for instructors interested in creating and improving RISE courses (Hansen, Graunke, and Thorington Springer 2016).

The taxonomies can also be used as a resource to evaluate faculty applications for course development grants and other HIPs awards connected to the curriculum. IUPUI will focus on providing more professional development opportunities for faculty and staff, along with greater incentives and rewards for faculty to participate in the RISE program.

HOUSATONIC COMMUNITY COLLEGE

Photo courtesy of Housatonic Community College.

Housatonic Community College (HCC),[1] part of the Connecticut State Colleges and Universities system, is an Achieving the Dream Leader College and was named by the Aspen Institute College Excellence Program as one of the top 150 community colleges eligible to compete for the 2017 Aspen Prize for Community College Excellence. Its student body reflects the diversity of its service region. In fall 2016 HCC enrollment was 5,143 students, with 49.8 percent of the students living in Bridgeport, Connecticut, the largest city and a major urban center in the state.

Many students arrive at Housatonic Community College without the full set of skills necessary for college-level work. Each semester, over 60 percent of HCC students test into pre-college level courses in math, reading, or writing, or all three areas. To ensure that students are supported to meet the challenges of college-level work, HCC has developed and implemented several HIPs, including first-year seminars, supplemental instruction, and academic support and tutoring, provided through the Center for Academic Progress and the Writing Across the Curriculum Center, both of which were established in 2014. These programs have been successful in demonstrating positive effects on student performance.

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The mission of the Center for Academic Progress (CAP) is to help students placing at or below the developmental course level gain the skills they need to become successful at the college level. The CAP serves students seeking to prepare for placement testing, students who place into developmental courses and would like to improve their skills before enrolling in courses, and students enrolled in intensive developmental courses. In the fall semester of 2015:

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1   Information on HCC is pulled from data and content in the 2017 Housatonic Community College *NEASC Fifth-Year Interim Report.*

- Students enrolled in a developmental math course who visited the CAP at least once had a 70 percent success rate (defined as a grade of C or better), compared with 52 percent for students who did not visit the center.
- Students enrolled in a developmental English course who visited the CAP at least once had a 67 percent success rate, versus 38 percent for students who did not visit the CAP.

In the spring 2016 semester, similar success rates were achieved:

- Students in a developmental math or English course who visited the CAP had success rates of 61 percent and 64 percent, respectively, as compared with success rates of 36 percent and 42 percent, respectively, for those who did not visit the CAP.

The Writing Across the Curriculum Center (WACC) at Housatonic provides comprehensive assistance to help students write effectively in all subject areas. In addition to one-on-one tutoring, the center provides workshops covering all aspects of the writing process. Professors can request a workshop during their classes, and the center also holds stand-alone workshops open to all students. The center strives to connect with as many teaching faculty as possible and to serve students in as many subject areas as possible.

Students who visit the WACC obtain a passing grade in gateway courses of English 094, English 101, and English 102 at higher rates than students who do not use WACC resources.

- The overall pass rate for students enrolled in English 094 was 61.5 percent, and the pass rate for students who used the center was 79.7 percent.
- The overall pass rate for students enrolled in English 101 was 67.8 percent, and the pass rate for students who used the center was 77.3 percent.
- The overall pass rate for students enrolled in English 102 was 57.6 percent, and the pass rate for students who used the center was 87.8 percent.

The center services also improved student retention. The 2014–15 fall to spring retention rate for all students was 73 percent, compared with 83 percent for students who used WACC services.

CHALLENGES AND FUTURE STRATEGIES

While the results from the Center for Academic Progress and the Writing Across the Curriculum Center are promising, HCC continues to face challenges related to improving student retention and graduation rates. For example, in the fall 2015 semester, of the 1,810 students who took the ACCUPLACER (College Board 2017), a placement test for reading, writing, and math skills, used as part of the enrollment process at Housatonic, just 11 percent tested into all college-level courses. To address the continued challenge of fully supporting students who are not yet ready for college-level work, the leadership at Housatonic looked more closely at the literature connecting evidence-based teaching practices to improved student engagement, motivation, and persistence, noting that "when faculty improve their teaching, students learn more, and their performance on coursework improves" (Condon et al. 2016, 125). Put simply, evidence-based teaching practices help students learn more effectively. In addition, specific research-based instructional techniques and practices are well-documented and have been further informed by research on cognition (Ambrose et al. 2010; Angelo and Cross 1993; Bain 2004; Barkley 2009; Brookfield 2006; Chickering and Gamson 1987; Davis 2009; Nilson 2010). Based on this literature, Housatonic has started to include a focus on high-quality classroom instruction as a key part of its strategic plan.

Housatonic identifies high-quality instruction as a key lever for promoting student success and notes that "adhering to rigorous standards and continually assessing best practices in all areas of the college," including classroom instruction, is a priority for maintaining educational excellence (2017b). Michael B. Brown, former dean of academic affairs, believes that "high-quality instruction is a foundational best practice undergirding HIPs and therefore is essential for the HIP practices to realize their full potential" (Brown, personal communication). To ensure that all students receive quality instruction, the college has committed to providing its faculty with opportunities to further develop levels of excellence and effectiveness in teaching.

The Center for Teaching (CFT) at Housatonic promotes teaching excellence, sponsoring a variety of professional development opportunities in coordination with Connecticut State Colleges and Universities. Over the last five years, the CFT has continued its focus on strengthening the sense of community and collaboration among faculty and providing regular opportunities for meaningful discussion of teaching and learning. It has also partnered with other on-campus departments and committees to develop programming and increase participation.

In the spring of 2017, HCC was one of two community colleges in Connecticut participating in the initial phase of a project designed to enhance faculty and student success. Faculty completed the Course in Effective Teaching Practices offered by the Association of College and University Educators (ACUE), which leads to a nationally recognized Certificate in Effective College Instruction endorsed by ACE.[2] The course is comprehensive, including 25 modules from five units of study: Designing an Effective Course and Class; Establishing a Productive Learning Environment; Using Active Learning Techniques; Promoting Higher Order Thinking; and Assessing to Inform Instruction and Promote Learning, addressing the foundational knowledge and skills needed to be effective in the college classroom. In addition, the course is offered online to meet the varied and busy schedules of faculty and scale efforts to increase the use of evidence-based teaching practices. Finally, to ensure faculty have opportunities to learn with and from one another the course is completed in small groups guided by a campus-based facilitator from the CFT. As faculty members who completed the ACUE training modules, we were instructed to implement various practices throughout the semester. The implementation of effective teaching practices allowed for real-time feedback, self-evaluation, and reflection with other colleagues enrolled in the training. Incorporation of engaging teaching practices increased and enhanced a more stimulating, student-centered, active learning classroom setting. It promoted collaborative efforts between students; it supported critical and creative thinking and problem solving. ACUE encouraged faculty to reexamine course content and learning objectives, and ensure alignment with course outcomes, along with the use of proper assessment tools.

At the end of the course, faculty responded to the end-of-course survey, which asked about their attitudes, experiences, and learning. The majority of faculty completing the survey were tenured or tenure-track faculty, and all respondents reported that their primary role at the college was teaching. Survey results indicated that the faculty found the course content relevant to their experiences as educators and the content helpful in refining their teaching practice, and said they would recommend the course to a friend or colleague. Additionally, faculty reported that they felt more confident implementing research-based teaching techniques as a result of completing the course. Based on these promising results, Housatonic plans to continue the project by offering more faculty the opportunity to take the ACUE course with the goal of improving student retention through enhancing instruction and maximizing the benefit of the HIPs it is currently implementing.

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2   ACE is invested in ACUE's success and has entered into a landmark collaboration with ACUE to enhance student outcomes as part of a national effort to advance effective college instruction through state-of-the-art online professional development programs for college instructors.

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