HIGH-IMPACT PRACTICES: EVIDENCE & OUTCOMES

Summary

The term *high-impact practices* refers to pedagogical strategies that have been used for decades. However, these practices shot into the limelight in 2008 with the publication of the report *High-Impact Practices: What They Are, Who Has Access to Them, and Why They Matter*. Published by the American Association of College and Universities as part of its Liberal Education and America's Promise (LEAP) initiative, the report was written by George Kuh. Kuh is the Founding Director, Senior Scholar and Co-principal Investigator at the National Institute for Learning Outcomes Assessment.[1] Holding two professorships at Midwest institutions, his research interests include student engagement, assessment, institutional improvement, and campus culture.[2] Kuh also founded the National Survey of Student Engagement (NSSE), which surveys first- and fourth-year students at institutions across the United States and Canada.[3] The survey measures undergraduates' participation in activities related to learning and personal development; results illustrate what students gain from attending college.[4]

Using data from the NSSE, Kuh found that involvement in ten activities was closely associated with gains in retention and engagement, especially for historically underserved populations such as transfer, first-generation, and minoritized students. Interestingly, data for only six of these activities (first-year seminars, common intellectual experiences, learning communities, service learning, undergraduate research, and study abroad) were presented in the 2008 report. Nevertheless, Kuh dubbed all ten activities *high-impact practices* (HIPs); these practices include the following:

- **First-year seminars and experiences (FYEs):** The best FYEs emphasize critical thinking, frequent writing, information literacy, and collaborative learning (Kuh, 2008, p. 9).

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[1] *George D. Kuh.* (n. d.). AAC&U. https://www.aacu.org/people/george-d-kuh. Accessed 21 Nov. 2023.
[2] Ibid.
[3] *What does NNSE do?* (n. d.). National Survey of Student Engagement. https://nsse.indiana.edu/nsse/. Accessed 21 Nov. 2023.
[4] Ibid.

- **Common intellectual experiences:** These programs ask big questions and combine broad themes; they can be embedded into many programs (Kuh, 2008, p. 9).
- **Learning communities:** Students take two or more linked courses as a group and work closely with each other and their instructors while exploring big ideas (Kuh, 2008, p. 10).
- **Writing-intensive courses:** These courses emphasize writing at all levels of instruction and across the curriculum (Kuh, 2008, p. 10).
- **Collaborative assignments and projects:** Collaborative work emphasizes teamwork, problem-solving, and learning from people with diverse backgrounds (Kuh, 2008, p. 10).
- **Undergraduate research:** Undergraduate research as a HIP involves students with actively contested questions, empirical observation, cutting-edge technologies, and the excitement that comes from working to answer important questions (Kuh, 2008, p. 10).
- **Diversity/global learning:** These activities encompass not only study abroad but also experiential learning in the community; they often explore difficult differences related race, ethnicity, and gender (Kuh, 2008, p. 10).
- **Service or community-based learning:** Service learning activities give students opportunities to apply their learning in the real world and reflect on those experiences, emphasizing the importance of giving back to the community (Kuh, 2008, p. 11).
- **Internships:** Internships provide invaluable real-word experience; internships taken for course credit should include a reflection component (Kuh, 2008, p. 11).
- **Capstone courses and projects:** Capstones are culminating experiences in which students integrate and apply their learning in a single project; they can be implemented not only in departmental programs but also general education (Kuh, 2008, p. 11).

Several years later, Kuh added **ePortfolios** as an eleventh high-impact practice. Describing why HIPs are so effective, Kuh explained that these practices share certain characteristics:

- They demand considerable time and effort on purposeful tasks (Kuh, 2008, p. 14).
- They demand substantive interaction with faculty and other students (Kuh, 2008, p. 14).
- They increase the chance of interacting with diverse people (Kuh, 2008, p. 15).
- They provide frequent feedback (Kuh, 2008, p. 17).
- They provide opportunities to apply learning in the real world (Kuh, 2008, p. 17).
- They provide opportunities for reflection and integrative learning. (Kuh, 2008, p. 17).

More specifically, Kuh found that these HIPs had statistically significant, positive impacts on students' self-reported gains on the NSSE in deep learning practices, general education knowledge, practical skills, and personal development. They also had positive impacts on students' ratings of engagement measures, including level of academic challenge, active and collaborative learning, student-faculty interaction, and campus environment. Additionally, Kuh found that participating in HIPs has a compensatory effect for Black, Hispanic, and academically underprepared students. That is, increases in first-year GPA and likelihood of being retained – increases that grew as students participated in more HIPs – were greater for Black, Hispanic, and underprepared students than increases for white and continuing-generation students, as well as those with higher ACT scores.

Kuh's work inspired change at institutions across the country and the world, and *high-impact practices* quickly became an inescapable buzzword in higher education. However, Kuh's work is not without its critics; their concerns are summarized here. First, the NSSE is cross-sectional, which means it is observational or descriptive, not causal. Therefore, it is more challenging to account for students' pre-college factors that could impact the results. In addition, selection bias may affect several groups: students who participate in HIPs, institutions that administer the NSSE, and students who respond to the NSSE. That is, high-impact practices may simply attract already motivated students and institutions administering the NSSE may already be dedicated to improving student outcomes. Furthermore, although certain hard data like GPA is included in Kuh's 2008 report, much of the evidence supporting

HIPs' effectiveness comes from students' own reporting of their learning gains, which may not be accurate. Finally, there is an overrepresentation of small liberal arts colleges administering the NSSE, which critics fear may skew the results. Kuh has responded to scholars who dispute his findings by emphasizing that the simple availability of high-impact practices is not enough; for HIPs to be effective, they must be designed and implemented well and scaled up to reach all students across the institution.

The annotated bibliography below attempts to provide a complete picture of the existing evidence related to HIPs. The MCC Library's collection and Google Scholar were searched, and both peer-reviewed articles and gray literature, like reports, were included. The bibliography is in APA style and article titles are linked to their records in the MCC Library or the open web. The full texts of all the included articles is also in the Google Drive folder. Much of the data for these studies come from the NSSE, but some come from student records or other surveys. Some of the studies presented use sophisticated analyses to account for confounding variables, while others do not. Some studies measure the effects of only one HIP, while others examine several. Overall, the literature annotated below indicates that HIPs are effective *when they are designed and implemented well on a large scale*. However, high-impact practices are only one piece in the complicated puzzle of student success.

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Anderson, K. L., Boyd, M., Marin, K. A., & McNamara. (2019). Reimagining service-learning: Deepening the impact of this high-impact practice. *Journal of Experiential Education, 42*(3), 229-248.

This study examined a service-learning program that was redesigned to be completely separate from a credit course. For the new program, service learning was "envisioned as a method through which undergraduates work alongside faculty mentors on projects collaboratively designed with community partners" and "include[d] active reflection and enhance[d] the content and experience of their programs of study" (233). Over five semesters, 36 students seeking an educators' license participated voluntarily in service projects, working in teams to design math lessons for community partners. Data analyzed for the study came from participants' weekly reflections, clock hour verification forms, and focus groups.

Results indicate that the redesigned program promoted development of learning outcomes like teamwork, communication, and integration of learning. Students also broadened their ideas of communication, moving beyond the oral/written dichotomy to include mathematical language, visuals,

and two-way dialogue. All participants reflected extensively, despite not being required to, suggesting that personal or professional enrichment motivates engagement.

The study suggests that fidelity to typical service-learning elements like grades and course-based requirements may not be essential for positive outcomes. Reimagining service-learning could tailor it better to student needs and encourage intrinsic motivation through enrichment.

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Andrews, B. D. (2018). Delayed enrollment and student involvement: Linkages to college degree attainment. *The Journal of Higher Education, 89*(3), 368-396.

Students who delay college enrollment are less likely to obtain a degree compared to those who enroll immediately after high school. This study examined the effects of HIP participation on graduation outcomes for students who delay enrollment. The researchers also sought to answer if delayed entry affects student involvement in HIPs. This study used data from the 2002 Educational Longitudinal Study, which sampled 10th grade students in 2002 and followed up with them in 2004, 2006, and 2012. More than 4,500 students were included in this specific study. The HIPs examined were community-based learning, internships, undergraduate research with a faculty member, study abroad, and mentoring.

Students who delayed entry were much less involved in HIPs than their immediate-enrollment peers; 58% of delayers did not participate in *any* HIPs, compared to 31% of non-delayers. Similarly, fewer delayers than non-delayers were involved in each individual HIP, but only the differences in participation in internships and study abroad reached statistical significance.

Internships were positively associated with bachelor's degree attainment, but community-based learning and mentoring were *negatively* associated. Neither study abroad nor undergraduate research showed any association to degree completion. The analyses suggest that greater involvement in HIPs helps students attain a degree, but not all HIPs individually help students. Delayers received no compensatory effects from HIP participation. That is, for delayers, HIP participation did promote degree attainment, but they did not benefit more than non-delayers. Finally, the analyses indicate that one reason that students from higher SES backgrounds are more likely to attain a degree is that they are more involved in HIPs.

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Bhatt, R., Bell, A., Rubin, D. L., Shiflet, C., & Hodges, L. (2022). Education abroad and college completion. *Research in Higher Education, 63*(6), 987-1014.

This study was carried out by CASSIE, the Consortium for Analysis of Student Success through International Education. It examined the relationship between studying abroad, graduation rates, and cumulative GPA. It utilized data from over 200,000 students from 35 four-year institutions across 19 states. Ordinary least squares regression and nearest neighbor matching were used to control for student characteristics like demographics and prior achievement.

Both analyses showed positive results: OLS regression indicated that students who studied abroad were 8% more like to graduate in six years and 15% more likely to graduate in four years than students who did not study abroad. Nearest neighbor matching showed that studying abroad was associated with a 4% higher six-year graduation rate and 6% higher four-year graduation rate. Students who studied abroad finished faster (by 4.5 weeks for OLS regression and by 2.6 weeks for nearest neighbor matching) and had higher final GPAs, with minimal extra credits. Positive effects persisted across number of study abroad experiences and lengths, indicating broad benefits.

In summary, this large-scale study found studying abroad contributes to graduation rates and cumulative GPA, providing evidence it can help promote timely college completion.

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Bhattacharyya, P., & Chan, C. W. M. (2021). Can undergraduate research participation reduce the equity gap? *Journal of the Scholarship of Teaching and Learning, 21*(1), 287-300.

The study examined if undergraduate research (UGR) participation at the University of Wisconsin – Whitewater (UW-W) could improve retention and graduation rates for students of color, first-generation students, and students eligible for Pell grants or federally-subsidized loans. Interestingly, UW-W offers both a traditional undergraduate research program (students work on their own projects, mentored by a faculty member) and a less rigorous, paid Research Assistant Program, which accepts beginning, transfer, and international students regardless of their GPA, research experience, and academic background. Data on UGR participants in both programs from 2009-2017 were analyzed.

UGR participants from all four demographic groups were significantly more likely to be retained and graduate within six years compared to non-participants. For example, the six-year graduation rate was 63% for UGR participants of color versus 41% for non-participants; 89% vs. 68% for transfer students; 80% vs. 56% for first-generation students; 81% vs. 48% for Pell grant recipients; and 87% vs. 59% for federally-subsidized loan recipients.

Similarly, first-year UGR participants had significantly higher second- and third-year retention rates compared to non-participants. Students participating in UGR for two or more years had even higher graduation rates than students who only participated for one year (90% vs. 84%, while the graduation rate for the overall student body is 58%.). While UGR may not be the only factor, the data suggest it can play an important role in closing equity gaps for vulnerable students.

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Bonet, G., & Walters, B. R. (2016). High impact practices: Student engagement and retention. *College Student Journal, 50*(2), 224-235.

This study evaluated the short-term impacts of a learning community (LC) model at Kingsborough Community College in Brooklyn. The KCC model consists of a blocked program of courses, including English, a one-credit student skills course, and a social science course. This study examined 267 students enrolled in four LC sections and four regular sections of sociology or psychology courses (95 LC students

and 172 regular students). The students responded to a survey measuring engagement and the institution provided the data on absences and grades.

Learning community sections had a noncompletion rate of 8%, while the noncompletion rate for regular sections was 28%. Learning community students averaged 1.25 absences, while regular students averaged 3.8 absences. The LC students also averaged higher grades: 38% of LC students earned A's, while only 16% of regular students did.

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Bowman, N. A., & Holmes, J. M. (2018). Getting off to a good start? First-year undergraduate research experiences and student outcomes. *Higher Education: The International Journal of Higher Education Research, 76*(1), 17-33.

Most studies examine the impact of undergraduate research (UGR) that occurs during a student's later years, so this study focused on UGR participation during the first year. Specifically, it measured the effects of UGR on GPA, university satisfaction, intentions for graduate school, retention, and four-year graduation. To account for selection bias, the author used propensity score matching on data from the Wabash National Study of Liberal Arts Education (4,200 students from 46 four-year institutions).

First-year research participation was positively related to fourth-year GPA and first-year satisfaction, but unrelated to other outcomes like retention, graduation, and graduate school intentions. The positive impacts on GPA were stronger for students at more selective institutions, with higher test scores, and greater parental education. There was a greater positive effect on fourth-year satisfaction for students of color compared to White students. Effects on graduate school intentions varied by gender: effects were more positive for men in the first year but more positive for women by the fourth year.

Overall, first-year research participation showed some benefits, but they were fairly small and limited when compared to the effects of UGR participation later in college.

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Center for Community College Student Engagement. (2013). *A matter of degrees: Engaging practices, engaging students.*

This CCCSE report used data from two different surveys to measure the effects of HIP participation on community college students' engagement. Importantly, the CCSE used a different set of HIPs than those approved by the AAC&U. While there is some overlap, most of the CCSE-identified HIPs are different: academic goal setting and planning (advising), orientation, accelerated or fast-track developmental education, first-year experiences, student success courses, learning communities, experiential learning beyond the classroom, tutoring, supplemental instruction, pre-enrollment assessment and placement, registration before classes begin, class attendance, and early alerts and interventions.

Based on two surveys, one administered to new students early in the fall semester and the other in spring, all of the above practices – except for registration before classes begin – was shown to have a

statistically significant, positive effect on students' sense of engagement, including early connections, student-faculty interactions, high expectations and aspirations, clear academic plan and pathway, effective track to college readiness, engaged learning, and academic and social support networks.

This report also uses data from two other surveys, one of faculty and one of institutions. Unfortunately, these surveys highlight the fact that while many institutions offer high-impact practices and faculty promote them, not enough students take advantage of them.

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Center for Community College Student Engagement. (2014). *A matter of degrees: Practices to pathways.*

Unlike the preceding report, which used students' self-reported outcomes, this report used student records to analyze the impact of HIP participation on three outcomes: completion of at least one developmental education course with a C or better; completion of at least one gatekeeper course with a C or better; and persistence (fall-to-spring and fall-to-fall). Like the above report, this research used the following CCCSE-identified HIPs (not the official AAC&U HIPs): orientation, accelerated or fast-track developmental education, first-year experiences, student success courses, learning communities, academic goal setting and planning (advising), experiential learning beyond the classroom, tutoring, supplemental instruction, pre-enrollment assessment and placement, registration before classes begin, class attendance, and early alerts and interventions. The data came from 12 different institutions.

All but one (experiential learning outside the classroom) of the HIPs had a statistically significant, positive effect on developmental students' likelihood of completing at least one development course with a grade of C or better. The most effective HIPs for this outcome were first-year experiences, student success courses, and pre-enrollment assessment and placement requirements.

Nine of the 13 HIPs had a significantly positive effect on students' likelihood of completing at least one gatekeeper course with a C or better. The most effective HIPs for this outcome were accelerated or fast-paced developmental education, student success courses, and pre-enrollment assessment and placement requirements. Interestingly, tutoring, supplemental instruction, class attendance, and early alerts and interventions did not have a statistically significant, positive effect on this outcome.
Four of the 13 HIPs had a significantly positive effect on students' likelihood of persisting: orientations, first-year experiences, assessment and placement requirements, and registration before classes begin. Registration had the largest impact; students who registered for all courses before the first day of classes were 4.4 times more likely to persist from fall to spring. In addition, students who registered for all courses before the first day of classes were 11.3 times more likely to persist from fall to fall.

Finally, participation in multiple structured group learning experiences (orientation, accelerated or fast-tract developmental education, first-year experiences, student success courses, and learning communities) also had a positive effect on students' likelihood of completing developmental education or gatekeeper courses with a grade of C or better (the impact ranged 1.3-2.2 times more likely).

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Coker, J. S., Heiser, E., Taylor, L., & Book, C. (2017). Impacts of experiential learning depth and breadth on student outcomes. *Journal of Experiential Education, 40*(1), 5-23.

This study examined the impacts of experiential learning depth (time commitment) and breadth (number of different types of experiences) on self-reported student outcomes. It analyzed data on 4,700 students' experience with study abroad, undergraduate research, internships, service learning, and student organization leadership at Elon University.

Both depth (time) and breadth (number of experiences) were positively associated with acquiring broad education, communicating clearly, contributing to the community, and developing relationships with faculty and administration. Depth was uniquely associated with higher-order thinking skills like synthesis and application in senior year, as well as overall educational experience. Breadth was uniquely associated with working effectively with others and better peer relationships. There were additive benefits as students increased either depth or breadth of experiences. The results suggest both depth and breadth have value and lead to complementary outcomes related to skills and relationships.

In summary, this study provides evidence that more experiential learning, whether through deep commitment or diverse experiences, enhances important student learning and development outcomes.

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Dinh, T. V., & Zhang, Y. L. (2021). Engagement in high-impact practices and its influence on community college transfers' STEM degree attainment. *Community College Journal of Research and Practice, 45*(11), 834-849.

Using data from the Educational Longitudinal Study, this research examined the effects of HIP participation on college completion for 680 STEM students who transferred to four-year institutions from community colleges. Participation in first-year seminars, writing-intensive courses, and learning communities was not included in the ELS data, so these HIPs could not be examined.

Compared to transfer students who aspired to obtain a STEM degree but did not complete one, a higher proportion of STEM graduates were female, White or Asian, and from high socioeconomic backgrounds. More specifically, female transfers were 1.64 more likely to graduate than male transfers; Asian American transfers were 2.47 more likely than White transfers to graduate, while African American transfers were 1.86 less likely than White transfers to graduate. Finally, for every one-point increase in socioeconomic status, transfer students were 31.3% more likely to complete a STEM bachelor's degree.

Participation in all the HIPs measured increased the likelihood of completing a STEM degree. Transfer students who completed internships were 91% more likely to obtain a STEM degree than those who did not. Similarly, participation in mentoring programs increased the likelihood by 89%, senior capstones by 71%, and community-based learning by 55%. In contrast, undergraduate research with a faculty member and study abroad did not have a significant relationship the likelihood of obtaining a STEM degree.

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Finley, A., & McNair, T. (2013). ***Assessing underserved students' engagement in high-impact practices.***

Association of American Colleges & Universities.

This study used NSSE data from 38 state institutions in California, Oregon, and Wisconsin. That data was combined with the results of focus groups of students in each state. This study focuses on the experiences of minoritized and underrepresented students who participate in HIPs, compared to their peers who do not participate, and compared to traditionally advantaged students participating in HIPs.

The HIPs examined were learning communities, service-learning, study abroad, internships, senior capstones, and undergraduate research with a faculty mentor. About 25,000 students were studied. The researchers controlled for gender, age, class level, race, ethnicity, transfer status, and first-generation status. Data on students' SES was not gathered by the NSSE, so it could not be controlled for.

On average, students engaged in 1.3 HIPs. Transfer students engaged in more HIPs (1.53) and first-generation students participated in fewer (1.24). White students participated in more HIPs than all other groups, but these differences were only significant for Hispanic and Asian American students. Students who participated in any of the HIPs perceived their learning significantly more positively than students who did not participate. Service learning and undergraduate research had the greatest effect (8.5 and 8.1 percentage point increases), while study abroad and internships had the smallest (4.3 and 5.2). Learning communities and senior capstones fell in the middle (7.7 and 6.1).

The researchers also found significantly positive relationships between cumulative participation in HIPs and perceived learning gains. That is, the greater number of HIPs participated in, the higher the levels of deep approaches to learning, general education, practical competence, and personal and social development. This finding applied to within-group comparisons for first-generation, transfer, and minoritized students. Interestingly, the boost was greatest from participation in 1-4 HIPs; at 5-6 HIPs, self-reported learning gains plateaued or slightly declined – except for Asian American students.

The remainder of the report presents results of focus group interviews of underrepresented students. Students identified HIPs as the experiences that most engaged them during college. Finally, the report concludes with a toolkit developed by the Center for Urban Education for assessing equity in HIPs.

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Gipson, J., & Mitchell Jr., D. (2017). **How high-impact practices influence academic achievement for African American college students.** ***Journal Committed to Social Change on Race and Ethnicity,***

***3*(2), 124-144.**

This study examined the impact of HIP participation on 650 African American students (76% female) at seven predominantly White, four-year institutions. In contrast with most other research on HIPs, these researchers developed their own survey to measure students' experiences.

Generally, as African American students participated in more HIPs, a greater percentage earned GPAs higher than 3.00. However, this does not indicate causality, only correlation. For first- and second-year students, participating in collaborative assignments was associated with high achievement. For juniors

and seniors, participation in writing-intensive courses, diversity/global learning, and undergraduate research was associated with higher GPAs.

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Hansen, M. J., & Schmidt, L. (2017). The synergy of and readiness for high-impact practices during the first year of college. *Journal of the First-Year Experience & Students in Transition, 29*(1), 57-82.

This study examined the effect of concurrent HIPs, namely, a themed learning community, which included a summer bridge program, a first-year seminar, and a service-learning experience. The researchers asked three questions: 1. Does participation in themed learning communities with embedded first-year seminars contribute to academic success more than participation in HIPs in isolation or no participation?; 2. Does participation in summer bridge prior to HIP participation contribute to academic success more than HIP participation without summer bridge?; and 3. Is participation in a summer bridge-themed learning community significantly and positively related to higher first-year GPAs after accounting for selection bias?

To account for selection bias, the researchers used an instrumental variable analysis. The study took place at a large, public commuter institution in the urban Midwest; 2,200 full-time, first-year students were included. The instrumental variables were placement into English courses and self-reported confidence in completing a degree in a timely fashion.

Participation only in a first-year seminar did not predict first-year GPA, but participation in the themed learning community (which included a first-year seminar) did. First-year GPA was also predicted by participation in the summer bridge program alone and the summer bridge program combined with the themed learning community.

One-year persistence was positively affected by participation in first-year seminars and summer bridge alone, as well as by these elements combined with the themed learning community. The summer bridge combined with themed learning community had the greatest positive impact on one-year persistence (3.83 better odds compared to 2.09 better odds for themed learning community combined with first-year seminar, without the summer bridge).

Summer bridge and summer bridge combined with themed learning community positively predicted three-year persistence (1.55 and 1.57 better odds). Interestingly, when isolated from other HIPs, first-year seminars failed to account for a significant amount of variance in GPA or three-year persistence.

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Huber, B. J. (2010). Does participation in multiple high impact practices affect student success at Cal State Northridge?: Some preliminary insights. *California State University Northridge Office of Institutional Research.*

This report examines the impact of five HIPs (service learning, internships, senior capstones, undergraduate research with faculty mentor, and study abroad) on GPA and time to degree.

Approximately 860 graduating seniors as California State University – Northridge (CSUN) who completed the National Survey of Student Engagement (NSSE) were included in the sample.

About 20% of respondents did not participate in any HIPs, while 60% participated in one or two. For students participating in two HIPs, service learning and internships, internships and senior capstones, and service learning and senior capstones were the most frequent pairs. Study abroad was the least common HIP, followed by undergraduate research with a faculty mentor.

Results indicate that participation in HIPs increases GPA and reduces time to degree for students who enter as first-time freshman. Interestingly, the positive effects were greater for Pell Grant recipients and Latinx students. That is, the average GPAs of Latinx and Pell Grant students who did not participate in any HIPs were lower than those of other students; however, if Latinx and Pell Grant students participated in three or more HIPS, their GPAs were slightly higher than those of other students.

Participation in two HIPs reduced average time to degree for Latinx students by 1.8 years; for other students, the reduction is 0.5 years. In addition, the percentage of Latinx students graduating on time increased as HIP participation increased, from 38% for zero HIPs to 73% for four or more.

Interestingly, HIPs do not have much impact on timely graduation for Pell Grant recipients. Non-Pell students, however, benefit greatly: 46% of non-Pell students who do not participate in HIPs graduate on time, while 73% of non-Pell students who participate in four or more HIPs graduate on time.

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Johnson, S. R., & Stage, F. K. (2018). Academic engagement and student success: Do high-impact practices mean higher graduation rates? *The Journal of Higher Education, 89*(5), 753-781.

This study examined whether four-year public institutions incorporating HIPs had higher four- and six-year graduation rates than institutions that did not implement HIPs. The study controlled for student demographics and variables like expenditures per student, selectivity, and proportion of student body receiving financial aid. Prior research focused on individual institutions or national student surveys; this study attempted to connect student persistence and enrollment to institutional-level variables.

Senior academic administrators at 244 institutions with 10,000 or more undergraduates were contacted, with 101 respondents. At larger institutions, the researchers only contacted administrators at the colleges of arts and sciences or colleges of liberal arts, since HIPs are recommended for a liberal arts education. Additionally, the sample contained a greater proportion of doctoral universities and lower proportions of other Carnegie Classifications.

Fascinatingly, moderate to highly *negative* relationships between graduation rates and freshman seminars, learning communities, and group work were found. The only HIP found to have a positive impact on graduation rates was undergraduate research, especially in the later years of enrollment. The researchers concluded:

> The current study did not question whether participation in high-impact practices led to greater student engagement. However, results indicated that engagement experienced from these practices *alone* was not necessarily an indicator of likely college completion or shorter time to degree at large

public institutions. Additionally, the results suggest that conclusions drawn from research on achievement and enrollment of individual students are not easily translated to broader institutional outcomes. Institutions planning to add high-impact practices to their curricula should make intentional decisions about which practices fit well on their campus and would be most beneficial to their students instead of focusing on quantity of offerings (776).

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Kilgo, C. A., Linley, J. L., Renn, K. A., & Woodford, M. R. (2019). High-impact for whom? The influence of environment and identity on lesbian, gay, bisexual, and queer college students' participation in high-impact practices. *Journal of College Student Development, 60*(4), 421-426.

Evidence for the success of HIPs comes from data sets that do not include variables for sexual identities. Therefore, this study used data from the National Study of LGBTQ Student Success to examine the effect of HIP participation on LGBTQ+ students' academic development. It also investigated if these effects were mediated by student perception of the campus environment. The HIPs examined were internships, undergraduate research, learning communities, senior capstones, and study abroad. The environmental factors were instructor-student relationships, overall student support, and social acceptance by peers.

One analysis showed that internships, learning communities, senior capstones, and study abroad did not significantly influence LGBTQ+ students' academic development. The unique direct effects model, however, showed that undergraduate research significantly predicted students' academic development. In addition, instructor relationships, overall student support, and social acceptance from peers also significantly positively predicted academic development. Finally, instructor relationships mediated the influence of participation in undergraduate research on academic development.

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Kilgo, C. A., & Pascarella, E. T. (2016). Does independent research with a faculty member enhance four-year graduation and graduate/professional degree plans? Convergent results with different analytical methods. *Higher Education, 71*(4), 575-592.

This study examined the effects of participation in undergraduate research (UGR) on four-year graduation rates and graduate or professional degree aspirations. Previous research on UGR had been cross-sectional or based on self-reported gains. To address these issues, this study used longitudinal data from the Wabash National Study of Liberal Arts Education.

The 2,200 students studied were full-time, undergraduate students at 17 institutions across the United States. The methods of analysis were logistic regression and propensity score matching. Undergraduate research with a faculty member increased the odds of planning to obtain a graduate or professional degree by 2.38 times. Holding the covariates constant, UGR was shown to be significantly and positively linked to graduation within four years. However, when the college experiences covariates were entered into the model, the effect became nonsignificant. These results were duplicated when the data was analyzed with propensity score matching.

Importantly, the intent to participate in UGR at the end of the first year had the strongest correlation with subsequent participation in UGR. Students must be made aware of their UGR opportunities.

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Kilgo, C. A., Sheets, J. K. E., & Pascarella, E. T. (2015). The link between high-impact practices and student learning: Some longitudinal evidence. *Higher Education: The International Journal of Higher Education and Educational Planning, 69*(4), 509-525.

This study used data from the Wabash National Study of Liberal Arts Education, a "multi-institution, multi-year, longitudinal study designed to identify the academic and non-academic collegiate experiences that foster liberal learning" (510). It examined the relationships between HIPs and outcomes like "critical thinking, moral reasoning, inclination to inquire and lifelong learning, intercultural effectiveness, and socially responsible leadership" (512).

About 2,200 first-year students at 17 four-year institutions in 11 different states were studied. The students were surveyed and tested in the fall of 2006 and the spring of 2010. HIP participation ranged from 31% participation in a learning community to 73% participation in a first-year seminar. Analyses indicate that participation in several HIPs led to greater achievement of liberal arts educational outcomes. Collaborative learning and undergraduate research were especially beneficial for nearly all the outcomes. Study abroad, internship, service learning, and capstone courses showed lower levels of impact – some positive and some negative. Additionally, first-year seminars, learning communities, and writing-intensive courses did not significantly predict any of the outcomes.

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Kinner, D., & Lord, M. (2018). Student-perceived gains in collaborative, course-based undergraduate research experiences in the geosciences. *Journal of College Science Teaching, 48*(2), 48-58.

This study examined the impact of participation in a course-based undergraduate research experience (CURE). The researchers wanted to know if the learning gains from participating in CUREs are the same as those from participating in traditional undergraduate research with a faculty mentor.

Data came from 176 undergraduate students enrolled in eight geology courses over three semesters at Western Carolina University. Two courses were general education for non-majors and six were mid- or upper-level courses required for majors in geology, natural resource and conversation management, and environmental science. The CUREs took place at the on-campus watershed's research station and involved both group work and individual accountability.

Students were surveyed using the Undergraduate Research Student Self-Assessment (URSSA). Results indicate that students in CUREs believed they assumed responsibility for the project; they also understood the relevance of the project to their course work and appreciated the opportunity to do real-world research. Overall, they identified their highest gains in *Thinking and Working Like a Scientist,* followed by *Personal Gains, Attitudes, and Behaviors,* with *Skills* in third place.

Overall, students in the CUREs did rank items lower than students in traditional UGR experiences from other studies, suggesting that they do not believe they gain as much proficiency as these other students. General education and mid- to upper-level students gain varying amounts of professional identity from CUREs, with upper-level students reporting a stronger sense of identity. In contrast, the general education students rated gains like collaboration and patience higher than the upper-level students.

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Kulesza, A. E., Imtiaz, S., & Bernot, K. M. (2022). Building connections to biology and community through service-learning and research experiences. *Journal of Microbiology & Biology Education, 23*(3).

This study examined students who participated in either a short-term service learning project or a short-term research project. The authors investigated the effects of participation on within-semester gains in the students' motivation to learn biology, scientific literacy, perception of the relevance of biology to their lives, and course learning outcomes.

Data were collected via surveys and tests over seven semesters from six service learning courses and five research project courses; all courses were an honor's introductory biology course, with 30-60 freshman or sophomore students per section. Students did not know which component their course contained prior to enrollment. The research projects included analyzing osmosis and diffusion in potato cells and examining antibiotic-resistant bacteria in soil samples. The service learning projects took place at a cancer organization, the campus farm, or the American Red Cross.

Motivation to learn biology decreased for both groups over the semester. This loss was less for service-learning students than the research project students. There were no differences between the groups on scientific literacy skills and perception of the relevance of biology to their lives; both saw positive gains in these areas. The research project students earned slightly higher grades on the second and third exams than the service-learning students; however, external factors might have affected the results. Both projects helped students build relationships, but research project students built them with their peers, while service learning students built them with community members.

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McDaniel, A., & Van Jura, M. (2022). High-impact practices: Evaluating their effect on college completion. *Journal of College Student Retention: Research, Theory & Practice, 24*(3), 740-757.

To overcome limitations of existing research on the impacts of HIPs, this study used a longitudinal, nationally-representative dataset to examine how pre-college experiences, socioeconomic background, and HIP participation are related to college completion. The researchers wanted to know if students of different demographic backgrounds have different HIP participation rates, if HIPs affect college completion, and if there is a compensatory effect for underrepresented students. About 4,500 students from the Educational Longitudinal Study were studied. The four HIPs included were internships, undergraduate research, study abroad, and community-based learning or service learning.

About 17% of students participated in study abroad, 18% participated in undergraduate research, 25% completed community-based projects or service learning, and 56% completed internships. More women participated in internships, study abroad, and community-based projects than men. There were no sex differences in participation in undergraduate research.

All racial and ethnic groups participated equally in community-based projects or service learning. White students had higher participation in internships and study abroad, while Asian American students had the highest participation in undergraduate research. African American students had the lowest participation in internships, undergraduate research, and study abroad. First-generation students participated less frequently in HIPs than continuing-generation students, especially in study abroad.

When controlling for students' demographic background and pre-college experiences, participation in all four of the HIPs increased the likelihood of completing a degree. Students who participated in an internship were 170% more likely to complete their degree compared students who did not. Community-based projects increased the likelihood by 22% and undergraduate research by 32%. Finally, students who studied abroad were 96% more likely to complete a degree.

Logistic regression analyses did not show any differences in the effects of HIPS on college completion by gender, race, or first-generation status. That is, HIPs did have a positive effect on graduation rates for underrepresented students, but there was no compensatory or greater effect for these students.

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Miller, A. L., Martin, N. D., & Frenette, A. (2022). Unpacking high-impact practices in the arts: Predictors of college, career, and community engagement outcomes. *The Journal of Arts Management, Law, and Society, 52*(3), 190-210.

Research on HIPs is not discipline-specific, and most studies focus on outcomes during students' college years. This study sought to identify beneficial HIPs for arts students as well as long-term outcomes from HIP participation. The authors analyzed data from 24,000 arts alumni from 77 institutions. Most participants were White (82%) and continuing-generation (70%).

Specifically, this study examined which HIPs are associated with academic and career skill development; satisfaction with the college experience; length of post-graduation job search and relevance of first job; and current arts involvement such as working in arts-related occupations, making art in one's spare time, and participating in arts community events. The HIP variables were study abroad, internships, portfolios, service learning, and working with an artist in the community.

Alumni who participated in HIPs as students reported greater gains in academic abilities, career skill development, and overall satisfaction with the college experience compared to alumni who did not participate. The most effective HIPs were working with a community artist, completing a portfolio, and participating in a community service project; these HIPs showed stronger associations with educational outcomes than internships or study abroad. In addition, alumni who worked with community artists and completed portfolios or internships had shorter job searches and more relevant first jobs. Furthermore, working with community artists and completing portfolios or internships were associated with currently

working in an arts occupation, higher levels of currents arts community participation, and a greater likelihood of pursuing art during one's spare time.

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Miller, A. L., Rocconi, L. M., & Dumford, A. D. (2018). Focus on the finish line: Does high-impact practice participation influence career plans and early job attainment? *Higher Education, 75*(3), 489-506.

This study explored the influence of HIP participation on graduating seniors' post-graduation plans and early job attainment. The HIPs included were learning communities, study abroad, undergraduate research with faculty, internships, senior capstones, service learning, and formal leadership roles. Student outcome factors were desire to seek employment, desire to attend graduate school, and obtaining a job to begin immediately after graduation. The study used data from the 2015 Senior Transitions module of the NSSE.

Students who participated in internships were 25% more likely to seek employment after graduation than students who did not; results were similar for students who completed senior capstones (22% more likely). Students who had held a leadership role were 23% more likely to attend graduate school than seniors who had not. In addition, students who participated in undergraduate research with a faculty member were 65% more likely to attend graduate school. Neither learning communities nor service learning had a statistically significant effect on post-graduation plans, while study abroad increased the likelihood of seeking employment by a factor of 1.12.

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Myers, C. B., Myers, S. M., & Peters, M. (2019). The longitudinal connections between undergraduate high impact curriculum practices and civic engagement in adulthood. *Research in Higher Education, 60*(1), 83-110.

This study used longitudinal data to determine whether participation in six HIPs predicted levels of civic engagement later in adulthood. The researchers defined community service as unpaid involvement within 12 domains: youth; service; politics; religion; community; hospital, nursing home, or retirement home; educational; arts or culture; conservation or environmental; international aid or world peace; food or shelter; and other. The HIPs included were internships, undergraduate research, study abroad, community-based learning, senior capstones, and mentoring programs.

The researchers examined 6,400 students who were surveyed as high school sophomores in 2002, with follow-up surveys in 2004, 2006, and 2012. Results indicate that HIPs are associated with greater civic engagement at age 26, where four of the six HIPs and number of HIPs matter for later engagement. The number of HIPs emerged as more significant than any single HIP. In addition, the association was stronger among students who entered college with *lower* civic orientations. Furthermore, one of the variables accounted for was educational level, "meaning that the contribution of HIP to civic engagement goes *above and beyond* the influence of a college degree" (104).

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Ndoye, A. (2023). High-impact practices and student performance. ***International Journal of Teaching and Learning in Higher Education, 35*****(2), 115-124.**

This article examined the relationship between the number of HIPs students participate in and GPA, credit hour completion, and years to degree. Interestingly, this study focused on the differences in HIP participation between in-person and online course delivery modalities. The study used NSSE data from 1,000 students at Northern Kentucky University, combining their self-reported HIP participation with academic records data. The HIPs included were internships, learning communities, study abroad, undergraduate research, capstones, and service learning.

Results indicate that the number of HIPs participated in significantly and positively predicts GPA, credit hour completion rate, and time to degree. Each additional HIP predicts an increase in these metrics. Online and non-transfer students participate in fewer HIPs than face-to-face and transfer students. There were no differences in HIP participation by generation or underrepresented minority status. First-generation and underrepresented minority students have lower GPAs; first-generation students also have longer time-to-degree compared to non-first-generation and non-minority peers.

The evidence indicates that greater participation in HIPs enhances student outcomes. However, there are equity issues in that some students with lower performance are not benefiting as much from HIPs.

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Parker, E. T., Kilgo, C. A., Sheets, J. K. E., & Pascarella, E. T. (2006). The differential effects of internship participation on end-of-fourth-year GPA by demographic and institutional characteristics. ***Journal of College Student Development, 57*****(1), 104-109.**

This study sought to measure the effects of internship participation on end-of-fourth-year GPA. The researchers also investigated whether students' demographic characteristics and the type of institution they attend affect the relationship between internship participation and end-of-fourth-year GPA.

Data for the study came from the Wabash National Study of Liberal Arts Education; 3,300 students were included. When controlling for all other covariates, internship participation was association with a 0.23-0.25 increase in end-of-fourth-year GPA. In addition, students with low first-year GPAs (C+ or below) benefitted more, in terms of GPA, from internship participation than students with higher first-year GPAs. Furthermore, at Hispanic-Serving Institutions, the average GPA increase was 0.27.

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Provencher, A., & Kassel, R. (2019). High-impact practices and sophomore retention: Examining the effects of selection bias. *Journal of College Student Retention: Research, Theory & Practice, 21*(2), 221-241.

Most research on the impact of HIPs on retention focuses on first-to-second-year retention. In contrast, this study examined retention from the second to the third year. This study took place at a small, Catholic four-year college, with a sample size of 510 students. Capstone experiences were excluded from this study, as they are only available to seniors. Common intellectual experiences, community-based learning, diversity/global learning, internships, and undergraduate research were included. Propensity score matching was used to control for selection bias.

After controlling for selection bias, students who participated in least one HIP during their sophomore year were more likely to be retained than those who did not (99% to 87%). In addition, the study suggests that the effects of HIP participation on retention are not long-term; that is, HIP participation in the first year did not have any effects on retention after the second year.

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Ribera, A. K., Miller, A. L., & Dumford, A. D. (2017). Sense of peer belonging and institutional acceptance in the first year: The role of high-impact practices. *Journal of College Student Development, 58*(4), 545-563.

This study examined the impact of HIPs on first-year students' sense of belonging and institutional acceptance. Because study abroad, internships, and senior capstones are more available to upper-level students, only the following HIPs were included: learning communities, undergraduate research with faculty, and service learning. Although not recognized as a HIP, holding a campus leadership role was also included. The researchers also sought to determine whether first-year students experience peer belonging and institutional acceptance differently according to sociodemographic characteristics.

Data came from the 2014 NSSE. Almost half of participants reported participating in service learning; the next most common HIP was a learning community, at 16%. Thirteen percent of students served in a campus leadership role, while only 7% of students engaged in research with faculty. All HIPs, except for undergraduate research with faculty, were significantly and positively related to students' sense of peer belonging (11-12% increase). After controlling for other variables, first-generation and students of color had a less positive perception of belonging than their peers.

Regarding institutional acceptance, race was not associated with students' perception, but first-generation status was, with these students reporting lower levels of acceptance. All four HIPs had significantly positive effects on students' sense of institutional acceptance, especially research with a faculty member (31%). Gains for the other HIPs were more modest but still significant: learning communities (14%), campus leadership roles (16%), and service learning (22%).

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Roldan, M., Kothari, T., & Dunn-Jensen, L. M. (2020). Direct effects of high-impact practices on the success of business majors in large, mostly nonresidential public universities. *Journal of Management Education, 44*(1), 39-65.

This study examined the effects of HIP participation on the graduation rates of students in a business college that is part of a large (more than 20,000 students), diverse (more than 80% non-White), primarily nonresidential university in California. Prior to the study, the business school implemented a series of HIPs, including two first-year experience courses and learning communities formed at a Launch Day event. Other HIPs were already in place, including common intellectual experiences, collaborative projects and assignments, opportunities for service learning, and capstone projects. The students in the sample were classified as full participants (who completed all of the *new* HIPs), partial participants (who completed at least one of the *new* HIPs), or non-participants (who completed none).

Of the study sample, 38% were full participants in HIPs, 51% were partial participants, and 11% were nonparticipants. Results show that participation in HIPs leads to improvements in time to graduation, with greater participation leading to decreases in time to graduation. In addition, the GPAs for full participants were significantly higher at the four-year mark than those of partial and non-participants.

However, African American and Hispanic students did not benefit from HIPs participation to the same degree as other students, thereby increasing the achievement gap. The achievement gap was the greatest in the full participant group (22%). The lower gains for African American and Hispanic students compared to their peers provides evidence that HIPs may not be sufficient to close the achievement gap and may even increase it as non-underrepresented minority group students improve at a higher rate.

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Sweat, J., Jones, G., Han, S., & Wolfgram, S. (2013). How does high impact practice predict student engagement? A comparison of white and minority students.

This study used data from 267 undergraduates at the University of Wisconsin – Stout, a mid-sized university. The authors posed the following questions: 1. Do white and minority students have different exposure to HIPs?; 2. To what extent does exposure to HIPs predict student engagement?; and 3. Do white and minority students differ in the extent to which HIPs and student engagement are associated?

Analyses revealed that white students were indeed more exposed to certain HIPs than students of color. Both groups were exposed equally to first-year seminars, common intellectual experiences, learning communities, and service learning. White students were more exposed to writing-intensive courses, collaborative work, undergraduate research, diversity/global learning, internships, and capstone courses – perhaps because they persisted longer; the majority of the white respondents were seniors (85%) while only 40% of the students of color were seniors.

In addition, exposure to HIPs predicted cognitive and behavioral engagement. For all students, service learning, collaborative work, learning communities, undergraduate research, internships, writing-intensive courses, study abroad, and faculty relationships were significant predictors of engagement.

Unique HIPs predictors for engagement among students of color were diversity/global learning and capstone courses that require research. Interestingly, diversity/global learning and writing-intensive courses predicted engagement when white and students of color were collapsed into one group, but diversity/global learning did not predict engagement for white students, and writing-intensive courses did not predict engagement for students of color.

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Trolian, T. L., & Jach, E. A. (2020). Engagement in college and university applied learning experiences and students' academic motivation. *The Journal of Experiential Education, 43*(3), 317-335.

Using data from the Wabash National Study of Liberal Arts Education, this study examined the relationship between participation in applied learning experiences and students' fourth-year academic motivation. The experiences were independent study courses; senior capstones; internships; undergraduate research with faculty mentors; study abroad; service learning; community service; out-of-class experiences that translated classroom knowledge into action; how often exams or assignments required use of course content to address a problem; and how often faculty asked students to apply theories or concepts to practical problems or in new situations.

In the presence of all control variables, four experiences were positively associated with fourth-year academic motivation: 1. How often faculty asked students to apply theories or concepts to practical problems or in new situations; 2. How often students engaged in exams or assignments that required use of course content to address a problem; 3. Undergraduate research with a faculty mentor; and 4. Out-of-class experiences that translated knowledge from the classroom into action. The other experiences did not show a statistically significant association with fourth-year academic motivation.

Importantly, there was an overrepresentation of white, female, continuing-generation students enrolled at liberal arts colleges in the study sample.

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Valentine, J., Price, D., & Yang, H. (2021). *High-impact practices and gains in student learning: Evidence from Georgia, Montana, and Wisconsin.* Lumina Foundation.

This report communicates results of a partnership between Lumina Foundation and the National Association of System Heads (NASH) to expand access to and improve the quality of HIPs in four public college and university systems. Using NSSE data, about 28,000 students from 15 four-year institutions in Georgia, Montana, and Wisconsin were studied.

The NSSE measures participation in six of the 11 HIPs: learning communities, service learning or community-based projects, undergraduate research with faculty mentors, internships, study abroad, and senior capstones. Learning gains are self-reported by students. Overall, about two-thirds of students participated in a community-based HIP (service learning or community-based projects, internships, or study abroad), and about 40% of students participated in a campus-based HIP (senior capstones, learning communities, and undergraduate research with faculty mentor).

Using ordinary least squares regressions to control for race, ethnicity, gender, age, class, and first-generation or transfer status, the researchers found that both community-based and campus-based HIPs boosted learning gains, both academic and practical. Community-based HIPs had a greater impact on practical gains (36% increase) than academic gains (26% increase), whereas campus-based HIPs had an equal, but lesser, effect on academic and practical gains (20% and 19% increases). When individual HIPs were measured, service learning/community-based projects had the greatest impact on both academic gains (25% increase) and practical gains (37% increase).

Black and Hispanic students benefitted greatly from community-based HIPs. Interestingly, Black students received a big boost from participating in internships while Hispanic students did not. Conversely, Hispanic students benefitted greatly from study abroad, but Black students did not. Both Black and Hispanic students showed great learning gains from service learning. Students 25 and older reported gains from service-learning and internships, but not from study abroad.

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Valentine, J., & Price, D. (2021). ***Scaling high-impact practices to improve community college student outcomes: Evidence from the Tennessee Board of Regents.*** **Lumina Foundation.**

This report details outcomes of an initiative by the Tennessee Board of Regents to expand access to high-quality HIPs, part of a partnership between Lumina Foundation and the National Association of System Heads (NASH). Specifically, this report focuses on the efforts of five Tennessee community colleges to embed HIPs within associate's degree and transfer pathways.

This report relies on administrative data, not student self-reports. About 19,000 students were studied. Students participating in HIPs were more likely to be female and younger than non-participants. They were also more likely to be Black or Hispanic and be receiving a Pell Grant. Finally, they were more likely to be enrolled full-time and be taking either a learning-support course or an English gatekeeper course.

The outcomes measured were fall-spring and fall-fall retention, earning 12 or 24 credits in the first tern, completing gatekeeper math or English in the first year, and completing both gatekeeper math and English in the first year. Student who participated in HIPs were 6-8% more likely to reach all six of these milestones than students who did not participate in HIPs; this difference is statistically significant. Participation in first-year experiences and undergraduate research had the greatest impact across the most outcomes. The percentage increases are even greater when compared to the baseline rates. Participation in HIPs also benefitted Black, Hispanic, and adult learners greatly.

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Young, D. G. (2020). **Is first-year seminar type predictive of institutional retention rates?** ***Journal of College Student Development, 61*****(3), 379-390.**

First-year seminars (FYS) can be extended orientations, academic courses with uniform content, academic courses with varying content, preprofessional or discipline-linked courses, seminars focused on basic study skills, and hybrid courses that combine elements of several types. This study investigated

which FYS type has the greatest impact on retention from the first to second year at the institution level. About 800 institutions participated, with an overrepresentation of large, public four-year institutions.

The type with the greatest effect was the academic seminar with variable content, followed by the academic seminar with uniform content. Institutions with academic seminars with variable content had a 6% higher retention rate than those offering extended orientations. Institutions with academic seminars with uniform content had a 2% greater retention rate than extended orientation groups. The author speculates that these two types of seminars have greater retention rates because they typically use more engaging pedagogies, including those listed among the characteristics of HIPs.

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Zilvinskis, J. (2019). Measuring quality in high-impact practices. *Higher Education: The International Journal of Higher Education Research, 78*(5), 687-709.

Rather than investigating HIPs themselves, this study examined how *characteristics* of HIPs relate to outcomes. That is, the study examined the effects of high expectations, student time investment, collaboration with peers, faculty feedback, integrated learning, real-word application, and public demonstration of learning on GPA, self-reported engagement, and overall satisfaction.

Data came from the 2015 NSSE, from students who participated in undergraduate research, internships, and senior capstones. High expectations, faculty feedback, and real-world application consistently had positive relationships with the most outcomes across the three HIPs. In contrast, public demonstration of learning had almost no relationship with any outcome. Collaboration with peers and integrated learning had some, mostly positive relationships with outcomes such as higher-order learning. Curiously, more time invested by students was negatively related to student engagement and satisfaction.

The second analysis on outcomes for Black, Hispanic, first-generation, and transfer students found few significant interactions. However, there were “trends related to Black students’ experiences in UGR, transfer students’ overall positive relationships with HIP characteristics, and Faculty Feedback having an overall negative relationship with outcomes for underserved student populations” (703). The findings indicate that the assumed benefits of standardizing HIP experiences may not apply equitably across diverse student populations.