



Spring 2009, Vol. 12, No. 2

Current Issue

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Diversity and Democracy

Outcomes of High-Impact Educational Practices: A Literature Review

By: Jayne E. Brownell and Lynn E. Swaner

The Association of American Colleges and Universities' 2007 report *College Learning for the New Global Century* outlined several "effective educational practices" that are gaining attention in higher education. These "high-impact" practices promise to engage today's college students to a greater extent than traditional classroom-based instruction alone. In a subsequent AAC&U report, George Kuh described strong positive effects students experience as a result of participating in high-impact activities (2008). Kuh also reported that historically underserved students experience "compensatory effects," or a "boost" in grades and retention during the first year of college, as a result of these practices (17).



Hofstra University (Photo by Michael Sisak, courtesy of Hofstra University)

To contribute to this growing body of research, in 2008 we conducted a literature review to determine what is currently known about how five high-impact practices affect outcomes for students in general and underserved students in particular. For the purposes of the review, we defined *underserved students* as underrepresented students of color (African American, Latino/a, and Native American), low-income students, and first-generation college students. The practices we reviewed were first-year seminars, learning communities, undergraduate research, service learning, and capstone experiences. Our findings show that: (1) a host of positive outcomes exists for students who participate in these activities, although little attention has been given to specific outcomes for underserved students; and (2) colleges and universities can take particular steps in designing



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practices to maximize positive outcomes for students.

Five Practices and Their Outcomes

In sum, four of the activities we researched--first-year seminars, learning communities, undergraduate research, and service learning--have shown strong positive impacts on students based on a broad range of outcomes. In reviewing the literature, however, we discovered that researchers use similar terms to describe a wide range of practices, making the task of linking specific program components to specific outcomes more challenging. Nonetheless, we were able to identify positive outcomes, including some for underserved students, associated with a range of practices.

First-year seminars: The literature on first-year seminars encompasses the range of models recognized by the National Resource Center for The First-Year Experience and Students in Transition at the University of South Carolina. Originally developed by Betsy Barefoot, the typology includes: (1) extended orientation seminars; (2) academic seminars with uniform content across sections; (3) academic seminars with variable content; (4) preprofessional or discipline-linked seminars; (5) basic study skills seminars; and (6) hybrid models (Barefoot 1992). Taken together, these models have a nearly universal positive impact on student persistence and positively affect student graduation rates and grades (although the impact on grades fades over time). They lead to more peer and faculty interaction, higher levels of student engagement in and outside of the classroom, and smoother transitions to college. Few studies, however, specifically examine outcomes for underserved students. Those that do find short-term benefits for students' grades and persistence, but do not examine other outcomes.

Learning communities: The most basic learning communities consist of two or more linked courses focusing on a common theme. In more complex models, learning communities can constitute a student's full schedule for a term, be paired with extended orientation seminars or integrative seminars, or be residentially based. Across these variations, learning communities have been studied widely and show a broad range of positive outcomes. Nearly all relevant studies find that participation in a learning community has a positive impact on student persistence (with minimal or no impact on grades), behavioral outcomes (such as peer and faculty interaction and student engagement), and attitudinal outcomes (such as sense of belonging and perception of a positive campus climate). In relation to liberal learning goals, learning community students experience improved critical thinking, integrative thinking, and reading and writing skills; openness to new perspectives and ideas; engagement with diversity; increased civic engagement; and development of ethics and values. More studies are needed, but findings to date suggest that learning community participants show greater gains in these areas than their peers. Research also suggests positive outcomes for underserved students. In addition to improving their grades and persistence, participation in learning communities eases underserved students' transitions to college by helping them build their identities as college students and find their voices in the

classroom.

Undergraduate research: Undergraduate research includes individual projects supervised by faculty members and collaborations with faculty mentors. For all students, studies associate undergraduate research with the development of research skills and problem-solving skills, increased interaction with faculty, and greater satisfaction with the educational experience.

Components of Successful High-Impact Practices

Within each high-impact practice, our research identified components for success. While not exhaustive, these include:

- ***Within first-year seminars:*** Establish seminar goals before designing a program, and choose the seminar format that fits those goals. Use instructional teams whenever possible: for example, build a resource team that includes faculty, advisers, librarians, and technology professionals. Use engaging pedagogies that are active and collaborative in nature, including group work, interactive lectures, experiential learning, and problem-based learning. Help students see that the skills they need to succeed in the seminar are skills they will use throughout college and after graduation.
- ***Within learning communities:*** Be intentional in linking courses. Support students in traditional gateway courses and "weed-out" courses that have high rates of failure. Consider tying an extended orientation or integrative seminar to the learning community. Use instructional teams, such as the one described for first-year seminars above. Invest in faculty development to ensure that courses are fully integrated, with coordinated material, assignments, out-of-class trips, and grading rubrics. Use engaging pedagogies.
- ***Within undergraduate research programs:*** Encourage faculty to provide mentoring rather than just program oversight, and attend to the quality of the mentoring relationship (balancing challenge with support). Provide opportunities for "real-life" applications, whether through publication, presentations, or project implementation.
- ***Within service-learning programs:*** Create opportunities for structured reflection. Ensure that faculty connect classroom material with the service experience. Require enough service hours to make the experience significant. Focus on the quality of the service, ensuring that students have direct contact with clients. Oversee activities at the service site.

--Jayne Brownell and Lynn Swaner

Many undergraduate research opportunity programs and summer research opportunity programs have the explicit goal of encouraging underrepresented students to pursue graduate studies. Therefore, some research in this area specifically examines outcomes for underserved students, with most studies

focusing on research programs' demonstrated positive impact on student persistence and graduate school enrollment.

Service learning: Service learning is a form of experiential education that links service in the community with an academic course or program. It is distinct from cocurricular volunteerism in that the service is supervised by faculty and tied to the classroom curriculum. Studies show that service learning has a positive impact on academic and civic outcomes, such as sense of social responsibility, development of a social justice orientation, commitment to a service-oriented career, gains in moral reasoning, and greater tolerance of difference. These positive outcomes apply to both majority students and underserved students. However, the research has identified an additional negative outcome for underserved students. If the service-learning experience treats community partners as "other," students who identify with those communities can experience conflict and a sense of isolation. More research is needed in this area, but these findings show that program design is essential to ensuring positive outcomes for all students.

Capstone experiences: Capstone experiences were the least researched of the five practices we reviewed. Capstone experiences can consist of a course, a seminar, or a project that focuses a student's learning either in the major or across the college career. The research we identified in this area tends to describe capstone experiences rather than explore their outcomes. While we identified some limited evidence that participation in capstone experiences improves students' abilities to apply and integrate knowledge in the major, we found no research that explores outcomes for underserved students.

Suggestions for Further Research

The outcomes-focused studies we reviewed provided much information about persistence and grades, but also identified positive effects on student behavior, attitudes, and learning. Nevertheless, many weaknesses in the outcomes literature limit its helpfulness to practitioners. We found a need for more studies that attend to the following guidelines.

Define practices clearly. Popular definitions of many high-impact practices are very broad, making it difficult to determine what specific factors within each practice are crucial for positive outcomes. For example, many articles about learning communities fail to describe the structure of the communities studied in any detail. This made it impossible to determine whether two linked courses lead to different outcomes than four linked courses, for example, or whether integrative seminars have different impacts from extended orientation seminars.

Attend to underserved students. The research provided little information about how the experiences of underserved students compare to the experiences of their peers. Even studies that identify underserved student populations rarely disaggregate the data for different populations. In order to glean an understanding of underserved student outcomes, we had to draw from articles describing institutions or programs that predominantly serve students from one or more underserved groups.

Incorporate comparison groups. The literature as a whole suffers from selection bias and a lack of comparison groups. Since students typically elect to participate in high-impact activities, their attitude toward and likelihood of benefiting from these activities may differ from that of students who did not choose to participate. Many studies also report outcomes for a particular program, but fail to compare participants to matched nonparticipants on campus.

Vary data collection methods. Behavioral, attitudinal, and liberal-learning outcomes studies generally rely upon self-reporting, quantitative measures, or both. Studies would benefit from the use of more varied data collection methods.

Look across institutions. Most outcomes research focuses on single-institution studies. With some notable exceptions, most data is institution-specific, making generalization difficult.

Finally, *follow students longitudinally.* The research typically follows students over a short span of time. Researchers often track persistence from first term to second term, or first year to sophomore year, but not beyond. Researchers need to move beyond short-term measures and examine student learning more closely over longer periods.

Applying Research to Practice

Despite any weaknesses in the research, the body of literature holds great value for practitioners. Our take-away lessons include:

These five practices clearly make a difference for students. Ample evidence suggests that these practices are worth the time, energy, and resources needed to implement them. While some studies indicate neutral results in comparison to groups of nonparticipants, virtually none of the literature reports negative student outcomes due to participation in the activities. Nearly all results are positive.

A range of design options is available for campuses hoping to craft high-impact experiences. Every campus is different, and practices that are effective in one culture will not necessarily work for another. Reading the outcomes literature allows practitioners to see the range of design options and select the ones that best match their environments.

A few key program features are crucial to ensuring positive outcomes for students. Beyond showing existing design options, the literature highlights key components of effective programs (see sidebar).

Campus practitioners can make their program assessments more effective. Every campus should evaluate its programs to determine their effectiveness. Our research points to a few things to keep in mind when designing a campus assessment. First, eliminate selection bias whenever possible. Second, utilize comparison groups. Third, study student outcomes longitudinally whenever possible. And finally, pay attention to all students on campus. Find out whether underserved students are participating equally, and whether their experience differs from

that of their majority peers. Only by paying attention to all students can we ensure that our practices are both inclusive and effective for everyone.

Editor's Note: An article on high-impact practices by these authors also appears in the spring 2009 issue of Peer Review (<http://www.aacu.org/peerreview/2009/spring>).

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1818 R Street NW

Washington, DC 20009

info@aacu.org

(202) 387-3760