

# **High Impact Practices and Low-Income Student Success: What Works?**

A Report from the Yes We Must Coalition  
Spring 2018

This document brings together representative examples of recent evidence-based literature regarding practices and policies that support the success of low-income students. Research in this area is limited by a preponderance of short-duration, single-institution studies as well as samples derived from institutions with high percentages of low-income students but with results not always specifically broken down by income or other demographic categories. With these caveats, some conclusions can be drawn based on general consistency of the findings. We have sorted the most important areas where change can make a difference for low-income students into two categories, those that shape the college experience and those that support the student as the experience unfolds.

## Shaping the College Experience

1. Developmental and Pre-College Approaches
2. Coherence and Direction in the Curriculum
3. Orientations and First-Year Seminars
4. Learning Communities
5. Undergraduate Research
6. Online Learning
7. Post-College Preparation/Career Development

## Overarching Student Supports

1. Advising
2. Peer Mentoring
3. Food and Housing Security
4. Financial Support
5. Transfer Student Support
6. Support for Students in STEM Areas of Study

Below we summarize what the data tell us about improving outcomes for low-income students in each of these areas, followed by a selective bibliography for each topic.

## Shaping the College Experience

### Developmental and Pre-College Approaches

Many low-income students come to college unprepared for college-level math and English courses, impeding their ability to enter and be successful in gateway courses in a timely manner or at all. Placing students in traditional “remedial” courses, however, is ineffectual. Results from a study of students at four-year institutions placed in remedial math or English courses found that only 37% of these students were able to complete a subject area gateway class within two years (Charles A. Dana Center, et al. 2012).

Alternative approaches to developmental education that have shown positive results, increasing the likelihood that students will pass college math and English and/or subject gateway courses at the end of their first year, include the following:

- Enrolling academically at-risk students in a summer **Bridge Program** with intensive components in remedial math, writing, and reading. Some studies (although not all) found that at-risk students enrolled in such programs were more likely to pass college-level math and English courses in the fall semester than comparable students not enrolled in such programs. Low-income students are more likely to be classified as academically at risk when they enter college than other income-level students.

- Enrolling students in foundational college-level courses (English, math and/or subject area gateway courses) that are connected to a required companion “**co-requisite**” course. Better results were found when the co-requisite course was intentionally designed to correspond to the particular foundational course in content and assignments
- Providing a **two-semester option** for gateway courses for students who need significant additional support
- **Embedding supplemental support** in college-level gateway courses as well as in upper-level courses including additional workshops, study groups, and tutoring sessions
- Placing students in a mathematics course appropriate to their **area of interest/likely major** (i.e., algebra) is not necessary for all majors
- Providing students early on and throughout their first semesters with **training in skills** related to academic success (study skills, time management, effective use of resources, etc.)
- Providing students with peer and professional **tutors**, with required sessions occurring on a regular basis (for both first- and second-year students)

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## Coherence and Direction in the Curriculum

Studies from state universities and community colleges that have redesigned and streamlined their curricula are beginning to show a positive impact on persistence, especially for underserved students. When students understand the sequencing of courses and those courses are available to them in a timely and strategically scheduled manner, students demonstrate higher levels of persistence and graduate at higher rates (Complete College America, 2014; Tinto, 2012; Boatman, 2012). Central to this model is the development of clear and coherent program maps that help “guide each student effectively and efficiently from her/his point of entry through to attainment of high-quality postsecondary credentials and careers with value in the labor market” (ERIA, 2015).

Recommended elements of a streamlined curriculum with clearly delineated and structured pathways include:

- Providing instruction in **foundation skills** in a way that is integrated into and contextualized with critical program courses
- Enrolling students in **meta-majors** by the end of their first year (these students are more likely to persist than students who come in and remain undecided on an academic direction/major)
- Providing students with clear **program maps** that lay out a coherent pathway to completion
- Ensuring that **courses are offered** at times and frequencies that are consistent with a student’s individual program map
- Delivering courses in **block schedules** to add predictability to students’ schedules (particularly helpful to employed students)
- Providing **proactive (intrusive) advising and early alert systems** to help keep students on track

### Selected Bibliography

Bailey, T., Jaggars, S., & Jenkins, D. (2015), What we know about guided pathways. Columbia University Academic Commons, <https://doi.org/10.7916/D8PN94MX>.

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Complete College America (2012). Guided pathways to success: Boosting college completion. Washington, DC.

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Cota, A., Jayaram, K. & Laboissiere, M. (April 2011), Building productivity in U.S. higher education. *McKinsey Quarterly*.

Dadgar, M., Venezia, A., Nodine, T., & Bracco, K. R. (2013). Providing structured pathways to guide students toward completion. San Francisco, CA: West Ed.

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Jenkins, D. & Cho, S. (January 2014). Get with the program...and finish it: Building guided pathways to accelerate student completion. Community College Research Center (Working Paper #66). New York, NY: Teachers College, Columbia University.

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Johnson, N. (2011). Three policies to reduce time to degree. Washington, DC: Complete College America.

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## **Orientations and First-Year Seminars**

Research on First-Year Seminars is complicated by the fact that a variety of formats are in use (extended orientation, academic seminars with a common theme, academic content or theme with a focus on intellectual transition to college, study skills seminars, etc.). Also, there have not been many studies in this area in the past 10 years, and current research tends to be single-institution and of short duration. Nevertheless, research that has been done shows positive outcomes for students who participate in First-Year Seminars, although there is very little literature on the impact for low-income students in particular. There is some evidence of a short-term increase in grades and persistence in the first year for this group; however, the impact on persistence and GPA does not necessarily extend into second year, suggesting a need for supportive second-year programming.

There is some support for the following qualities in First-Year Seminars designed for low-income and first generation populations:

- Strong focus on identification of **campus resources** and how to use them as well as opportunities for **engagement with the individuals** associated with the resources (i.e., faculty, advisors, student support staff, health center staff, mental health counselors, librarians, IT professionals, etc.)
- Identification and development of **skills** necessary for success in college and beyond (study skills, time management, use of resources, engagement in healthy practices). One study found the students in First-Year Seminars who were more likely to persist were those who gave high ratings to the teaching of study skills and education about “health and welfare.”
- Opportunities for **engaged, experiential and problem-based learning** in a context that fosters a sense of participation in a **community of learners**
- Promotion of peer **relationships**, student/faculty relationships, and out-of-classroom engagement
- **Course credit** for First-Year Seminars. Should be 2–3 credits according to Swing (2002)
- Linkage of First-Year Seminars with **Learning Communities**

## **Selected Bibliography**

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Swaner, L. E., and Brownell, J. E. (2010). Outcomes of high impact practices for underserved students: A review of the literature. Washington, DC: Association of American Colleges and Universities.

Swing, R. L. (2002). The impact of engaging pedagogy on first-year seminars (Policy Center on the First Year of College Report). Retrieved from <http://www.sc.edu/fye/resources/assessment/essays/Swing-8.28.02.html>.

## Learning Communities

*“Especially for students who are the first in their families to attend college, who commute and spend limited time on campus, who are low-income and often need to work significant hours while going to school, and/or who are academically underprepared for college at entry, intentionally arranged LCs that integrate learning while also connecting students to each other and to their institution’s resources can make a significant difference in students’ persistence, views of themselves, and their learning.” (Swaner & Brownell, 2010)*

There is strong evidence that Learning Communities are particularly effective with low-income student populations (including commuters and transfers). Research shows increases in engagement, persistence into second year, grades, and development of identity as “learner” among low-income first-year students, when they are part of “well-structured” Learning Communities; i.e., those with the following characteristics:

- **Collaboration** among Learning Community faculty and creation of integrated coherent curriculum (see above)
- The creation of a positive **classroom environment** (sense of community, collaborative faculty, environment of respect for student, clear linkage between courses)
- **Professional development** for all faculty and staff involved in Learning Community components
- **Active learning** promoting engagement of students with one another and with faculty
- **Integration of campus programs** and resources into Learning Community experience via, for example, student success course and/or First-Year Seminar
- Connection of Learning Community to **skills courses and/or high-risk gateway courses**

Some studies found first-year, low-income students in Learning Communities had higher GPA’s at the end of the first year than non-low-income students in Learning Communities, although the gap narrowed in the second year.

While only a few studies of Learning Communities for commuter students have been conducted, their findings are consistent with findings for residential students (i.e., higher persistence in those participating in Learning Communities). Learning Communities may be particularly important for commuting students, whose only time on campus may be that spent in class.

## Selected Bibliography

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Henscheid, J. M. (2004). Integrating the first-year experience: The role of learning communities in first-year seminars (Monograph No. 39). Columbia, SC: University of South Carolina, National Resource Center for the First-Year Experience and Students in Transition.

Lardner, E., ed. (2005). Diversity, educational equity, and learning communities. Olympia, WA: The Evergreen State College, Washington Center for Improving the Quality of Undergraduate Education.

Love, A. (2012). The growth and current state of learning communities in higher education. *New Directions for Teaching and Learning*. 132. 5–18.

Swaner, L. E., and Brownell, J. E. (2010). Outcomes of high impact practices for underserved students: A review of the literature. Washington, DC: Association of American Colleges and Universities.

Zhao, C. & Kuh, G. (2004). Adding values: Learning communities and student engagement. *Research in Higher Education*, 45(2). 115–138.

## Undergraduate Research

The literature in this area is limited, but that which exists suggests that for underrepresented student populations, engagement in undergraduate research experiences, whether via a formal program or with an individual faculty member, is positively related to persistence and retention. Some studies found these experiences to be associated with the development of writing and communication skills, problem-solving skills, increased interaction with faculty and peers, and greater satisfaction with the academic experience. Pascarella and Terenzini (2005) found positive effects on persistence to be particularly strong **among sophomores**, suggesting that research experiences should be integrated early on into a student's academic journey rather than waiting until the junior or senior year, as many programs do. The literature also emphasizes the importance of **pro-active faculty mentoring** in undergraduate research projects.

### Selected Bibliography

Hurtado, S. et al. (2009). Diversifying science: Underrepresented student experiences in structured research programs. *Research in Higher Education*. 50: 189–214.

Kinkead, J. (2005). Learning through inquiry: An overview of undergraduate research. *Valuing and Supporting Undergraduate Research*, 5–18. San Francisco, CA: Jossey-Bass.

Hu, S., Scheuch, K., Schwartz, R., Gayles, J.G., & Li, S. (2008). Reinventing undergraduate education: Engaging college students in research and creative activities. ASHE Higher Education Report 33(4). San Francisco, CA: Jossey-Bass.

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Swaner, L. E., & Brownell, J. E. (2010). Outcomes of high impact practices for underserved students: A review of the literature. Washington, DC: Association of American Colleges and Universities.

## Online Learning

Current research suggests that low-income students in fully online courses have less positive outcomes than their peers in face-to-face courses. The low-income students are more likely to withdraw or to receive lower grades. These findings are particularly true for students with weaker academic skills and for those in developmental courses. Notably, such differences were not significant when comparing students in **hybrid courses** with those in traditional classroom courses. Although hybrid courses vary in terms of hours of face-to-face interaction, the degree and consistency of **faculty engagement with students** seems to be critical. To be effective with low-income populations, the literature recommends that online courses be designed around a hybrid model that includes a significant face-to-face component and is taught by **faculty who are trained** and comfortable working interactively with students in an online environment.

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Jaggers, S. S. (2014). Democratization of education for whom? Online learning and educational equity. Retrieved from [www.aacu.org/diversitydemocracy/2014/winter/jaggers](http://www.aacu.org/diversitydemocracy/2014/winter/jaggers)

## Post-College Preparation/Career Development

*“While current research on outcomes of career counseling and workplace experience, particularly in a postsecondary context and particularly for disadvantaged undergraduates students, is limited (due, in part, to variability of services), a review of the available literature suggests that first generation, low-income postsecondary students should participate in comprehensive career development courses that have them engage in multiple modes of exploration from skills and interest inventories to research on careers to constructivist self-reflection, followed by direct experience with preparing for job searches and, ultimately, on-site workplace experience . . . Career development should ideally be a central part of academic development and not an optional support service of limited duration and disconnected content that students may or may not elect to seek out.”* (ERIA, 2015)

While literature focusing on outcomes of career education for low-income college students is limited, that which does exist suggests that career education should be **integrated into and intentionally connected** to the student’s curricular and co-curricular experience. This effort should begin **early in the first year** with carefully constructed and required components, culminating in the junior or senior years with workplace experiences that are the result of **collaboration** between the academic institution and the work site.

## Selected Bibliography

Couturier, L. (2012). Cornerstones of completion: State policy support for accelerated, structured pathways to college credentials and transfer. Boston, MA: Jobs for the Future and Completion by Design.

Educational Research Institute of America (ERIA) (2015). Best practices for supporting low-income first generation students. Indianapolis, IN: Indiana Commission of Higher Education.

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Freeman, E. (2012). The design and implementation of a career orientation course for undergraduate majors. *College Teaching*, 60, 154–163.

Hughes, A., Gibbons, M. & Mynatt, B. (2013). Using narrative career counseling with the underprepared college student. *The Career Development Quarterly*, 61, 83–82.

## Overarching Student Supports

### Advising

Proactive or Intrusive Advising, an approach that involves structured and proactive interventions at multiple points in a student’s journey, has been found to be directly related to persistence and retention among low-income and/or first generation students. While advising can take many forms, data supports the effectiveness of a number of elements common to a proactive approach:

- Outreach to students in the **summer** prior to their enrollment via multiple contacts (advisor and peer outreach, text messages, social media, etc.)
- **Mandatory orientation** programs that include academic and non-academic support and one-on-one advising
- **Required meetings** with advisors at least several times in a given semester
- An **early alert** system that monitors progress and notifies appropriate staff when a student is missing class, submitting poor work, missing deadlines, or for other reasons causing concern; and a monitored follow-up system to make sure timely and appropriate outreach to the student takes place
- **Professional development** for advisors that emphasizes the importance of helping a student explore, articulate and pursue his/her goals (i.e., advising that goes beyond simply providing information)

### Selected Bibliography

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Center for Community College Student Engagement. (2018). Show me the way: The power of advising in community colleges. Austin, TX: The University of Texas at Austin, College of Education, Department of Educational Leadership and Policy, Program in Higher Education Leadership.

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Miller, M.A. & Murray, C. (2005). Advising academically underprepared students. NACADA Clearinghouse of Academic Advising Resources Web Site <http://www.nacada.ksu.edu/clearinghouse/advisingissues/academically-underprepared.html>.

### Peer Mentoring

Peer mentoring is often referenced as an effective intervention in general and especially with at-risk students. Several studies cite the effectiveness of **matching** student mentors and mentees who are from similar cultural and racial/ethnic backgrounds and share academic interests, particularly with regard to promoting perceived engagement with the academic community among the mentees. Peer mentoring **training** has also been identified as critical to the success of the mentoring relationship and therefore its effectiveness.

### Selected Bibliography

Behling, L. et al. (October 27, 2017). Seven key ways to make student mentoring better. *Inside Higher Education*.

Chang, M. J., Sharkness, J., Hurtado, S., & Newman, C.B. (2014). What matters in college for retaining aspiring scientists and engineers from underrepresented racial groups. *Journal of Research in Science Teaching*, 51, 555–580.

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## Food and Housing Security

Recent studies reveal an alarming number of students at both four-year and two-year colleges experiencing insecurity regarding access to adequate food and housing. In one recent national survey, one-fifth of the respondents at four-year institutions report experiencing food insecurity, with two-thirds of those also experiencing issues related to housing (i.e., homelessness, ability to pay rent and/or utility bills, etc.). The consequences of such insecurities are identified with not buying textbooks, skipping classes, working longer hours if employed, and withdrawing from classes.

Suggested support actions include:

- Creating accessible **on-campus food pantries**
- Collaborating with local businesses to offer **student discounts** on food and other necessities
- Providing students with **information and support** services regarding benefits for which they might be eligible (food stamps, low-income housing, transportation subsidies, etc.)

## Selected Bibliography

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Goldrick-Rab, S., Richardson, J. & Hernandez, A. (2017). Hungry and homeless in college: Results from a national study of basic needs insecurity in higher education. Washington, DC: Association of Community College Trustees.

Nellum, C. (Posted July 11, 2017). No student should go hungry in pursuit of higher education. Young Invincibles Blog, Higher Education.

## Financial Support

Obviously, finances present a major challenge to low-income students entering college and persisting through to graduation. While financial aid policies at the federal and state levels are beyond the scope of this review, there are a few evidence-based, smaller scale efforts at the institutional level that are arguably related to persistence and completion. These include:

- **Embedding financial literacy** into first-year experience
- Institutionalizing curricular policies that **speed pathways** to degree (embedding remedial education into credit bearing classes; offering highly structured curricular pathways)
- Increasing **work-study** opportunities on campus
- Offering college credit for **workplace learning**
- Providing resources for **childcare**, including on-campus sites
- Providing **emergency aid funds** (last dollar funds) to help students stay enrolled

- Offering “**completion**” **grants** to seniors unable to pay for last few credits necessary to graduate
- Providing cheaper options for **textbook** purchases (via rental programs, online materials, etc.)
- **Addressing insecurities** related to food and housing

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### **Transfer Student Support**

One in three college students attends more than one institution in his/her quest for a college degree. Among community college students who transfer to a four-year institution, however, low-income students who transfer to a nonselective four-year institution are far less likely to earn a bachelor's degree (Lederman, 2017). While few studies of persistence and success focus specifically on low-income student transfers, those that do and those that focus on transfer students in general make the following recommendations:

- Help transfer students **connect** to their new community academically and socially early on
- Connect students with a trained **transfer success advisor** prior to their arrival on campus
- Provide **orientation programming** specifically tailored to and required of transfer students, regardless of their year
- Provide a **college success/transition course** for transfer students
- Provide clearly articulated **curricular pathways** (found to be important for all low-income students but particularly so for transfer students)
- Facilitate the development of **relationships** with faculty and peers early on; this has been found to be particularly important for older transfer students

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## Increasing Persistence and Success in STEM Areas of Study

It is well established that students from underrepresented groups are less likely to pursue STEM-related subjects in college than their majority peers, and those that do enter STEM majors are less likely to persist beyond the first year (Estrada et al, 2016). Current research is increasingly focusing on the barriers that prevent low-income students from entering into and/or succeeding in the sciences, as well as on interventions aimed at reducing these barriers.

Commonly cited best practices for improving persistence and success of underrepresented students in STEM areas of study include the following:

- **Early outreach**, including families when possible
- **Learning communities**/cohort creation for those interested in science
- Supportive **climate** that addresses student issues concerning self-efficacy and self-confidence in ability to succeed in science
- Enrollment early on in **gateway** (math and science) courses
- Strong student **support** system in place for gateway courses
- **Active learning strategies** in all courses (including high proportion of group work), particularly in introductory courses
- **Faculty highly trained** in and committed to active learning
- **Community/culturally relevant** curriculum in science courses
- Early exposure to **opportunities and careers** in STEM (including mentors and faculty who are sensitive to and/or representative of the student's own background)
- Undergraduate **research** experience

## Selected Bibliography

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Hurtado, S. et al (2009). Diversifying science: underrepresented student experiences in structured research programs. *Research in Higher Education*. 50, 189–214.

Toven-Lindsey, B., Lewis-Fitzgerald, M., Barber, P. & Hasson, T. (2015). Increasing persistence in undergraduate science majors: a model for institutional support of underrepresented students. *CBE Life Science Education*. 14, 1–11.

Wilson, Z. et al. (2012). Hierarchical mentoring: a transformative strategy for improving diversity and retention in undergraduate STEM disciplines. *Journal of Science Education Technology*. 21, 138–156.

## **Multi-Focused Reviews of Best Practices for Low-Income Student Success**

Useful literature reviews regarding best practices for low-income student populations are referenced below; they are included in specific topic categories mentioned above when they include particularly relevant reviews related to that topic.

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Complete College America (2016). *New rules: Policies to strengthen and scale the game changes* (2016).

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