Pathways to Improving Practice

Research-based Resources on College Access

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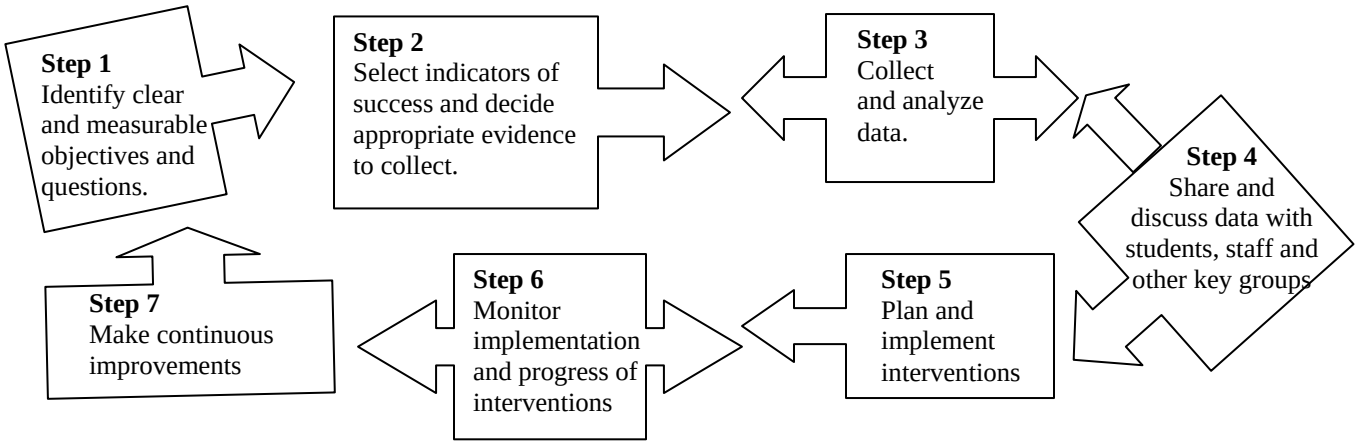
How Can Pre-College Outreach Programs Use Data to Make Decisions?

Data about students, programs, schools and school districts allow outreach programs to learn what works to better prepare students for success in college and what is less effective. These data can help programs improve their effectiveness, maximize student achievement and create long-term change (CHEPA, 2002). The use of factual information to inform practices and improve results is called data-driven decision-making. Even before the *No Child Left Behind Act* required educators to employ research-based information in day-to-day educational practice, school and outreach program leaders and practitioners found that data are necessary to:

- Determine effectiveness of programs
- Identify areas for improvement
- Diagnose root causes of problems
- Tailor program activities to meet student needs
- Report on short- and long-term program impacts
- Evaluate and incorporate new approaches
- Develop successful interventions
- Improve policies, processes and practices
- Promote institutional accountability
- Effectively allocate program resources

Seven Steps for Using Research to Enhance Student Success

For outreach programs, data-driven decision-making is a continuous process that enables programs to improve student outcomes and achievement on an ongoing basis. Though programs will implement the process in different ways, most education researchers agree that the seven steps identified below are critical to research-based progress (ECS 2000).



Sources: ECS 2000; Muraskin 1993

Types and Sources of Data

Outreach programs should collect both numerical and descriptive information on students who are currently in their programs as well as formerly enrolled students. **Demographic data**, background information on students and their education, can be obtained from school records as well as program-administered applications and questionnaires. **Achievement data**, information on how currently and previously enrolled students are performing can be obtained from report cards, transcripts, program assessments, and surveys that ask students to report progress and activities in high school as well as acceptance, enrollment, progress in and graduation from college. Programs can also use observations, interviews, and focus groups of students, staff and parents to help assess the impact of programs.

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How Outreach Programs Can Analyze Data

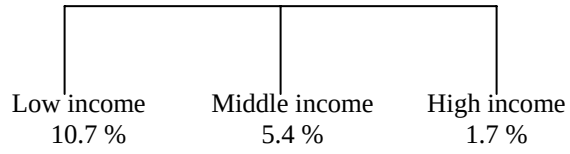
Analyzing data is a lot like cooking, according to Education Trust's Craig Gerald. Once you know the terminology and a few techniques, you will find that whipping up a tasty meal (or accurate picture of what's going on) is not restricted to the experts, whether chefs or trained researchers. Two basic techniques for taking apart statistics, **disaggregation** and **cross tabulation**, can be as simple as slicing and dicing an onion. Outreach programs can use these methods to diagnose gaps in preparation and develop effective solutions to close them (Jerald 2003).

To **disaggregate**: Separate a category total among various subgroups. For example, split college acceptance rates by race, ethnicity or income level.

Disaggregating data is useful for describing how different subgroups of a larger population perform.

In the example to the right, the total high school drop out rate is disaggregated by family income to reveal that low income students dropped out of high school at ten times the rate of high income students.

High school Drop-out Rate (2001)



Source: *The Condition of Education 2004,* National Center for Education Statistics

To **cross-tabulate**: Create a table with the values of one variable across the top and the values of a second variable down the side to display the relationship between two variables.

Cross-tabulating data is essential for making inferences about how groups perform across variables.

In the example to the right, bachelor's degree completion rates are cross-tabulated by race in relationship to high school curriculum for all students and individual groups. This analysis reveals that when students with the most rigorous high school classes are compared in relation to their ethnic group, the gap between black and white college graduates diminishes by 17 percent.

Bachelor's degree completion rates by race/ethnicity and rigorous high school curriculum.

	White	Black	Latino	Asian	All
All	75.4%	45.1%	60.8%	86.9%	72.1%
Highest 40% and math beyond Alg. 2	85.7	72.6	79.3	89.0	84.8

"All" consists of all on-time high school graduates who entered 4-year colleges directly from high school, and whose college transcript files are complete.

Source: Adelman (1999), *Answers in the Toolbox: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment*

Tips for Effective Data-Driven Decision Making

1. Partner with schools, colleges and others to collect, analyze and disseminate relevant information.
2. Incorporate staff, students, parents, and others in defining goals and indicators and analyzing findings.
3. Draw on your own school and program data as well as research on what works to improve college access.
4. Collect research on effective practices in other programs before implementing popular approaches.
5. Dedicate adequate time and resources to collecting and using data as a part of general program operation.

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