

Evaluation of Intervention Programs for
Low-Income Students
and Students of Color

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Richard A. Voorhees
Voorhees Group LLC
Littleton, Colorado
rick@voorheesgroup.org
www.voorheesgroup.org



See successive slides for author's notes.

What Should Be Evaluated and Why Bother?

- Program structure
 - This evaluates the inputs into the program
 - Looks at funding, staffing, other resource allocations
- Program processes
 - Looks at the execution of programmatic elements
 - How have they worked, how were they received
- Program outcomes
 - Describes the extent to which program objectives were achieved by the program



Program evaluation begins by surveying these elements of program design with the idea that, at completion of the evaluation, the entire program or subcomponents of the program may be exported to other locations. While the emphasis is always on outcomes, it is not possible to understand how those outcomes were produced unless program structure and processes are known.

At the “End of the Day”

- Ask the Question: “What is generalizable about my program?”
 - How can you describe what you’ve done in a way that others can understand it?
 - Is it portable?
 - Are there factors to suggest that it won’t work anywhere else? If so, what are they?



The preeminent goal in program evaluation is to assess generalizability. Documenting the lessons learned by program evaluation and revealing how they were gained can shorten the learning curve for other colleges wanting to improve or start similar programs.

Evaluation Steps

- Determine outcomes to measure
- Design assessments to measure those outcomes
- Determine the purpose for the assessment
- Determine the kind of assessment data you need to collect
- Design learning events based upon learning outcomes
- Measure those outcomes using quantitative and qualitative techniques



A first step is to decide what outcomes should be measured. As we will see later in this presentation the choices can be very simple or seemingly complicated. The outcomes to be measured by all Achieving the Dream colleges were known from the onset of program evaluation. These are straightforward and are presented in the next slide.

“Assessment” is a term with many meanings. It can mean just calculating percentages of students who pass a given course. It can also mean the conscious search for factors that underlie success in a given course or program. A natural tendency is to avoid looking at complexity.

Another key place to start for Achieving the Dream institutions is to specify the learning outcomes, or competencies, they wish to produce across the courses that enroll large proportions of low-income students and students of color.

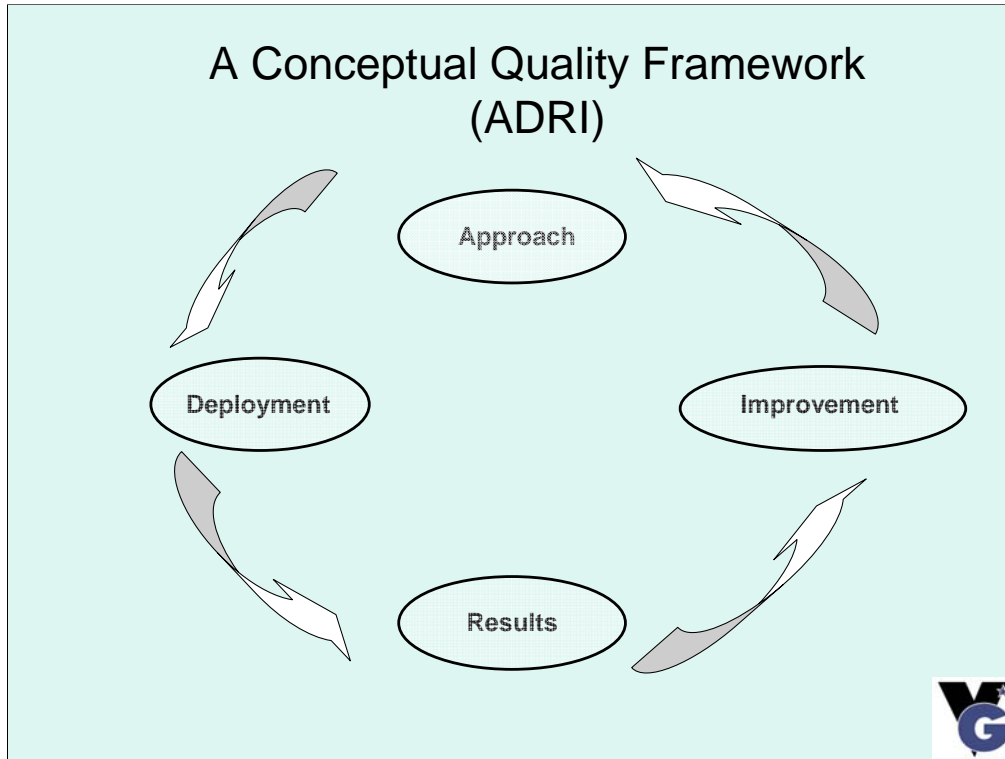
Colleges would do well at this juncture of their Achieving the Dream work to decide what types of assessment they should employ that match the programs that they've launched. They also would do well to not simply take assessments off the shelf because they are available. Finally assessments can also be qualitative in approach and should be in every instance, customized.

Student Outcomes for Achieving the Dream

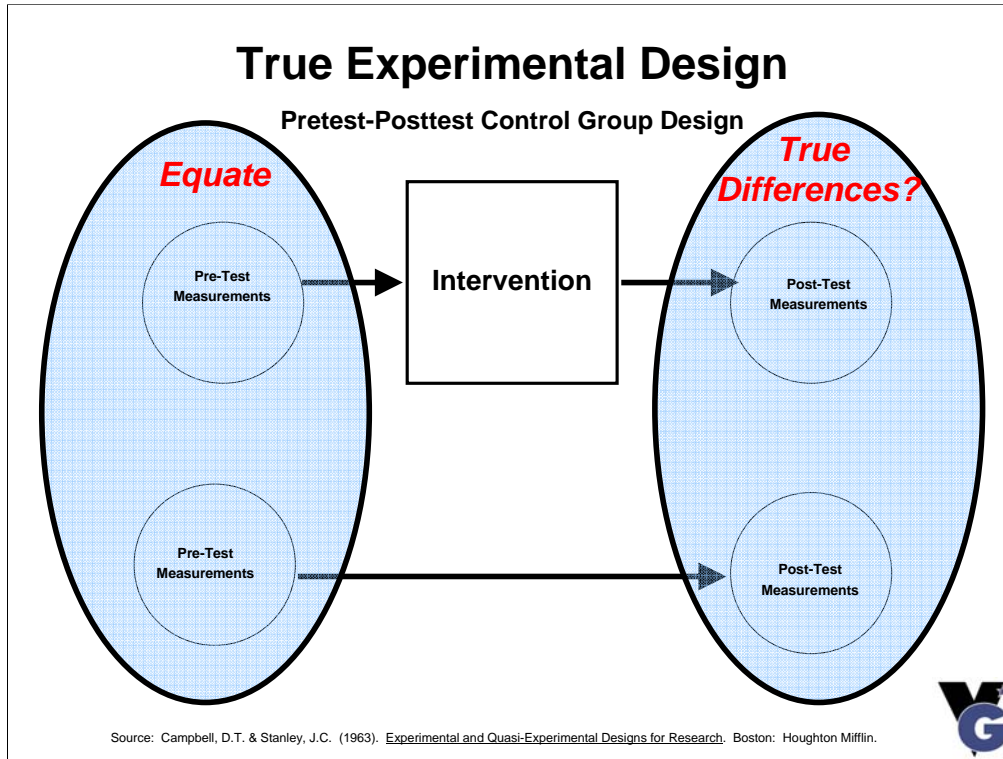
- Successfully complete developmental courses and progress to credit-bearing courses;
- Enroll in and successfully complete gatekeeper courses;
- Complete the courses they take, with a grade of C or higher;
- Re-enroll from one semester to the next; and
- Earn certificates and degrees.



Self explanatory



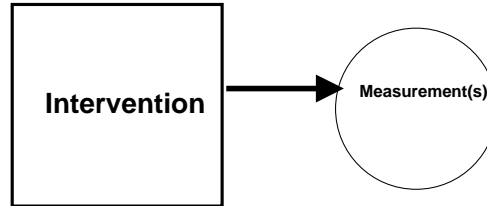
To create a culture of evidence requires a commitment to a quality improvement process. The ADRI process depicted here is used by the Australian Universities Quality Agency to provide a guide to institutions embarking on quality improvement. It fits well with college plans to evaluate their effectiveness in serving low-income students and students of color.



This design is considered true experimental design since it provides for comparisons (pretest to posttest and across groups). It achieves control through random assignment to treatment and control groups, a feat that is almost impossible to achieve in education for practical as well as ethical reasons. Accordingly, the pretest-posttest design is seldom used to evaluate programs.

Pre-Experimental Design

One Shot Case Study



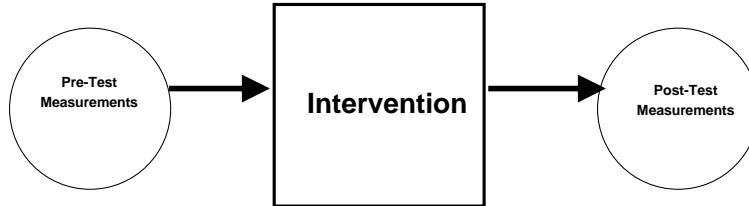
Source: Campbell, D.T. & Stanley, J.C. (1963). *Experimental and Quasi-Experimental Designs for Research*. Boston: Houghton Mifflin.



This is the weakest of all research designs. A single group is studied once. There is no comparison with either a control group nor with a pre-test, or pre-measurement, and a post-measurement. In this design Unfortunately, this design is still used frequently in education.

Pre-Experimental Design

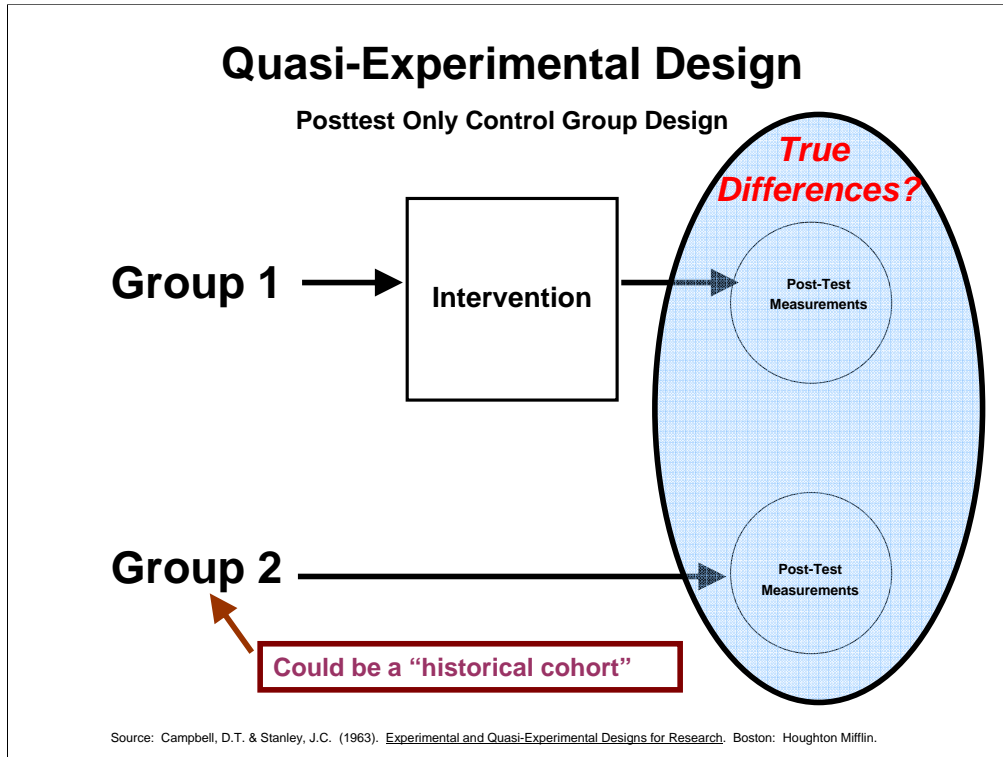
One Group Pretest-Posttest Design



Source: Campbell, D.T. & Stanley, J.C. (1963). *Experimental and Quasi-Experimental Designs for Research*. Boston: Houghton Mifflin.



This is an improvement over the one-shot case study because it provides for a comparison (pretest to posttest). Lacking a control group, however, obviates chances for comparison of posttest observations. There usually is no random assignment to the treatment group, meaning that selection error can play a role in explaining pretest-posttest differences.



Most research proposed for judging the success of programs designed to help low-income students and students of color under Achieving the Dream fall under this research design. There is no assurance that Group 1 and Group 2 were equivalent before the intervention applied to Group 1, however. For Achieving the Dream purposes, however, this design appears most practical.

What Causes What?

- To really show that there is a causal relationship, you have to simultaneously address the two propositions:
 - If X , then Y
 - and
 - If *not* X , then *not* Y
- Or, in plain English:
 - If the program is given, then the outcome occurs
 - and
 - If the program is *not* given, then the outcome does *not* occur



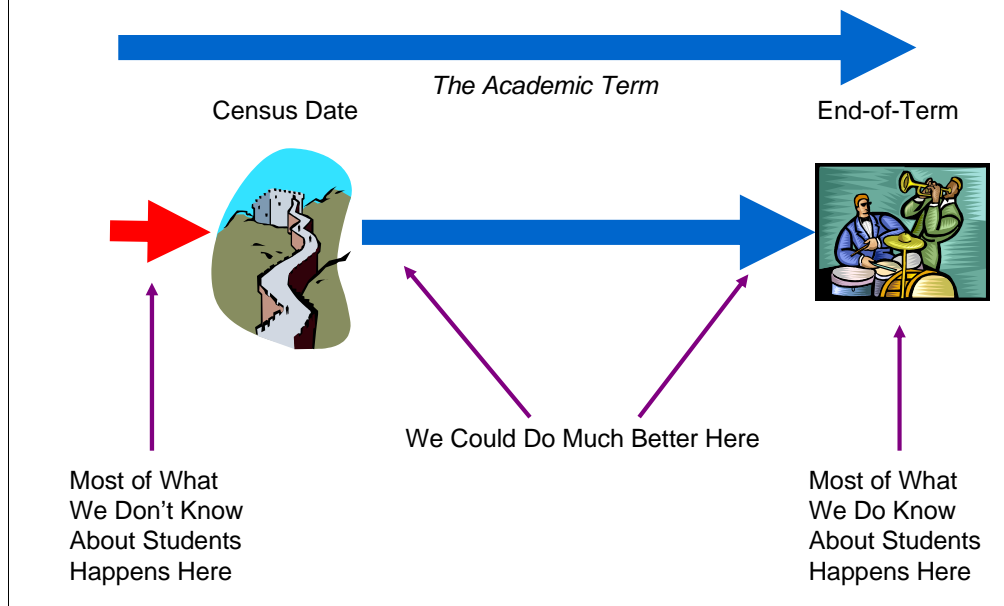
Causality is subject to rules. In addition to one event occurring before another, the logic tree extends to proving that something effects something else by withdrawing it and watching what happens.

There Are Always Barriers



A formidable barrier...the Great Wall!

Academic Terms, Administrative Data Systems, and What We Know About Students



The Great Wall also symbolizes the barriers faced by institutions (and students) in determining who is “officially” enrolled. If a student is attending class (and has paid) by the Census Date, she or he becomes part of institutional history. If he or she leaves prior to Census Date, there is no official record of attendance generated for that term. It is almost as if she or he doesn’t exist, yet their interactions with the institution were probably profound.

Business As Usual

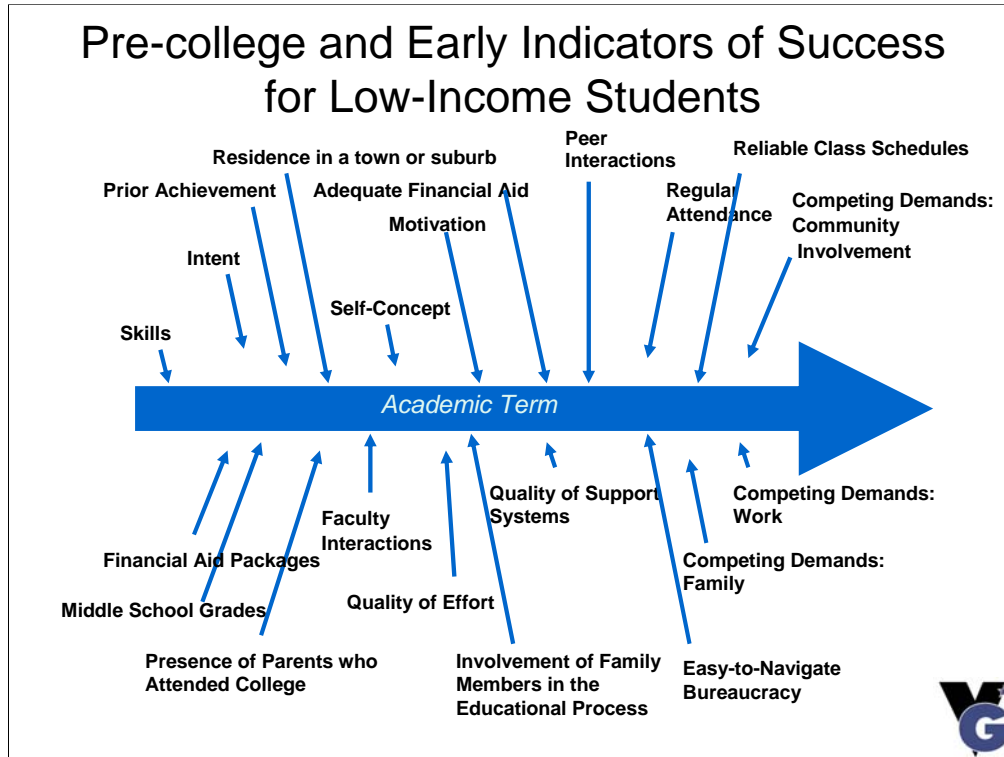
- Most administrative student data systems will provide baseline information about program effectiveness
- They won't, however, give you much more than the basics
- They are incapable of providing either early measures of success or rich detail
- At most they'll produce fractions, for example:

$$\frac{42 \text{ Finished}}{100 \text{ Students Started}} = 42\% \text{ Success Rate}$$

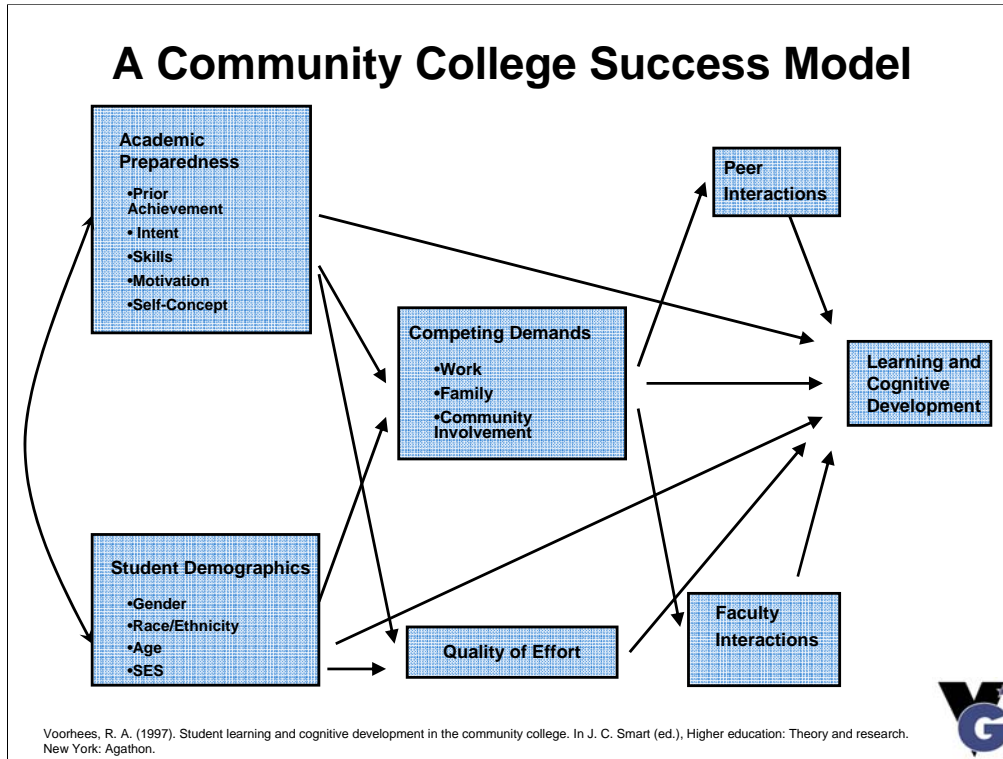


Administrative data systems serve program evaluation, but not well. Simple fractions provide little guidance for program improvement and no information about causality. They are however the main method used by most institutions to evaluate success.

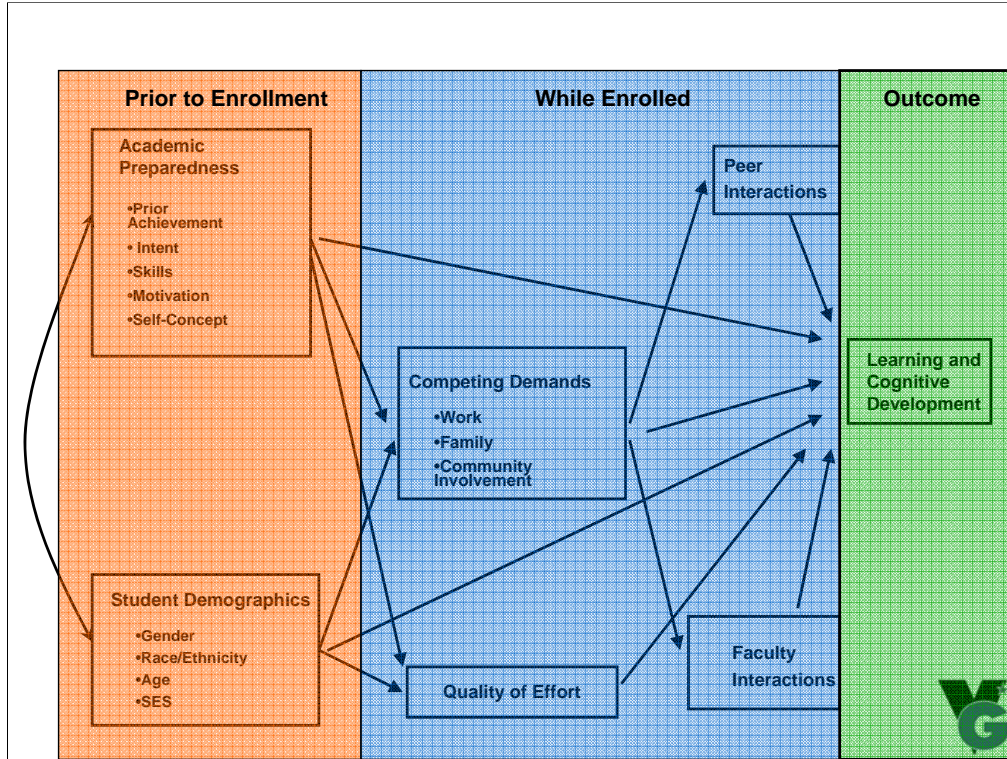
Pre-college and Early Indicators of Success for Low-Income Students



These factors have been shown to impact community college student persistence and success. A subset of these factors have been mentioned in the literature as bearing directly on the success of low-income students and students of color: type of financial aid package, adequate financial aid, presence of a parent who attended college, ease of navigating the bureaucracy, involvement of family members in the education process, and reliable class schedules.



A model I first suggested in 1997 seems especially relevant today. Note the presence of “competing demands,” as set of factors not considered in retention and learning models prepared for 4-year institutions. This models also provides for direct effects of background characteristics, a feature that also is not common in 4-year institutional models developed to predict success.



An attempt at depicting antecedent factors in the model.

Evaluation Pointers

- Developing measures is not straight forward for some but they should be
 - Grade-Point Average is not usually desirable as posttest measures because it is not as sensitive to the treatment (intervention) as a measure specifically appropriate in content and timing (Campbell and Stanley, 1963)
- Specification of competencies can pay dividends for vertical articulation of programs
- Selecting measures (instruments) should be driven by the program and its targets/objectives.
- Don't use an instrument if it does not match desired outcomes



Hard won advice that Achieving the Dream colleges might consider as they broaden the scope of their evaluation efforts from attendance after a term and grade-point average to evaluate short-term program effectiveness

Evaluation Pointers

- Don't wait until the end to evaluate your program (summative). Engage in identifying early indicators of success and measure them often (formative).
- Use both qualitative as well as quantitative data
- Qualitative techniques include focus groups of students, faculty, and administrators. Journaling (on-line or otherwise) can also capture change as it occurs.
- Structure your evaluation so that it institutionalizes a culture of evidence and informs strategic planning. Link it to budgeting and resource allocation decisions.



The last point here is probably carries the most weight at the end of a day. Few community college budgets are built on outcomes. Achieving the Dream offers a rare opportunity to use actionable data to build budgets and cast future plans.

Sources

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Thank you very much!

