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Turning Data into Information: Helping Community Colleges Use Existing Data to Advance Student Success

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Community colleges are major players in addressing educational and workforce development needs nationwide, educating 43% of all undergraduate students in the United States (American Association of Community Colleges, 2010). In addition, with a mission of access and affordability, these two-year institutions are emerging at the forefront of policy discussions as evidenced by President Obama's American Graduation Initiative, a proposal to graduate five million additional students by 2020.

While community colleges have historically provided access, their completion rates are now called into question. The National Center for Education Statistics (2010) reports that only 20% of public two-year college students complete a certificate or associate degree within 150% of normal time to graduation. There are many justified criticisms of this student success metric, but many in the sector acknowledge that more must be done to graduate students. Thus, institutions are emphasizing student success perhaps more than at any other time in their history.

One approach to improving student success is building a "culture of evidence" through data-driven decision making (Allen & Kazis, 2007; K. McClenney, B. McClenney, &

Peterson, 2007; Millett, Payne, Dwyer, Stickler, & Alexiou, 2008; Morest, 2009). A key driver in creating a culture of evidence is *Achieving the Dream*, a national initiative that involves community colleges in 25 states committed to using data to improve student outcomes. In a study of *Achieving the Dream* colleges, Jenkins and Kerrigan (2008) find that half of faculty and administrators examine institutional data on student achievement gaps (a focus area of *Achieving the Dream*) at least once per year, and the majority of faculty and administrators rate the data somewhat or very useful in their respective positions.

In addition, the culture of evidence may include the use of external research. However, Bensimon, Polkinghorne, Bauman, and Vallejo (2004) question the traditional model of research, whereby outside researchers design and conduct studies only relying on practitioners to provide data. In this all too common scenario, the findings and final products of the research may have little influence on the colleges. Instead, Bensimon et al. (2004) advocate for an approach called the "practitioner-as-researcher" model, which actively involves practitioners in the research.

Many community colleges may welcome research collaborators to expand their capacity, which will in effect build on their knowledge using existing data. Morest and Jenkins (2007) find that approximately half of the surveyed community colleges have no more than one full-time-equivalent institutional research (IR) staff member, and most available IR capacity is spent on state and federal compliance reporting, data collection for accreditation, and the generation of internal reports. Few institutions employ sophisticated research methods for program improvement.

With limited resources in many two-year institutions for research and evaluation, there is an opportunity for university faculty to work with community college leaders as they use existing data to understand barriers to and facilitators of student success.

Appropriate Practice in Research and Evaluation

When considering research and evaluation work with a community college, a framework for best practice is the American Evaluation Association's (AEA) Guiding Principles for Evaluators, which includes systematic inquiry, competence, integrity/honesty, respect for people, and responsibilities for general and public welfare (American Evaluation Association, 2004).

Systematic inquiry and competence should be strengths of professional researchers and evaluators entering the community college setting. It is important to bring expertise accompanied by an awareness of the community college culture and a willingness to explain approaches and research limitations to partners in the two-year setting to ensure the appropriate use of findings. One may also consider elements of the "practitioner-as-researcher" model (Bensimon et al., 2004), or at least involve practitioners to enhance the researcher's contextual understanding and to generate a greater commitment to use the findings.

Conducting research with integrity, maintaining respect for individuals, and understanding the researcher's responsibility for the public welfare are also key considerations when working in the two-year setting. Researchers should disclose conflicts of interest, maintain appropriate ethical standards including human subject research compliance when appropriate (many community colleges may not have an IRB process), present findings honestly and fairly, and consider the consequences of reporting while maintaining an independent research perspective.

A researcher may consider appropriate levels of collaboration at all stages of the research process; however, the research design phase and the interpretation of findings may provide the greatest opportunities to add value. When crafting the study design, the researcher can benefit from the practitioner's perspectives on variables of interest, available data elements, and irregularities or nuances in the dataset. Later, when the data collection and analyses are complete, collaborators at the institution can be particularly helpful in interpreting the findings relevant to the institutional culture and policy. As mentioned previously, an independent research perspective is important to maintain; nonetheless, a practitioner may be able to provide greater contextual understanding to draw appropriate conclusions prior to the dissemination of findings.

Synopsis of a Community College Research Project*

A recent project that we completed in collaboration with a community college demonstrates how applying the practices for research and evaluation in the two-year setting enhances understanding of the researcher, expands the capacity of the college, and leads to findings that will inform student success initiatives.

A college in the Southeast, when beginning to look at student achievement, found that their first-to-second-year persistence rate was approximately 55%, which was not inconsistent with peer colleges, yet the institution set a goal to

increase the figure to 70% within three years. Using institutional data, the college leadership found that students who register for classes after the first day of the term were less likely to persist. As a result, the college ended late registration beyond the first day of class. The literature contends that students who register late face challenges to student success (Bryant, Danley, Fleming, & Somers, 1996; Roueche & Roueche, 1993; Smith, Street, & Olivarez, 2002), but late registration may not be the entire picture.

Following initial discussions between the researchers and college leadership, a review of literature showed that additional time-based pre-enrollment variables such as date of admission application (Weiss, 2004-2005) and Free Application for Federal Student Aid submission (LaManque, 2009) may also be associated with persistence. Further conversations in the design phase revealed that the college had an appetite for a more sophisticated analysis involving a combination of time-based variables (date of application for admission, date of application for financial aid, date of course placement tests, and date of initial course registration) and the inclusion of additional variables (age, county of residence, developmental course enrollment, ethnicity, gender, Pell Grant receipt, program area, state tuition support, and full-time/part-time status). Another outcome of the discussions was an expanded definition of student success that incorporates persistence, graduation, or transfer to provide additional context for whether students achieve intended goals.

A Cox Proportional-Hazards Regression (Survival Analysis) displayed that, for three cohorts of entering students, the later a student completes pre-enrollment activities the less likely he/she is to be successful. In addition, older students, part-time students, and those who do not receive merit scholarships were less likely to be successful.

Once the analyses were conducted, the findings were prepared by the research team and discussed with the institution's leaders to ensure that the conclusions accurately reflected and addressed the institutional challenges and policy environment

and that the explanation and presentation of material was relevant for practitioners, college leaders, and policy makers. While maintaining an independent research perspective throughout the process, the researcher continued to glean contextual understanding from experienced professionals in the field.

At the conclusion of this project, the college possesses information showing that (1) registration timing was only one component of the student success formula, (2) additional variables such as part-time status were significant, and (3) other variables such as Pell eligibility were not significant. Perhaps most important is that the college now moves forward with information based on existing data to drive decisions, and the conversation continues between researchers and college leaders as they establish a partnership for future inquiry.

Implications for Research and Evaluation

Based on AEA's Guiding Principles and experience working with community colleges, the following are recommendations for engaging research and evaluation projects in the two-year setting.

First, understand that there are varying levels of research expertise in community colleges. While some institutions may have seasoned researchers, others may operate with a half-time person to fulfill reporting requirements. There could be an opportunity to collaborate with any setting, but it is important to recognize that it takes a combination of technical expertise in research methods and an understanding of community college data to make a project work.

Second, the researcher/evaluator may have different interests than the community college. In the case of a research project, it is important to maintain the highest standards of research to produce findings for dissemination. An evaluation project has its own requirements for independence to provide a fair and honest report of program effectiveness. In each case, a discussion of expectations with the college prior

to completing the project helps to ensure an appropriate conclusion.

Finally, work to understand the community college culture. While there are many similarities with the four-year setting, community colleges are unique in their mission and challenges. Considering those in the community college as research collaborators rather than merely the keepers of data, may result in a shared learning process and a relationship that helps institutions use existing data to advance student success.

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