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Protecting Access for Less Qualified Students
at a Major Research University

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As State and federal dollars for higher education have diminished, programs that appear redundant or ineffective have been targeted for elimination. Institutional research has contributed to the defense of a college at a major university that serves less qualified students who come from underrepresented groups. Multiple data sources including collegiate data bases, State Board of Education data, and student surveys have been used to demonstrate the college's worth. The experience of the college has reinforced its commitment to a collegiate institutional research effort.

Context

At the University of Minnesota , developmental education is the mission of the General College (GC). The college was founded in the 1930s as a port of entry for students who wished to pursue "ordinary" occupations and Associate degrees. The college grew in the 1950s with the entrance of Korean War veterans supported by the GI Bill and created occupational training programs and certificates. In the 1970s, the college developed alternative baccalaureate degrees, primarily for students who had specialized AA degrees from GC and the emerging community college system. By 1985, another alternative degree program had been developed by the State University system, and the University President and Regents decided to eliminate the program from the University. The General College remained, however, and was assigned the mission of preparing underprepared students for other University degree programs.

The emphasis of the college's mission is on the preparation of students for transfer to schools and colleges of the University and other higher education institutions. GC enrolls, and prepares for admission to University degree programs, students who require special preparation because of personal circumstances or previous education. Admissions efforts seek students who can best benefit from their early integration into the University and who are willing to direct their energies to a rigorous baccalaureate education. The curriculum and special programs provide an environment for a diverse population of students, faculty, and staff and seeks to encourage multicultural perspectives in its activities. Pursuing this mission, GC plays a special role in the University's realization of the egalitarian principles that sustain its vitality as an urban, land grant, research institution.

Collegiate versus Institutional Research

The college's administration and faculty recognized that ongoing research on the college's outcomes would be important. Leaders in the college knew that as the college shifted from a general education to a developmental education paradigm, many changes in curriculum and student services would be necessary. Ongoing research would be necessary to monitor the impact of these changes on student success. The college leaders also believed that faculty could not, by themselves, make a transition from publishing in their disciplines to publishing in the field of developmental education and that providing in house consultation on educational research design and statistical analysis would enhance faculty productivity. Finally, the college's faculty believed that the uniqueness of the college's mission would result in ongoing pressure to eliminate it. Up to date information about the college's students, programs and outcomes would be important when questions arose about the viability of the college's mission.

The University's office of institutional research (OIR) produces routine reports that are distributed to collegiate offices. The reports typically provide a variety of information that is useful to a collegiate unit (e.g., entering freshmen characteristics, course enrollment patterns) and that allow for comparisons across collegiate units. Information presented in the institutional reports is based on admissions and student registration databases housed and maintained by the OIR. The institutional databases contain much information that is relevant to the missions of collegiate units. The OIR produces reports that serve a wide variety of collegiate units and, by necessity, are generic in form and content. The OIR will work with collegiate units to conduct customized research projects or reports, but it can take several weeks to several months for these products to be produced and the process can be quite expensive.

The college administration decided to create the General College Office of Research and Evaluation (GC-ORE) in 1987. There had been a history of collegiate research in the General College for decades prior to the founding of the GC-ORE, but these efforts had been conducted primarily by faculty who dedicated part of their time to collegiate research efforts. The GC-ORE has direct access to the University's institutional databases and can extract and analyze information in ways that are pertinent to the mission of the college. The dedication of full-time institutional research personnel to the issues facing the college allows the college to be more self-reflective and proactive in the assessment and evaluation of its curriculum and programs.

Threat of Elimination

The college's belief that the uniqueness of its mission would make it a continuing target for elimination has proven to be well founded. Although Minnesota has a tradition of strong support for higher education, state dollars for the University are declining. Legislators have asked systems of higher education to find ways to consolidate programs, reduce overlap and increase efficiency. University administrators have been told by the legislature, the Board of Regents and faculty that programmatic cuts should be made rather than across the board cuts. In March of 1996, the President of the University and the Provost responsible for General College proposed that the college be eliminated.

The proposal generated a tremendous amount of controversy. After two weeks of public debate, which occurred in the campus and community newspapers and on radio and television programs, the Board of Regents told the President to withdraw the proposal to close the college until issues surrounding access to the University could be more thoroughly investigated. The President and the Provost chose to justify their proposal to close the college with two numbers - the college's 5 year graduation rate and the cost per full time student. While the accuracy of these numbers was never disputed, the meaning or interpretation of them was highly contested. Because the college had been tracking these numbers for several years and had given considerable thought to their meaning, the college's administrators were able

to offer plausible, alternative interpretations of the statistics as well as additional statistics that were not reported by the President and the Provost. The alternative meanings and additional information were critical in gathering support for the college.

The remainder of this paper provides some illustrations of how the GC-ORE has provided information that the college has used to challenge interpretations of information and increase understanding of the college. Additional examples are presented that illustrate the role of the GC-ORE in conducting research on how to best serve underprepared, developmental students at a large research university.

Graduation Rates

As mentioned earlier, the argument made by the Provost and President of the University leaned heavily on two statistics, one of which was the college's 5-year graduation rate of 9%. The admittedly low rate was presented as evidence that the General College was unable to serve underprepared students at the University. Only the graduation rate for General College students was presented. The GC-ORE was able to use the University databases to gather additional information for the discussion of graduation rates. The findings demonstrated that the 5-year graduation rate of liberal arts students was 36%, higher than that of developmental education students, but still quite low.

The low graduation rate of liberal arts students actually offers an explanation for the lower graduation rate of General College students. The majority of General College intra-university transfers (70%) transfer to the liberal arts college. At the time of the proposal to close the college, 5-year transfer rates were based on freshmen cohorts that entered the University prior to fall 1991. Research conducted by the GC-ORE demonstrated that about 25% of General College freshmen from cohorts prior to fall 1991 transferred within the University within three years. If you multiply together the 3-year transfer rate of 25% and the liberal arts 5-year graduation rate of 36%, the result is the 5-year General College graduation rate (.25 x .36 = .09). While part of the responsibility for the low graduation rate lies with the General College, the rate is also restricted by the graduation rate of the receiving college. Even with dramatic increases in transfer rates, the college's graduation rate would remain quite low if the graduation rate of the receiving colleges remain stable. For example, if the 3-year transfer rate were to increase to 70%, the 5-year graduation rate would still be restricted to 25%. This context was not presented in the arguments of the President and Provost.

Another argument that was advanced to justify eliminating General College was that access to the University was available to underprepared students through the community college system. In 1994 the GC-ORE conducted studies comparing the graduation rates of intra- and extra-institutional transfers to the liberal arts college. The 7-year graduation rate for the liberal arts college is estimated at 49% based on 5,045 freshmen who entered the University in the fall of 1987 and 1988. At the University, a new advanced standing (NAS) student is identified as a student who transfers to the University with more than a one-year equivalent of completed college credits (i.e., 39 or more credits). NAS students who transferred to the liberal arts college from another institution in fall terms between 1985 and 1989 were identified and compared to General College students (N = 724) who transferred to the liberal arts college in the same term. The NAS students were further divided into those who came from the Minnesota community college system (N = 1,339) and those who did not (N = 3,685).

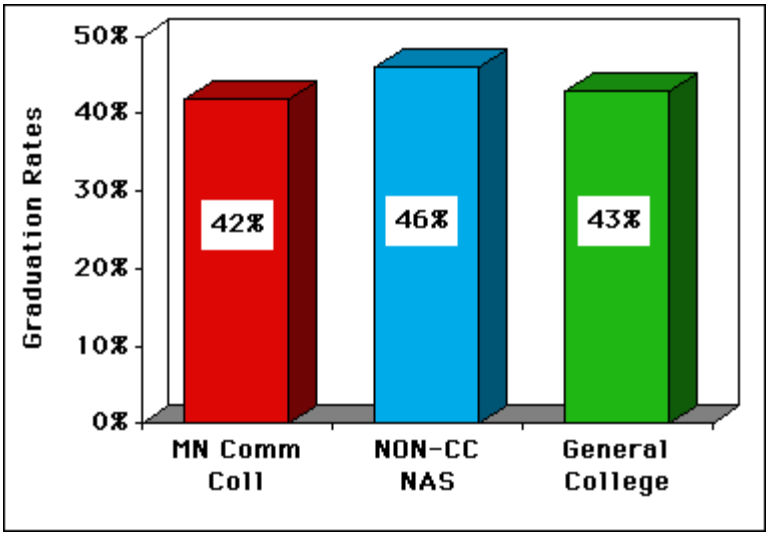
The percent of students who graduated within five years after transfer was determined for each of the three groups. Figure 1 demonstrates that the graduation rates are comparable across the three groups, and are only slightly lower than the expected 7-year liberal arts graduation rate. This finding is quite remarkable when you consider the fact that most of the NAS transfers do not represent underprepared, developmental education students. In other words, General College transfers were prepared to compete well with both students who entered directly into the liberal arts college and those who transferred from other institutions. In addition, General College students accounted for a disproportionate number of the student of color transfers to the liberal arts college. While only 13% of the transfers were from the General College, 38% of the African Americans, 30% of the American Indians, 48% of the Asian/Pacific Islanders, and 31% of the Chicano/Hispanic/Latino students were transfers from the General College.

It takes a great deal of inter-institutional cooperation to conduct the research necessary to determine whether or not a particular group of students is likely to be served better in one institution versus another. As a result of the proposal to eliminate General College, OIR has agreed to work with the college to achieve greater access to the system wide data

necessary to conduct this research. This effort will include overcoming legal obstacles to sharing student data across systems.

Figure 1

Comparison of five-year graduation rates among General College students and all other new advanced standing (NAS) students who transferred to the college of liberal arts in the fall term of 1985 - 1989.



MN CC = Minnesota Community Colleges NAS transfers; N = 1,339
Non-CC NAS = Non-Community College NAS transfers; N = 3,685
GC = General College; N = 724

Instructional Costs

The second statistic used by the Provost to justify eliminating the college was the college's costs. Data on instructional costs is generated annually by OIR and distributed to units. The 1994 Instructional Cost Study is a voluminous report that presents the costs of various collegiate functions (instruction, research, service) in various ways. The Provost selected from the report the highest estimated cost for the college - $8,800 per full time equivalent student - to argue that the college was too expensive. The budget figure used to produce this number included both direct costs (the budget for salaries and supplies), and indirect costs (estimates of the colleges proportional share of central services and the physical plant). When indirect costs are not included in the estimate, the direct cost per full time General College student is $6,910. This cost is very close to the Twin Cities campus average cost per full time student of $7,027. General College spends more per student than other colleges do for their lower division students, but not more than other colleges spend on upper division and graduate students (see Figure 2).

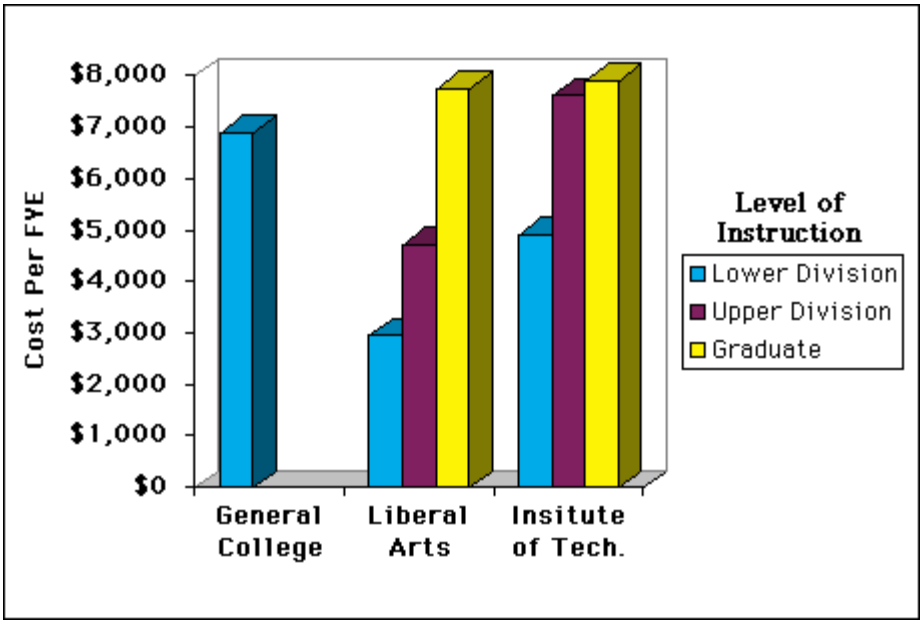
Ironically, instructional costs are not largely under the control of the college. In the 1980s the college had one of the lowest costs per full time student in the university. When the college's mission changed, the central administration reduced the enrollment of the college dramatically. The college's staff and faculty could not be reduced as quickly as enrollment, and so the college has been operating below capacity for several years. Requests by college administrators to allow enrollment to increase were refused by University administrators, exacerbating the cost issue.

Another factor that affects measures of the college's instructional costs is the way the college's non-credit course offerings are treated. General College offers pre-college level mathematics courses that do not earn college credit, but that count toward full time status for financial aid purposes. Students do not pay tuition for these courses, and instead are charged a fee that is somewhat less than tuition would be for an equivalent credit course. Neither the enrollment in these courses nor the revenue generated from them is included in the instructional cost study. Yet these courses account for a significant proportion of the college's course offerings. The estimated direct cost per full year equivalent student is about $5400 when the revenues and enrollments in zero level courses are included in the instructional cost formula. This number is about $1500 less per full year equivalent than the number arrived at in the instructional cost study. Not

counting enrollment in these courses also affects statistics on the number of students enrolled full time in the college.

Figure 2

Comparison of 1994 instructional costs per full-year-equivalent (FYE) student across three University colleges.



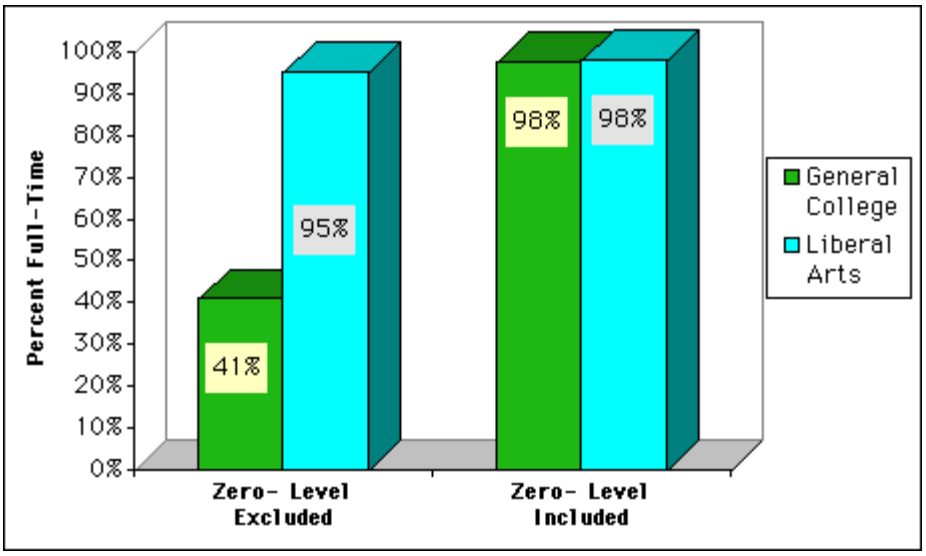
Full-Time Enrollment

Full-time status is defined as being registered for 12 or more credits in a given term. The OIR provided statistics based on this definition that compared fall 1995 General College freshmen (N = 799) with fall 1995 freshmen enrolled in the University's liberal arts college (N = 2,543). Full-time status was based only on enrollment in the fall 1995 term. As can be seen from the first two bars in Figure 3, 95% of liberal arts freshmen were enrolled full-time during their first term compared to only 43% of General College freshmen.

The above definition of full-time status is based only on credit bearing courses. Over half (58%) of the fall 1995 General College population enrolled in at least one 0-level, zero-credit course in their first term. The course was typically some level of precollege developmental mathematics. For financial aid purposes, college credit equivalents have been determined for all 0-level courses offered by the college and are used by the financial aid office to determine eligibility. When the credit equivalencies are used to add credits for 0-level courses, a different picture emerges for full-time status in the two colleges. The second set of bars in Figure 3 demonstrates that the percentage of full-time students does not differ between the fall 1995 General College and liberal arts freshmen. In both colleges 98% of the freshmen are enrolled full-time. The inclusion of 0-level course credits paints a completely different picture of enrollment patterns for the General College, and produces a slight increase in the full-time status rate for the liberal arts college (4% of the liberal arts freshmen were enrolled in 0-level courses offered by the General College).

Figure 3

Comparison between General College and liberal arts fall 1995 freshmen for two different determinations of full-time student status during first term of enrollment.



Retention Rates

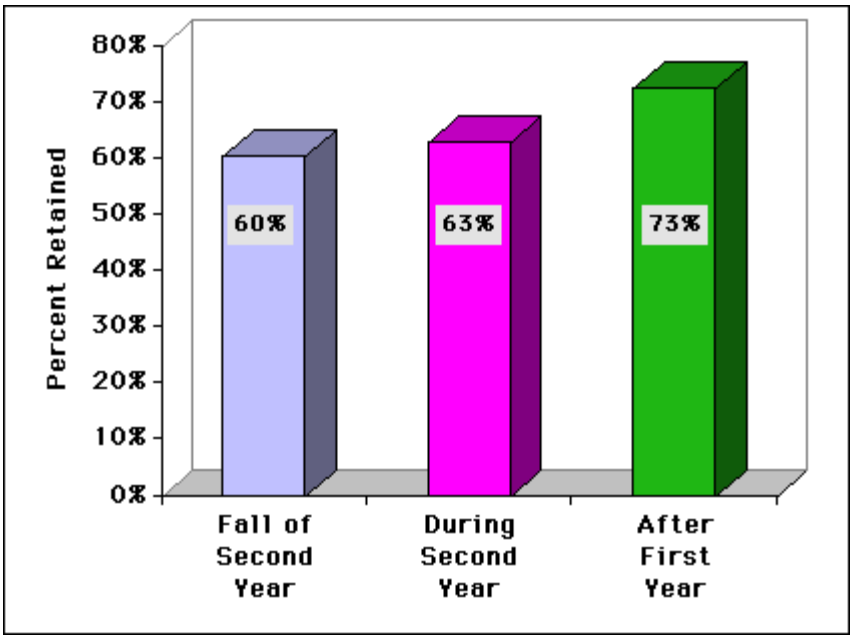
As the debate over the fate of General College continued, retention rates entered into the discussion. Retention rates provide another illustration of how the assumptions that lead to the construction of a data set have an impact on how the outcomes look and are interpreted. The University's OIR typically reports retention for a given freshmen cohort as the percentage of freshmen who were enrolled at the University in the fall after their first year of college. For traditional college students, this definition of retention probably produces a stable statistic that reflects student persistence beyond the first year of college.

The nontraditional, underprepared student population of the General College, however, is not accurately measured by this definition of retention. It is common for General College students to not necessarily drop-out entirely, but to stop-out for a term or two before continuing their college education. The traditional definition of retention presented above does not take this stop-out behavior into account. Figure 4 illustrates the effects of three different definitions of retention, the first based on the traditional definition and the last two based on definitions that take stop-out enrollment into account.

The retention rates are based on three General College freshmen cohorts that matriculated to the University in the fall term of 1990, 1991, and 1992. Using the traditional definition of retention, the one-year retention rate for these three freshmen cohorts is 60%, the statistic provided by the OIR to University administrators and committees. If one-year retention is defined as the percentage of students who return sometime during their second year, the retention rate is calculated as 63%. When a third definition is used, the percentage of students who return to the University sometime after their first year, the retention rate jumps to 73%, fully 13% higher than the rate based on the traditional definition. While the difference between the three statistics is only 13%, the psychological distance between 60% and 73% feels greater than that; 60% feels more like a half, and 73% feels more like three quarters. The college has been able to present these statistics along with the description of stop-out enrollment to regents, legislators, and other decision makers to effectively establish that General College students are dedicated students who do persist, albeit at a slower rate than traditional students.

Figure 4

Retention rates of General College students (1990, 1991, and 1992 fall freshmen; N = 2421) based on three different criteria.



Transfer Rates

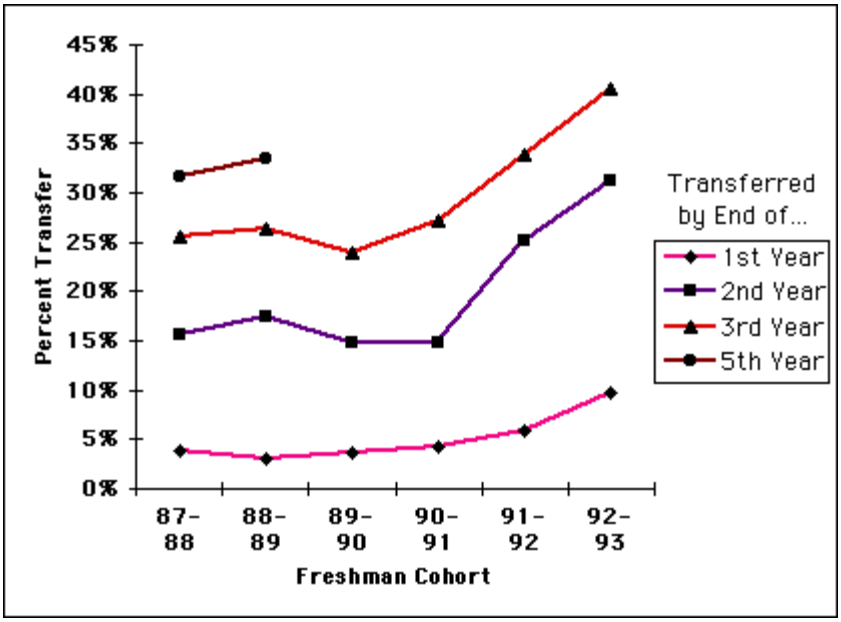
In fall 1995, the GC-ORE made a presentation of General College outcomes research to the newly appointed university Provost responsible for General College. Statistics from this report were later used to support the proposal to close the General College, although information was used selectively. Statistics that supported the argument to close the college were cited in the Provost's written and verbal statements, while other statistics were not mentioned. One case in point involves the intra-university transfer rate of General College students. One of the primary goals of the General College is to prepare nontraditional students for transfer to a degree granting unit within the University. The Provost accurately stated that historically the General College has transferred only 35% of its students within the University and presented the statistic as evidence that General College was not successfully serving its student population.

As often occurs in a debate, the statistic was presented outside of the context in which it was defined and produced. The statistic came from a study that compared transfer to the University of Minnesota of full-time Minnesota community college students with General College students. The study was based on freshmen who entered both institutions in the fall terms of 1984 through 1988 (General College: N = 4,938; Community Colleges: N = 23,403). These freshmen cohorts were chosen because the Minnesota Higher Education Coordinating Board (HECB) had recently compiled a database reporting on transfer rates for these particular freshmen cohorts, and similar data could be accessed for comparable General College cohorts from the University's databases. What the Provost did not mention was that while only 35% of General College freshmen transferred within the University, only about 8% of full-time community college students did so. One conclusion is that the General College provided a higher rate of access to the University than the state community college system, a conclusion that was inconsistent with the Provost's assertions that underprepared students could be served in the community colleges as well as they were being served in GC.

The General College freshmen cohorts selected in the previous study were chosen for comparison with community college students. These cohorts, however, are not necessarily representative of students who have experienced the General College since it adopted its new mission in fall 1986. The new mission resulted in many changes to the college's curriculum and programs in an attempt to produce better student preparation and higher transfer rates. The GC-ORE argued that information on more recent cohorts was needed to assess the impact of these changes. This information was collected and is presented in Figure 5. Figure 5 illustrates that while transfer rates remained fairly stable for General College freshmen cohorts entering between 1987 and 1990, an increase in the intra-university transfer rate is noticeable starting with the 1990-91 cohort. In fact, the three year cumulative transfer rate of the 1992-93 freshman cohort exceeds the five-year rate of previous cohorts. This information was given to the Board of Regents as an indication of the progress the college has made toward achieving the transfer mission in the years since the termination of the former mission.

Figure 5

Changes in intra-university transfer rates across six General College freshmen cohorts*



* Transfer rates are cumulative. The "1st Year" line represents percent of freshmen transferred by the fall of the second year after matriculation while the "2nd Year" line represents percent of freshmen transferred by the fall of the third year after matriculation.

Conclusions

While the Provost's statements about the college did not fully misrepresent facts, neither did they fully inform the decision making process. Because information was available from research conducted by the GC-ORE, the college was able to present additional information that added to the debate on the future of the college. We believe this case illustrates how an internal IR unit can be useful to visible, controversial programs in higher education. These benefits include:

- encouraging the program to be self-reflective, to know its students, programs and outcomes
- understanding how institutional data is compiled and how these processes are consistent or inconsistent with the programs view of itself ,
- developing cooperative relationships with the system or university institutional researchers that help them understand the nature of the program and its evaluation issues, and
- anticipating the questions outsiders will have about the program and developing answers to those questions before they are asked in public arenas.