



Minnesota  
STATE COLLEGES  
& UNIVERSITIES

# Student Success Measures & Systems

Office of Internal Auditing  
Reference Number 2008-09-001

Public Release Date – October 17, 2007

Members of the MnSCU Board of Trustees  
Chancellor James H. McCormick.

In October 2006, the Audit Committee approved my office conducting a study of measures and information systems that support student success (retention, transfer, or graduation). This report focuses on the matters of most interest to the Board of Trustees. In addition, we have communicated some additional operational issues to presidents and the Chancellor for corrective action.

We conducted this study in compliance with the *Institute of Internal Auditors: Standards for Professional Practice of Internal Auditing*.

We appreciate the excellent cooperation and assistance that we received from employees in the Academic and Student Affairs Division of the Office of the Chancellor and all MnSCU colleges and universities.

John Asmussen, CPA, CIA, CISA, MBA  
Executive Director

## Summary

### *Student Success Measure*

- The data supporting the system-wide student success measure is reliable, compiled consistently across colleges and universities, and conforms to a uniform definition. Users must be cautious, however, because there are some limitations in consistency of certain data elements over time and interpretative problems with overall success rates.
- More credibility for this measure must be built with presidents and other constituents. Users need guidance on how to link the system-wide measure to college and university operations. College and university reports to the Board of Trustees should use the official system-wide measure whenever possible, rather than college and university specific operational measures.
- Certain underlying measurement limitations and national trends merit continued study to further enhance the validity of the measure. Possibilities include a methodology to establish student intent based on course-taking behavior, make transfer success contingent on academic standing, and include data on Spring entrants.

### *DARS and CAS Implementation*

- System-wide implementation has not been achieved for two information systems designed to facilitate monitoring and managing student progress toward completing academic programs. Full implementation of the Degree Audit Reporting System (DARS) was expected by December 31, 2002, and the Course Applicability System (CAS) by December 31, 2004.
- Full implementation of these systems will facilitate course transfer, improve graduation planning, produce efficiencies in student advising, and help enable innovations such as predicting demand for course offerings and reducing time for students to earn degrees.

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**This report will be released publicly on October 17, 2007. Please take precaution to avoid public distribution prior to that date.**

*Marita Hickman, East Metro Regional Audit Coordinator,  
had lead responsibilities for this project.*

## I. Scope & Methodology

There were two major components to the study:

- **System-wide and College and University Student Success Measures** focused on testing the reliability of a statistical sample of student records represented in the system-wide student success dashboard. Also, some validity tests were designed to assess key assumptions for the student success measurement model. Finally, college and university awareness and use of the student success measure was assessed through on-campus interviews.
- **Student-level Success** focused on college and university use of the Degree Audit Reporting System (DARS) and Course Applicability System (CAS). We assessed the degree to which each college and university has implemented and maintained DARS/CAS and the reliability of reports available to students for monitoring their progress toward earning an academic award.

Internal Auditing conducted fieldwork for the project at all 37 colleges and universities from March 2007 to August 2007. Key features of the methodology included:

- Tested key attributes from a system-wide random sample of 456 students drawn from a population of 540,256 records covering six cohorts of entering students from Fall 2000 to Fall 2005.
- Tested supplemental samples of student records at each college and university to assess the reliability of the student success measure at each college and university.
- Conducted interviews of key staff at each college and university to gather information on the use of the student success measure and the DARS and CAS systems.
- Tested a sample of student records on the DARS and CAS systems when necessary to confirm the status of DARS and CAS implementation as of August 2007.

Internal Auditing worked closely with staff from the Office of the Chancellor Academic and Student Affairs Division on designing the methodology and interpreting final results. In particular, we wish to recognize the assistance and support provided by Dr. Craig Schoenecker, System Director for Research, and Ms. Laurie Tralle, DARS/CAS Project Director.

## II. System-wide Student Success Measure

### *Background on the Student Success Measure*

In June 2003, the Board of Trustees approved the System-wide Accountability Framework. At that time, the framework was a conceptual design that identified the types of performance measures that would demonstrate progress toward achieving the system-wide strategic plan. The technical design and definition of the measures was assigned to the MnSCU Research unit<sup>1</sup>. The MnSCU Research unit worked in consultation with the system's Institutional Research Director's Group to define and develop each measure. At the September 21, 2004, Audit Committee meeting, the System Director for Research presented the initial version of a set of measures designed to assess student success.

In essence, the student success measure shows the percentage of students who are making progress toward earning an academic award. Students are measured as a success if they are retained at the college or university (continue to enroll at the same college or university in subsequent terms), transfer to another institution (includes all other MnSCU colleges and universities and any other institution that provides data to the National Student Clearinghouse<sup>2</sup>), or graduate with an award (includes certificates, diplomas, associate degrees, baccalaureate degrees, and graduate degrees).

The measure has a longitudinal design that tracks the success of each cohort of students who enter a MnSCU college or university in a fall semester. A cohort's success rate is measured for each subsequent spring and fall term for six years following enrollment. The success measure can be analyzed by sub-cohorts based on particular attributes, e.g. admissions type, family income, parental education, and race/ethnicity.

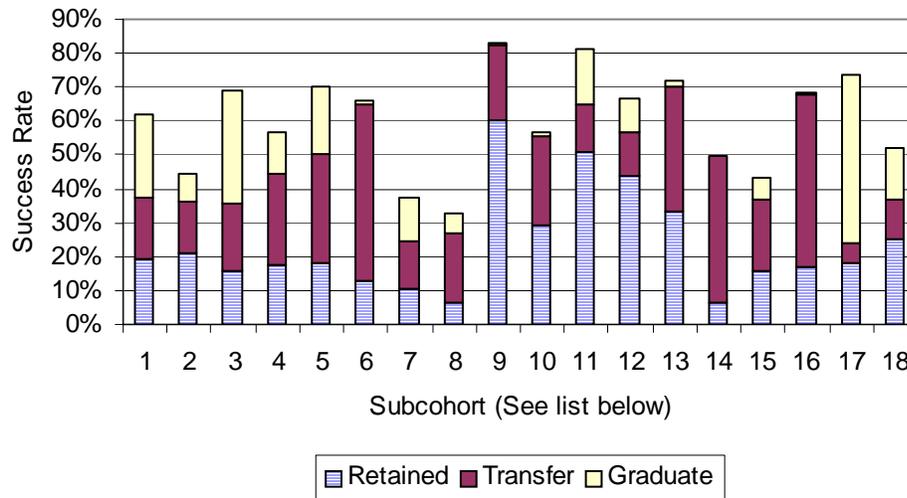
Because of the depth and complexity of the student success measure, the MnSCU Research unit began work to design an interactive dashboard that would permit users to combine, compare, and drill down into the measure in a variety of ways. When the dashboard took longer than anticipated to develop, the MnSCU Research unit distributed summary student success reports to each college and university in Spring 2005. An initial version of the system-wide dashboard was released in early 2006 and access to the detailed data tables was made available to the colleges and universities in Summer 2006. Public access to system-wide summary student success data has been available since November 2006. A MnSCU accountability scorecard is in the final stages of development. The scorecard, which is expected to be released in final form in March 2008, will provide public access to a version of the student success dashboard that will show college and university level student success measures. Figure 1 illustrates the data available from the dashboard and the variability in success rates depending on ways in which students enter.

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<sup>1</sup> The MnSCU Research unit is a work group in the Office of Research and Planning within the Minnesota State Colleges and Universities Office of the Chancellor. It has responsibility for conducting research and data analysis and preparing reports about Minnesota State Colleges and Universities.

<sup>2</sup> The National Student Clearinghouse is a non-profit organization that serves as a central repository for more than ninety percent of higher education institutions within the United States for data on student enrollment and certificate, diploma and degree awards.

**Figure 1: MnSCU Student Success Dashboard  
Fall 2004 Entering Cohort Measured in 3<sup>rd</sup> Fall Term**



**Fall 2004 Cohort - 3rd Fall Success Rates**

Subcohort #	Institution Type	Admissions Status	Enrollment Status	Student Headcount	% of total Cohort	Success Rate
1	Colleges	Undergrad Regular	Full-time	20,234	30%	62%
2	Colleges	Undergrad Regular	Part-time	9,198	14%	45%
3	Colleges	Undergrad Transfer	Full-time	3,979	6%	69%
4	Colleges	Undergrad Transfer	Part-time	3,437	5%	57%
5	Colleges	High School PSEO	Full-time	1,677	2%	70%
6	Colleges	High School PSEO	Part-time	5,340	8%	66%
7	Colleges	Other Undergrad	Full-time	246	0%	37%
8	Colleges	Other Undergrad	Part-time	3,104	5%	33%
9	Universities	Undergrad Regular	Full-time	8,157	12%	83%
10	Universities	Undergrad Regular	Part-time	164	0%	57%
11	Universities	Undergrad Transfer	Full-time	4,132	6%	81%
12	Universities	Undergrad Transfer	Part-time	1,358	2%	67%
13	Universities	High School PSEO	Full-time	218	0%	72%
14	Universities	High School PSEO	Part-time	2,719	4%	50%
15	Universities	Other Undergrad	Full-time	114	0%	43%
16	Universities	Other Undergrad	Part-time	1,472	2%	68%
17	Universities	Graduate Student	Full-time	859	1%	74%
18	Universities	Graduate Student	Part-time	1,334	2%	52%
System - All Students in Fall 2004 Cohort				67,742	100%	62%
Colleges - All Subcohorts in Fall 2004				47,215	70%	58%
Universities - All Subcohorts in Fall 2004				20,527	30%	73%

Source: Data extracted by Internal Auditing from the MnSCU Student Success Dashboard (June 2007 version).

The importance of this measure was elevated in 2006 when it was adopted as a component of the system-wide and institutional performance target-setting process. In August 2006, the Senior Vice Chancellor asked presidents to use the student success data as a basis for setting performance targets for student retention and closing the achievement gap of racial/ethnic minority students. The institutional targets were accumulated into the following system targets approved by the Board of Trustees in September 2006:

- Improve the Fall 2011 retention rate for Fall 2010 entering students by 4.3%, increasing to 51.0%, compared to 46.7% for the Fall 2005 retention rate for Fall 2004 entering students.
- Improve the Fall 2007 success rate for Fall 2006 entering students of color by 1.0%, increasing to 60.7%, compared to 59.7% for the Fall 2005 success rate for Fall 2004 entering students.

### ***Test Results – Student Success Data***

Internal Auditing completed its testing of the reliability of the data underlying the student success measure in April 2007. Conclusions on this phase of the project were communicated to the Board of Trustees' Audit Committee in May 2007. The testing identified exceptions in two areas:

- The National Student Clearinghouse used for determining whether students had transferred to another institution did not identify some students who had transferred to other MnSCU colleges and universities. Internal Auditing estimated that the transfer-out rates shown in the dashboard for full-time students were understated by about 1% for full-time students. The problem was diagnosed as restrictions on data reported to the National Student Clearinghouse in order to comply with federal student privacy laws. Because this additional data was available to the MnSCU research unit, Internal Auditing recommended that the Integrated Student Record System (ISRS) student record module be used to supplement transfer information obtained from the clearinghouse.
- The data processing methods did not identify academic awards granted to a few students tested. This condition could be remedied with a modest programming change. Internal Auditing estimated that graduation rates shown in the dashboard were understated by about 4% for full-time students.

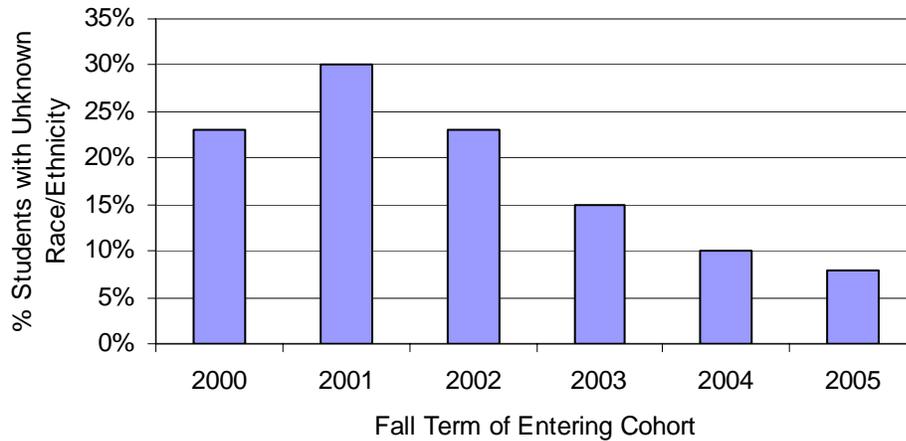
The MnSCU research unit took immediate action to correct both of these situations. It revised the student success data and updated the dashboard in June 2007.

### ***Dashboard Reliability - Limitations***

The test results also revealed some features of the data that limited the ability to compare trends over time or between colleges and universities. Two limitations resulted from significant improvement in the data for recent cohorts:

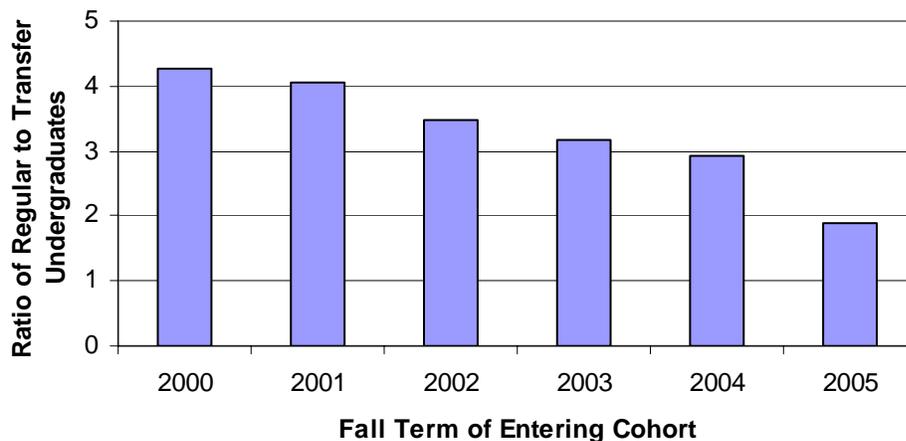
- Figure 2 shows that for the early years (fall 2000, 2001, and 2002), the percentage of students with an unknown race/ethnicity was extremely high, ranging from 23-30%. Since fall 2003, that percentage has steadily declined so that by fall 2005, the race/ethnicity was unknown for only 8% of the entering students. Thus, disaggregating student success by race/ethnicity should be interpreted with caution. Also, this data should not be used to assess enrollment trends for students of color.

**Figure 2: Inconsistencies in Percentage of Students with Unknown Race/Ethnicity**



Source: MnSCU Student Success Dashboard, June 2007 version.

**Figure 3: Inconsistencies in Classifying Undergraduates as Regular or Transfer**



Source: MnSCU Student Success Dashboard, June 2007 version.

- Figure 3 shows the results of automating the process for classifying undergraduate students as transfers or regular admits in fall 2005. Significantly more students were classified as undergraduate transfer students than undergraduate regular students in fall 2005 compared to earlier years. This change in ratios primarily resulted from better data on student admission status, rather than a dramatic change in the proportion of transfer

students. To overcome this limitation, undergraduate regular and transfer students should be combined for analytical purposes.

A third limitation concerns the difficulty of interpreting and comparing overall institutional student success rates. As illustrated in Figure 1, there is substantial variation between the student success rates depending on the educational pathway of the sub-cohort. For example, part-time college students admitted as “Other Undergrad” have average success rates of 33% and full-time university students admitted as “Undergrad Regular” have an average success rate of 83%. The “Other Undergrad” category includes mostly students who do not aspire to earn an academic award, thus explaining its relatively low success rate. The figure further shows that part-time students have significantly lower success rates than full-time students. Therefore, overall institutional success rates of two institutions that have a very different proportion of sub-cohorts likely will not be comparable. Table 1 illustrates this phenomenon.

**Table 1: Hypothetical Student Success Example**

Student Success Statistics	Hypothetical Institution	
	Alpha College	Beta College
PSEO Students:		
Proportion of institution’s enrollment	5%	20%
Success Rates	80%	95%
Full-time Undergraduate Regular students		
Proportion of institution’s enrollment	80%	20%
Success Rates	60%	70%
Part-time Undergraduate Regular students		
Proportion of institution’s enrollment	15%	60%
Success Rates	20%	30%
Overall Institutional Student Success Rates (1)	55%	51%
Success Index (2)	.91	1.11

- (1) A weighted average of success rates at each institution.
- (2) Assumes normative success rates of 90% for PSEO, 65% for Full-time Regular, and 25% for Part-time Regular. Index is the ratio of overall success rates to sum of normative success rates multiplied by actual enrollment proportions at each institution. An index of 1.00 indicates that the overall success rate equals the normative success rates.

In the hypothetical example, Alpha College has a higher overall success rate, despite each of its sub-cohorts having a lower success rate than comparable sub-cohorts at Beta College (known by statisticians as Simpson’s Paradox). The overall success rates suggest a false indicator that Alpha is a more effective college than Beta. Adoption of a success index overcomes this effect and provides a method for comparing the effectiveness of colleges, despite having very different enrollment profiles.

As an interim solution to this limitation, the MnSCU Research unit has designed the student success measure dashboard so that the default institutional success rates are based on only full-time undergraduate students. This solution, though, does not evaluate success of substantial numbers of part-time and PSEO students. Users are able to access data on these other sub-cohorts but may not realize the interpretative problems associated with combining success rates of sub-cohorts. Thus, the potential exists for users to reach false conclusions on institutional effectiveness.

### ***Data Reliability - Conclusion***

The revised student success dashboard released by the MnSCU Research unit in June 2007 presents the measure that is based on reliable underlying student records. Users should be warned, though, that the consistency of certain trends may be affected by the limitations on the attributes related to student race/ethnicity and transfer status of enrolling students. Furthermore, users must be cautioned not to use overall institutional student success rates as a basis for judging institutional effectiveness.

### ***Validity and Utility of the Student Success Measure – Short-term Considerations***

While the student success measure shows a high degree of reliability, it also is necessary to consider whether the measure has validity and utility. Validity of the measure is concerned with whether it offers a fair representation of true student success. Perceptions about validity are important because they impact utility of the measure. Confidence in the validity of a measure should enhance its use. Utility is also affected by the availability (timeliness and granularity of measurement) of a measure for different purposes. To support operating decisions, a measurement may need to be generated quickly and frequently at a very detailed level. Strategic decisions may be better served by highly aggregated data that are delivered less frequently.

Interviews with college and university representatives revealed a very limited awareness of the MnSCU student success measure. Thus, most institutions have employed different measures for assessing the success of their students. Some institutions have developed very elaborate and intensive methods for measuring student development. Other institutions rely on more informal or subjective assessment methods. Because the MnSCU student success data was not well understood and detailed data only recently became available to institutions, it has not gained a prominent role in college and university operations. Some institutions are just beginning to experiment with using the MnSCU student success measure for operational purposes. Other institutions have been attempting to reconcile it to their own measures of student success. Some institutions were unaware that the MnSCU student success measure was available for their use beyond setting the performance targets.

There are some complications with sharing academic records between MnSCU institutions. Federal data privacy laws consider each MnSCU college and university to be an independent entity. Accordingly, colleges and universities are able to disclose only public data, such as information published in student directories, to other institutions. Broader disclosures are permitted only with student consent or under extenuating circumstances. Federal privacy laws do, however, permit the MnSCU Research unit to access student records across the system.

Thus, the MnSCU Research unit must take precautions to ensure that data is disclosed to individual institutions only as permitted by federal and state law. In some cases, particularly for transfer-out data, the MnSCU Research unit is able to provide colleges and universities with summary data on students, rather than student record unit data. Without student record unit data, institutions are not able to replicate the complete results of the student success measure for use in additional analysis and operational purposes.

For these various reasons, some disconnection exists between the MnSCU student success measure and institutional measures for assessing student academic progress and success. Continued disconnection will create the following difficulties:

- Colleges and universities may not understand or be able to explain changes in their MnSCU student success results reported at the system level. Operational data may show results that are inconsistent with changes in student success.
- The Board of Trustees and the Chancellor may be provided with different and perhaps conflicting information about institutional student success measures. Currently, institutions report student success statistics to the Board of Trustees as campus profiles and in the quarterly reports. Because no standards guide the presentation of those statistics they may vary from results shown in the MnSCU student success data.
- Scarce institutional research resources are further stretched when each institution feels compelled to prepare its own data files for measuring student success.
- Institutional definitions and measures that differ from the MnSCU measure complicate comparisons between institutions and may lack a meaningful context for evaluating progress.

As awareness about the definition of student success has spread, a common question is raised about its perceived validity – Does it really measure success for all students? The current definition essentially measures progress toward earning an academic award. Students who are retained, transfer out to another institution, or earn an award from the college or university are counted as “successful.” Students who do not meet these criteria are implied to be unsuccessful. Nonetheless, critics of the current definition, most prominently administrators from two-year colleges, object to forcing this definition of success onto students who clearly have no intention to earn an academic award. For instance, they point out that students who are incumbent workers may enroll in one or two courses to improve their skills, but have no desire to pursue an entire academic program. Under the current definition, such students would not be counted as a “success” (For example, see the 33% success rate for part-time college students admitted with an other enrollment status in Figure 1). Although renaming the measure as an indicator of progress toward an academic award is a possibility; at a minimum, the current limitations on measuring success for some sub-cohorts should be disclosed, and work toward overcoming these limitations should continue with future versions of the dashboard.

It is important that MnSCU establish an official measure of student success and use it as a fundamental component of its accountability framework and basis for evaluating the effectiveness of programs and support services. The MnSCU Research unit has begun to

develop tools that will support institutional evaluation efforts. It is working with a pilot group of four colleges that are using the dashboard to evaluate the effectiveness of developmental coursework and TRIO<sup>3</sup> programs. Two universities also have been collaborating on how to use accountability data to improve student success rates.

Based on our assessment of the reliability and validity of the current student success measure, we conclude that it provides an excellent starting point for an official measure. Furthermore, because it is necessary to increase awareness of this measure and facilitate its interpretation, the measure should be reasonably stable. The MnSCU Research unit has committed to maintaining the stability of the dashboard by packaging changes into periodic version updates. We offer the following short-term recommendations:

#### *Short-term Recommendations*

- *The Academic and Student Affairs Division should prominently disclose the limitations about the current MnSCU student success measure.*
- *The Academic and Student Affairs Division should consider additional steps, such as training programs, to build awareness about the MnSCU student success measure.*
- *The Academic and Student Affairs Division should consult with the Office of General Counsel about possible solutions for sharing detailed student records on students who transfer-out to other institutions.*
- *The Academic and Student Affairs Division should continue to work with institutions on designing tools to facilitate use of the student success measure for evaluating academic and student support programs.*
- *Colleges and universities, to the extent possible, should ensure that public information on the student success measure, particularly information provided to the Board of Trustees, conforms to the official definition of student success.*

#### ***Validity and Utility of the Student Success Measure – Long-term Considerations***

Much of the impetus for designing the MnSCU student success measure resulted from severe shortcomings in existing national measures of student achievement. Tracing back to the federal Student Right to Know Act of 1991, graduation rates have been used as the most common measure of institutional effectiveness. The federal measure, though, is based on only first-time, full-time students enrolling in a fall term at an institution. For MnSCU system-wide, only about 25-30% of entering students fit the federal definition of full-time, first-time, fall entrant. The remaining students enroll part-time, transfer from another institution, initially enroll in a Spring term, or do not fit some other aspect of the definition. Some MnSCU colleges and universities, such as Metropolitan State University, enroll very few students who fit the federal definition. Also, the unilateral emphasis on graduation as an indicator of success in the federal definition

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<sup>3</sup> Federal programs designed to motivate and support students from disadvantaged backgrounds.

fails to recognize that some students are intent on transferring between institutions before earning an academic award. The MnSCU measure of student success offers many advantages over the official federal measure.

The shortcomings of the federal measure have prompted other organizations to begin development of improved measures of student success. For example, the Minnesota Office of Higher Education released the Minnesota Measures: 2007 Report on Higher Education Performance in February 2007. The American Association of State Colleges and Universities (AASCU) and the National Association of State Universities and Land-Grant Colleges (NASULGC) have obtained a grant from the Lumina Foundation to develop a Voluntary System of Accountability (VSA). The VSA project remains in draft form, but includes an “Undergraduate Success & Progress Rate” which has some similarities to the MnSCU student success rate. The VSA measure, though, includes only full-time students and conditions success on continued enrollment or graduation at any higher education institution at two points, four and six years, after initial enrollment at a university. Because this project was developed by four-year universities, it cannot be easily applied to two-year colleges. A professional association of two-year colleges, the American Association of Community Colleges (AACC), is exploring whether to develop an accountability framework for two-year colleges. Finally, the U.S. Department of Education continues to expand its data collection efforts and may be positioned to improve on its current measure of student success in the future.

MnSCU needs to continue to monitor national efforts to measure student success. In particular, it will be important to find methods to compare MnSCU colleges and universities to peer institutions from other states. Those comparisons are currently limited to the national data for graduation and retention rates. As opportunities to compare student success rates emerge, MnSCU must be prepared to revisit its measurement definitions and methods.

Although the MnSCU measure of student success is much more robust than existing national measures, it also is important to consider potential limitations with the MnSCU measure. Some limitations deserve additional study to determine whether the effects on validity are significant and to explore potential innovative solutions. We identified four potential limitations that merit further consideration:

- **Limitation 1: Not all students are intent on earning an academic award.** In fact, attendance patterns indicate that some students are intent on enrolling in only a few courses and have no interest in earning an academic award. This pattern is most evident in the “Other Undergraduate” admission sub-cohort. In Figure 1, college students who are classified as “Other Undergraduates” show a success rate of only 33%. It also is likely that many students classified as “Undergraduate Part-time” may have a course completion objective, and no intention on earning an academic award. Thus, the success rate of part-time students may be understated because the category contains students who have goals other than earning an academic award. In lieu of focusing success on earning an academic award, the measure could focus on students fulfilling their academic goal or intention. Admittedly there are difficulties in accurately capturing students’ intentions at the point of admission. Rather than relying on students’ expression of their intention, it may be possible to use course registration patterns as a proxy for intention. For example, students who enroll in one or two courses, do not apply for financial aid, and do not

enroll in a subsequent term could be considered as an “Other Undergraduate”, rather than “Part-time Undergraduate Regular” admissions status. If the student later demonstrated a course registration pattern that suggested their intention as a degree-seeker, their success could be assessed against a new intention as a “Part-time Undergraduate Regular” student. If sub-cohorts were defined according to student intentions, then criteria for “success” could be established for each sub-cohort separately. For example, “success” for students who are not considered degree-seekers, e.g. “Other Undergraduate” and “Post-secondary Enrollment Options” students, could be measured based on course completion rather than degree completion. Finally, under certain conditions, a student may complete coursework sufficient to make them marketable to employers without earning an academic award. In some high demand fields, students may be hired away before completing degrees. Thus, obtaining an academic award may not be a valid indicator of success. Instead, some measure of substantial completion may be a better indicator of success.

- **Limitation 2: Students may complete a certificate program and be considered successful, even if the student is pursuing a more advanced degree.** Several institutions have created certificate programs that may be awarded to students after completion of only one or two courses. According to MnSCU management reports, for the 2006 academic year, 18% of MnSCU academic awards were certificates. If earning a certificate was the student’s objective, then it becomes a valid indicator of success. Often, though, students may be intent on earning an associate or baccalaureate degree and earning a certificate is only an interim measure of their ultimate goal. A more sophisticated methodology for determining student intent, such as examining course taking behavior as discussed in Limitation 1, could allow tying academic success to earning a particular type of award.
- **Limitation 3: Students may transfer to another institution, but not be successful.** Under the current definition, a college or university is credited with a successful student if the student reenrolls at a different institution. Neither the student’s academic standing at departure nor success at subsequent institutions affect whether the student is considered successful at the initial college or university. If transfer-out success was conditioned on good academic standing at departure from the initial college or university, Internal Auditing estimates that student success rates for full-time undergraduates would decline by about five percentage points. Academic difficulties appear to be a major factor contributing to student transfer decisions. Another option for determining whether to count transferring students as successful would be to make success conditional on whether a student remains enrolled or earns an academic award from a subsequent institution. The Voluntary System of Accountability (VSA) plan uses such a method for determining the success of students who transfer out.
- **Limitation 4: Excluding students who enter in Spring terms may distort college and university success rates.** The current student success measure is limited to students who enter in Fall terms. This assumption is valid only if an insignificant percentage of students enter in Spring term or success rates of Spring entrants does not differ from Fall entrants. An analysis of data conducted by Internal Auditing estimated that for first-time degree seekers (excluding transfer students), approximately 90% and 72% of university

and college students, respectively, entered in the Fall term. The first term retention rates of Spring entrants, though was about twenty percentage points lower than for Fall entrants. The reasons for this difference are unclear; however, a disproportionately high percentage of Spring entrants are from underrepresented populations. Thus, further study of Spring entrants is warranted. These statistics suggest that overall MnSCU student success rates would be lowered by about five percentage points, if Spring entrants were included in the formula.

#### *Long-term Recommendations*

- *The Academic and Student Affairs Division should monitor national developments in measuring student success.*
- *The Academic and Student Affairs Division should examine the effects of limitations on the validity of the student success measure.*
- *The Academic and Student Affairs Division should consider redefining future versions of the MnSCU student success measure as warranted by internal studies or changes in national measurement standards or practices.*

### III. Next Steps – Student Success Measure

The Academic and Student Affairs Division identified several steps that respond to the recommendations on the student success measure. Many of the steps are based on initiatives or activities that were already underway. Next steps with respect to each recommendation include:

***The Academic and Student Affairs Division should prominently disclose the limitations about the current MnSCU student success measure.***

- The update of the student success dashboard that will be released in November 2007 will include an expanded notice regarding the limitations of the measure and guidance in interpreting the measure.
- The notice regarding limitations of the measure and guidance in interpreting the measure will be addressed in training sessions and in training materials.

***The Academic and Student Affairs Division should consider additional steps, such as training programs, to build awareness about the MnSCU student success measure.***

- Awareness and use of the student success measure and dashboard will likely increase as the Board of Trustees Scorecard is rolled out and publicized. Users of the scorecard will be able to link directly to the student success dashboard. Information about accessing the scorecard will include information about accessing and using the student success measure and dashboard.
- Presentations and training about the student success measure and dashboard will continue to be provided at venues such as systemwide conferences and to groups on campuses. Delivery of training electronically with tools such as WebEx and/or Powerpoint also is being considered.
- Institutional research directors are becoming more involved in ad hoc training of staff at their institutions on the use of tools such as the student success dashboard. The Office of Research and Planning will encourage this campus-based training and provide support and training materials.

***The Academic and Student Affairs Division should consult with the Office of General Counsel about possible solutions for sharing detailed student records on students who transfer-out to other institutions.***

- The Office of Research and Planning has initiated discussions with General Counsel on issues related to sharing data across institutions.

***The Academic and Student Affairs Division should continue to work with institutions on designing tools to facilitate use of the student success measure for evaluating academic and student support programs.***

- The student success dashboard is currently being redesigned and a group of college and university users were convened to identify desired enhancements. A new version of the dashboard, expected in Spring 2008, will include additional drill-downs, a revised database design to reduce response time and incorporation of the recently developed system design standards for dashboards.
- The system's Enterprise Investment Committee included the Accountability, Performance and Planning System (APPS) on a list of priority information technology projects to be funded in fiscal year 2008. The APPS project will create more comprehensive business intelligence for the system, including a database and several additional dashboards and provide colleges and universities with expanded access to more detailed data on the student success measure.
- The Office of Research and Planning has developed a dashboard that expands on the student success measure for four system colleges that purchase contract research services. Other colleges and universities have the opportunity to purchase access to this expanded student success dashboard.
- The Office of Research and Planning will continue to work with the system's Institutional Research Directors Group to identify additional enhancements in the student success dashboard.

***Colleges and universities, to the extent possible, should ensure that public information on student success measure, particularly information provided to the Board of Trustees, conforms to the official definition of student success.***

- The Office of Research and Planning will continue to provide institutions and other Office of the Chancellor divisions with information and guidance on the standards used for official student reporting.
- The Office of Research and Planning will continue to work with the Institutional Research Directors Group to more widely disseminate the system reporting standards that have been developed and to ensure that those standards directly address measures of student success.

***Long-term Recommendations:***

- The Office of Research and Planning will assess the effects of limitations on the validity of the student success measure, monitor national developments and consider improvements in the measure.
- The system's Institutional Research (IR) Director's Group has begun to review literature on national measurement practices and information on similar measures developed by other states and systems.
- The IR Group also has begun to identify options for addressing the identified limitations of the student success measure.

## IV. Degree Audit Reporting System (DARS) and Course Applicability System (CAS) Implementation

### *Background - Degree Audit Reporting System (DARS)*

The Degree Audit Reporting System (DARS) developed by Miami University of Ohio provides an automated report referred to as a ‘degree audit’<sup>4</sup> to students, advisors, counselors and registrars. The report tracks a student’s progress toward completing an academic program (degree, diploma or certificate). An individual ‘degree audit’ contains academic program requirements along with courses taken by the student, including transfer courses that meet those requirements. It also tracks what courses the student still needs to complete in order to receive an academic award.

DARS also provides functionality to automate the transfer process. This is accomplished by defining course equivalencies in transfer articulation tables. For example, College X determines that College Y’s Accounting 110 course is equivalent to its Accounting 101 course.

There are many benefits to having an automated process for tracking a student’s progress towards academic program awards and automating the transfer process. Benefits include:

- Accurate and consistent information for advising that reduces the risk of surprises for students at the end of their program.
- Significant reductions in the time needed to verify requirements for awarding degrees, diplomas and certificates.
- Increased efficiency and consistency in determining transfer course equivalencies for students, this is especially important as more and more students transfer between institutions.
- Reduced manual errors in transfer evaluation and academic award verification

The 1999 Legislature appropriated \$1.2 million to MnSCU to implement DARS in fiscal year 2000 and approximately \$500,000 in annual funding thereafter. The funding was and is used for hardware, software and support of a DARS unit<sup>5</sup> within the Academic and Student Affairs (ASA) division of the Office of the Chancellor. Colleges and universities have had the added complexity of implementing DARS while maintaining current processes. The ASA division allocated a total of \$1.2 million to colleges and universities in fiscal years 2001 and 2003 to help offset the cost of implementing DARS. This funding was primarily used to support additional staff while tables were being built to define academic program requirements and course equivalencies. Presidents were required to sign off on a funding request prior to receiving their fiscal year 2003 allocation to implement DARS.

Dr. Linda Baer, Senior Vice Chancellor for Academic and Student Affairs, set clear expectations for colleges and universities on the requirement to implement DARS. In a presentation to the

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<sup>4</sup> Minnesota State University Moorhead developed a brochure to aid students in understanding and reading a ‘degree audit’. It can be viewed at [http://www.mnstate.edu/admissions/dars\\_brochure.pdf](http://www.mnstate.edu/admissions/dars_brochure.pdf).

<sup>5</sup> The DARS/CAS unit provides training and assistance to colleges and universities on implementing and maintaining DARS and CAS.

Board of Trustees in February 2002, she stated that DARS was being implemented at all institutions and that the goal was 100% implementation of all MnSCU degrees, diploma and transfer equivalencies. A memo to Presidents in March 2002 stated that the “Board of Trustees and the Chancellor expect that all campuses have DARS fully operational in the near future.” In that same memo, Dr. Baer stated that her expectation was all campuses will have their degrees/programs encoded by December 31, 2002. Dr. Baer again stated in a memo to presidents in November 2002 that “the overall goal is to place DARS audits in the hands of all students by December 31, 2002.”

In June 2007, the Board of Trustees adopted two policies, with effective dates of August 1, 2007, that have accompanying procedures that require the use of DARS.

- **System Procedure 3.21.1** - Undergraduate Course Credit Transfer requires colleges and universities to enter course equivalencies into DARS.
- **Procedure 3.37.1** - Minnesota Transfer Curriculum requires a Minnesota Transfer Curriculum (MnTC) Audit<sup>6</sup> for outgoing transcripts to all system colleges and universities and to the University of Minnesota.

Prior to this internal auditing study, the ASA division presented several updates to the Board of Trustees on the status of DARS and CAS implementation at the colleges and universities.

### ***Background - Course Applicability System (CAS)***

The Course Applicability System (CAS) also developed by Miami University of Ohio, is a web based system that provides students and potential students with degree and transfer information. CAS is used as a transfer evaluation tool by students to see what courses would transfer between colleges or universities. CAS also allows students to submit previously taken coursework into the system and see how that coursework will transfer and apply to a selected academic program. In essence, the student can look at ‘degree audits’ for a particular program at multiple institutions to determine the best option for degree completion. Many colleges and universities are participating members of CAS, including the University of Minnesota.

The implementation of CAS is dependent on the implementation of DARS. In order for students to obtain the benefits of CAS, a college or university needs to have all academic programs coded in DARS and have course equivalencies defined for colleges and universities that are primary feeder institutions for transfer students.

In June 2004, a presentation was given to the Board of Trustees on CAS. Former Board Chair Jim Luoma indicated at that meeting that his expectation, as well as that of the other Trustees, was that all institutions be online with CAS by December 31, 2004. A memo dated July 15, 2004 from Dr. Baer to the Presidents reiterated this expectation.

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<sup>6</sup> From Part 2 Definitions of Procedure 3.37.1 – A “Minnesota Transfer Curriculum (MnTC) Audit” is a special Degree Audit Reporting System report of a student’s progress toward or completion of Minnesota Transfer Curriculum courses, goal areas and/or the entire Minnesota Transfer Curriculum.

***Full implementation of DARS and CAS has not been achieved.***

Though the Board of Trustees, Chancellor and Senior Vice Chancellor of Academic and Student Affairs expected colleges and universities to fully implement DARS by December 31, 2002 and CAS by December 31, 2004, many institutions have not met these target dates. The fundamental components needed to provide full implementation of DARS are described in Table 2.

**Table 2: Fundamental Components Needed for DARS Implementation**

**Degree Encoding** – process of coding, maintaining and testing academic program requirements for each degree, diploma or certificate program offered by the college or university. Appendix A summarizes by college and university the number of academic programs by award type as of July 2007 that should be encoded in DARS. As seen in the appendix, the number of academic programs varies significantly by college or university. Depending on program requirements, the encoding process can be complex and time-consuming.

**Transfer-in Courses** – process of entering student courses from transfer transcripts.

**Academic Exception Processing** – ability to enter and maintain all student specific course and requirement substitutions and course waivers. An example of a course substitution would be for an academic dean to approve a petition from an individual student to use a course no longer offered at the institution to meet a requirement within a current academic program. Once the course substitution is entered in DARS, the student's 'degree audit' would show the requirement as being met. Prior to DARS implementation, this information was typically only available in manual student files in the registrar's office or an advising area of an institution.

**Course Equivalencies** – involves writing rules for processing transfer-in courses. The expectation set by the Senior Vice Chancellor for Academic and Student Affairs was that all MnSCU colleges and universities would define course equivalencies for all other MnSCU colleges and universities.

**Student Course Information** – an interface was developed between DARS and ISRS to load detailed student course information into DARS. This component was completed by the Information Technology Services (ITS) division.

**Degree Audit Availability to Students** – an enhancement was added approximately three years ago which allows students to access degree audits on-line. Prior to the web version, colleges and universities needed to have processes in place for students to obtain a copy of their degree audit.

The first step for a successful CAS implementation is to have all academic programs encoded and transfer articulation tables with course equivalencies populated in DARS. Once this step is completed, the college or university needs to ensure that students are able to view course equivalencies and academic programs through the web interface. Although the initial DARS encoding requires significant effort, the process the activation of CAS is a relatively straightforward process to complete.

To gain some of the key benefits of DARS, colleges and universities need to change business practices to utilize the functionality and reports generated from DARS.

Table 3 contains a summary of college and university status on the different components of implementation of DARS and CAS as of August 2007. The system-wide profile column documents the number of colleges and universities (total of 37) at each status. Table 4 contains the status by individual college and university. Individual statuses were determined by reviewing the fundamental components needed for implementing the systems. In addition, the use of the functionality was evaluated through discussions with staff and data analysis.

**Table 3: System-wide Summary of DARS and CAS Implementation  
As of August 2007**

Components of DARS/CAS Implementation	System-wide Profile (n=37)		
<b>Data Integrity</b>			
Undergraduate program encoding complete and up-to-date.	28	5	4
Transfers entered into DARS.	31	2	4
Exceptions entered into DARS.	24	4	9
Course equivalencies established for common transfer courses.	23	10	4
<b>Functionality Available to Students</b>			
DARS reports available for monitoring academic progress toward degree.	26	7	4
CAS reports available to assess course transfer options.	17	11	9
<b>Functionality Used by College or University</b>			
Used to evaluate transfer courses.	31	1	5
Used to determine whether graduation requirements are met.	26	4	7
Counselors and advisors use to work with students on academic progress.	28	4	5

**Legend:** ■ - Substantially Implemented    ■ - Partially Implemented    ■ - Not Implemented

Some colleges and universities embraced the implementation of DARS and CAS and have relied on the systems for years, while others have struggled with implementation. The usefulness of DARS is a product of current usage and time. Colleges and universities that have had academic programs encoded and have been entering student transfer courses and exceptions for several years have greater effectiveness in using DARS for transfer evaluations, graduation reviews and advising activities.

Most colleges and universities had positive things to say about DARS and CAS and the benefits to students and staff. However, some colleges and universities discussed roadblocks that affected their implementation of the systems:

- **Lack of appropriate staff** – colleges and universities varied in ways they staffed the responsibility to update and maintain the information in DARS and CAS. At many institutions, the responsibility was added to the duties of an existing staff member, particularly the registrar in the smaller institutions. In some cases, responsible staff did not have sufficient time or skill sets to define program requirements in DARS. In other cases, institutions did not have appropriate resources in place to maintain DARS and CAS when staff turnover occurred.

**Table 4: College and University Status of DARS and CAS Implementation<sup>7</sup>  
As of August 2007**

College or University	Data Integrity				Functionality for Students		Functionality used by College or University		
	Program Encoding	Transfers entered	Exceptions entered	Course equivalencies established	DARS reports	CAS reports	Transfer evaluation/review	Graduation review	Counseling/advising activities
Alexandria Technical College	P	S	P	S	S	S	S	S	S
Anoka Technical College	N	P	N	P	N	N	N	N	N
Anoka-Ramsey Community College	S	S	P	S	S	S	S	S	S
Bemidji State University	S	S	S	S	S	S	S	N	S
Central Lakes College	S	S	S	S	S	S	S	S	S
Century College	S	S	S	S	S	S	S	S	S
Dakota County Technical College	S	S	S	S	S	P	S	S	S
Fond du Lac Tribal and Comm. College	P	N	N	P	N	N	N	N	N
Hennepin Technical College	S	S	S	S	S	P	S	S	S
Hibbing Community College	S	S	S	S	S	P	S	S	S
Inver Hills Community College	S	S	S	S	S	S	S	S	S
Itasca Community College	N	N	N	N	P	N	N	P	N
Lake Superior College	S	S	S	S	S	S	S	S	S
Mesabi Range Comm. and Tech. College	S	S	N	P	P	N	S	P	S
Metropolitan State University	P	S	S	N	P	N	S	N	P
Minneapolis Comm. and Tech. College	S	S	S	S	S	S	S	S	S
MN State College - Southeast Tech.	S	S	S	S	S	S	S	S	S
MN State Comm. and Tech. College	S	P	N	P	P	N	P	N	P
Minnesota State University, Mankato	P	S	N	S	P	S	S	P	S
MN State University Moorhead	S	S	P	P	P	P	S	S	S
MN West Comm. and Tech. College	S	S	S	S	S	P	S	S	S
Normandale Community College	S	S	S	S	S	S	S	S	S
North Hennepin Community College	S	S	S	S	S	S	S	S	S
Northland Comm. and Tech. College	S	S	P	S	S	S	S	S	S
Northwest Tech. College - Bemidji	P	N	N	N	P	N	N	N	N
Pine Technical College	S	S	S	P	S	P	S	S	S
Rainy River Community College	N	N	N	N	N	N	N	P	P
Ridgewater College	S	S	S	S	S	S	S	S	P
Riverland Community College	S	S	S	P	S	P	S	S	S
Rochester Comm. and Tech. College	S	S	S	S	S	S	S	S	S
Saint Paul College	S	S	S	P	S	P	S	S	S
South Central Technical College	S	S	S	P	S	N	S	S	S
Southwest MN State University	S	S	S	S	S	S	S	S	S
St. Cloud State University	N	S	N	S	N	P	S	N	N
St. Cloud Technical College	S	S	S	S	S	P	S	S	S
Vermilion Community College	S	S	S	P	S	P	S	S	S
Winona State University	S	S	S	S	S	S	S	S	S

**Legend:** S - Substantially Implemented P - Partially Implemented N - Not Implemented

<sup>7</sup> Details of how the status was determined for each college and university were shared with individual presidents.

- **Complexity of DARS** - the encoding of academic programs, transfer rules and exceptions can be very complex and requires specialized training.
- **No Champion or Resistance to Change** – some institutions lacked leadership to change existing practices. A few institutions mentioned that full implementation could not be achieved until particular individuals left or retired. Other institutions commented that a certain individual acted as a champion and was mainly responsible for the successful implementation.
- **Lack of Faculty/Advisor Support** - Faculty often make the transfer course equivalency decisions. Some institutions mentioned the reluctance of faculty to make this type of determination. In addition, institutions mentioned the reluctance of advisors to use ‘degree audits’ in advising sessions.

#### *Recommendations*

- *Colleges and universities need to fully implement DARS and CAS by December 31, 2007 or receive approval from the Senior Vice Chancellor for an alternative implementation plan and timeline.*
- *Colleges and universities need to ensure that processes are in place to maintain DARS and CAS when academic program changes occur and course equivalencies are changed or added. Processes should include plans for continuing maintenance when staff turnover occurs.*

#### ***Lack of information technology resources has resulted in significant delays on DARS and CAS improvement projects.***

Employees at colleges, universities and the Office of the Chancellor discussed frustration over needed technology improvements for DARS. Sufficient IT resources have not been available to keep up on general maintenance of the systems, including bug fixes and version upgrades. For over two years, the ITS Division has not had adequate resources to support DARS and CAS. Two failed employment searches have contributed to the length of time without adequate support. In addition, significant delays have occurred on a number of projects, including:

- **e-Transcript** - this project would electronically transmit transcript data from one MnSCU college or university to another MnSCU college or university and automatically populate transfer course detail records in DARS. Currently transfer students have to submit paper copies of transfer transcripts to colleges and universities. The specific transfer course detail then needs to be manually entered into DARS. Automating the transmission of MnSCU transcripts would result in increased efficiency and accuracy of data. One college anticipated saving one employee position a year once the e-Transcript was in production. This project has been delayed for several years.
- **Course Equivalency Builder** - this project will help colleges and universities define course equivalencies. For example, if college A determines that English 101 is

equivalent to college B's English 100 course and college B has determined that this course is equivalent to college C's English 110 course, then college A's English 101 course might be equivalent to college C's English 110 course ( $A = B$ ,  $B = C$ , therefore  $A = C$ ). Defining course equivalencies is an independent decision of each institution; a tool like the Course Equivalency Builder can aid in making the decision more efficiently and consistently across the system.

- **Interactive audits** – this project will provide students an enhanced version of the current on-line degree audit. This version provides graphical interfaces and should be easier to read, provides more functionality and has the potential of providing more advanced levels of information. Additional improvements could include: course cart, direct links to more course information via links in course 'select from' lists in unfulfilled requirements, and what-if audits for students to develop scenarios for different majors. Depending on current encoding practices, implementation may require some re-coding of programs in DARS to be fully functional.
- **Request Import Interface for CAS** - this project will allow students to import coursework from ISRS to CAS, rather than having to manually enter their courses into CAS.

### ***Recommendations***

- *The ITS division needs to provide sufficient IT resources to maintain DARS and CAS.*
- *The ITS division needs to devote sufficient resources to projects that have been approved for development. If sufficient resources are not available, college, university and Office of the Chancellor employees should be informed so that they are not depending on new functionality for business processes.*

### ***Development of Future Enhancements to Support Student Success – Long-term Considerations***

The potential exists to improve student success by developing additional tools using information contained in DARS. In 1996, the University of Florida implemented a degree tracking system which is similar to an enhanced version of DARS. According to a July/August 2006 article in *Change* magazine, the University of Florida system referred to as "tracking" has improved the institution's graduation rate by seven percentage points<sup>8</sup>. The tracking system identifies a sequence of courses that students should take within a particular program. If students go off-track it requires students to meet with academic advisors. The article also mentions that the "tracking" program has improved student satisfaction.

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<sup>8</sup>Elizabeth D. Capaldi, John V. Lombardi, and Victor Yellen, "Improving Graduation Rates", *Change*, July/August 2006: pages 44 – 50.

Once colleges and universities are fully operational with DARS, the data contained in DARS could be useful in the development of several enhancements and tools:

- **Course Sequencing** – uses data analysis and other information to identify ideal patterns for students to take courses that result in greater student success.
- **Graduation Planner** – allows students to map their graduation requirements in advance and plan their fastest route to graduation. A business case was presented and approved by the Information Technology Enterprise Investment Committee (EIC) in September 2007 to develop this tool. However, the development is dependent on the implementation of DARS.
- **Targeted Advising** – identifies students who are experiencing academic difficulty or who are taking courses out of sequence and could require them to meet with counselors or advisors before being able to register for courses.
- **Course Seat Predictor** – uses data from a graduate planner system so that administrators are able to predict needed courses and faculty loads.
- **Interactive Audits (degree shopping)** – allows students the capability to explore how their past academic coursework would apply to alternate academic programs.
- **Degree Verification ISRS Edit** – uses information from DARS to verify that students have completed academic program requirements when an academic award is entered in ISRS. Currently, there are no automated controls to confirm that requirements have been met when an academic award is entered in ISRS.
- **Common Course Numbering** – provides transparency for students when transferring courses between institutions; there is no research involved in understanding which English course is equivalent. Common course numbers would also add efficiency in maintaining course equivalencies within DARS. Several states have implemented this but typically when required to do so by state legislation.

#### *Long-term Recommendation*

- *The Academic and Student Affairs Division should explore potential enhancements and improvements to systems that would improve student success and gain added efficiencies at the colleges and universities.*

## **V. Next Steps - Degree Audit Reporting System (DARS) and Course Applicability System (CAS) Implementation**

Through discussions with employees in the Office of the Chancellor the following next steps were developed related to the DARS and CAS recommendations:

- The Office of the Chancellor plans to communicate expectations to college and university presidents on the implementation of DARS and CAS. The communication will urge colleges and universities to fully implement DARS and CAS by December 31, 2007. If specific colleges and universities cannot make the December 31st date they will be required to submit a detailed implementation plan to Senior Vice Chancellor Linda Baer with steps to be fully implemented by the end of the academic year. Finally, the communication will stress the importance of maintaining DARS and CAS once colleges and universities have fully implemented.
- The Office of the Chancellor DARS/CAS unit will be working with colleges and universities to assist and train staff to meet the expected timeline.
- The Information Technology Division is beginning another employment search for an information technology support person for DARS and CAS.
- In the past year, the Information Technology Division has significantly changed the process for approving and assigning resources to technology projects. This process should improve information to stakeholders on projects approved for development and specific timelines for completing those projects.
- The Academic and Student Affairs Division is continually looking at enhancements and tools to improve efficiencies and to aid students in being successful. The division is currently working with the Information Technology Division and the University of Minnesota in developing a Graduation Planner that incorporates some of the potential tools mentioned in the report.

**Appendix A: Total College and University Programs by Award Type  
As of July 2007**

<b>College or University</b>	<b>Certificate (see note)</b>	<b>Degree</b>	<b>Diploma</b>	<b>Total</b>
Alexandria Technical College	35	44	40	119
Anoka Technical College	29	22	27	78
Anoka-Ramsey Community College	13	16	0	29
Bemidji State University	3	84	0	87
Central Lakes College	28	29	29	86
Century College	42	45	24	111
Dakota County Technical College	49	45	37	131
Fond du Lac Tribal and Comm. College	19	18	1	38
Hennepin Technical College	72	46	49	167
Hibbing Community College	12	23	19	54
Inver Hills Community College	22	25	0	47
Itasca Community College	7	11	4	22
Lake Superior College	51	45	29	125
Mesabi Range Comm. and Tech. College	26	16	18	60
Metropolitan State University	13	61	1	75
MN West Comm. and Tech. College	44	57	47	148
MN State Comm. and Tech. College	24	62	49	135
Minneapolis Comm. and Tech. College	58	43	31	132
MN State College – South East Tech	46	26	26	98
MN State University Moorhead	11	91	1	103
MN State University, Mankato	34	197	1	232
North Hennepin Community College	33	29	0	62
Normandale Community College	17	21	0	38
Northland Comm. and Tech. College	27	46	33	106
Northwest Tech. College - Bemidji	25	21	23	69
Pine Technical College	15	22	12	49
Rainy River Community College	7	8	2	17
Ridgewater College	46	59	59	164
Riverland Community College	43	28	35	106
Rochester Comm. and Tech. College	48	62	22	132
Saint Paul College	63	44	23	130
St. Cloud State University	18	189	0	207
South Central Technical College	42	43	44	129
Southwest Minnesota State University	1	63	0	64
St. Cloud Technical College	12	43	41	96
Vermilion Community College	12	15	4	31
Winona State University	9	75	1	85
<b>Grand Total</b>	<b>1,056</b>	<b>1,774</b>	<b>732</b>	<b>3,562</b>

Note: The summary of certificate programs includes graduate certificate programs offered by the state universities.