memorandum

Date: January 15, 2012

To: California Community Colleges Chancellor's Office

From: WestEd and the RP Group

Question 5: Automated Degree Audits and Online Education Plans

Does the research provide information on the effectiveness of automated degree audits and online education plans to improve student outcomes (e.g., persistence, degree/certificate completion)?

Background

Degree audits and education plans are tools that enable students and college professionals to plan for and track a student's progress toward completing a degree or certificate. Automated degree audits are computer-generated, backward-looking reports of the courses a student has taken and how the student's transcript compares with specific program requirements. Some degree audit systems allow users to conduct "what-if" scenarios that assess the impact of future course choices on completing a program.

An education plan is a proactive document that a student can prepare either solo or with a counselor to determine which courses to take to meet individual education goals. Education plans can incorporate a number of elements, such as a semester-by-semester outline of which courses to take, life-planning components (e.g., long-term career goals), or recommended coursework to prepare for transfer. Automated degree audits may be used as a tool for developing education plans, and automated degree audit software is being implemented at many colleges as an incremental step toward offering online education planning tools.

Degree audit systems are widely in use at four-year institutions, where they are a component of the student advisement system. Working in concert with a set of recommendations issued in 2005 by the California State University (CSU) system's chancellor,[1] most CSUs have implemented degree audit systems. Degree audit systems are also becoming more common in California community colleges. Some colleges give students access to degree audit results — either through a student portal or through paper or electronic communications — so that students can determine which courses to prioritize to achieve their goals.

[1] Reed, C. (personal communication, August 2, 2005).

A recent survey on the California Association of Community College Registrars and Admissions Officers listserv found that 21 of the 112 California community colleges have degree audit systems in place, and seven more plan to implement a system within a year.[2] However, most of these programs are still relatively new and many are still in the process of being fully rolled out. Historically, colleges have had to build degree audit and education planning systems from scratch by writing complex computer programs. A number of California community colleges experimented with home-grown systems over the last decade, but abandoned them because they were too difficult to maintain or were platform specific and became unusable if the college selected a new enterprise resource planning (ERP) system. With the introduction of degree audit and education planning modules from ERP vendors such as Datatel and SunGard, community colleges will be better able to integrate these systems into their existing infrastructure.

Online education planning systems are less common than degree audit systems and may take several forms. They may be as simple as electronic access to a form, prepared with a counselor, that maps out which courses to take to meet a student's goals, or as complex as a password-protected portal offering dozens of course, transfer, career, and life planning tools, as well as transcript and assessment information. Although few colleges offer extensive online education planning systems, new electronic tools have been developed that address various aspects of education planning. For example, the Datatel ERP system is changing its registration module so that students will be able to see which courses apply to their degree during the registration process. Some colleges are also implementing e-advising modules as a bridge to online planning. These modules allow students to use the web to identify courses and when to take them, as well as communicate with a counselor by email or chat.

While there are many colleges and four-year institutions that use degree audit and education planning systems, there is little empirical evidence of the impact of these systems on student outcomes.

Scenarios for Implementation

In order to implement a degree audit or education planning system, colleges must be able to determine all of the courses, prerequisites, and exemptions (e.g., transferred credits or tests that allow students to skip required classes) necessary to achieve a degree or certificate. Community colleges may also choose to align these pathways directly with requirements for transfer into four-year institutions.

The initial process of establishing institutional pathways toward degrees and certificates is labor intensive and must be updated annually to address issues such as changes in curriculum. For degree audit systems, the process becomes more complex when institutions take into account credits earned at other institutions. In California, where courses vary across community colleges without consistency in titles, numbering, or content, someone must manually review the content of every potential transferable course to determine whether it meets the requirements of the current institution. This manual review process must be repeated for placement tests, which also vary by institution and help determine whether remedial courses need to be included in a student's plan.

[2] Stearns, K. (personal communication, November, 11, 2011).

Similarly, degree audit and education planning systems in California community colleges must factor in requirements for several possible transfer-preparation pathways. For instance, there is one set of standards for the Intersegmental General Education Transfer Curriculum (IGETC), which is applicable to University of California and California State University requirements. In addition, there is another set of standards specific to the California State Universities (CSU-Breadth) and scores of unique requirements for various private colleges. Variations in required coursework for transfer into specific majors — requirements that are not consistent within systems like the California State Universities — further complicate the successful implementation of degree audit and education planning systems. Community college systems must also integrate requirements associated with the new transfer associate's degree.

Once a college has a degree audit or online education planning system in place, it must determine how this tool will be used. The college may opt for a passive approach in which students are responsible for acting on information that is sent to them. For example, a college may alert students who have completed requirements for degrees or certificates and encourage them to apply to receive their award. Or these systems may provide the prompts for the college to proactively engage students in more intensive support at key milestones.

When using degree audit results to encourage students to apply for awards that have already been earned, it is important to consider financial aid status because students who receive an associate's degree are no longer eligible for aid. Thus, the institution should determine whether students have completed their desired education plan before issuing the degrees.

Colleges implementing degree audit and education planning systems that involve automated or online components highlight the importance of providing adequate training to support use of these systems. This training includes ensuring proper coding and entry of courses into the software, integrating these tools into conventional counseling, and addressing whether students have the computer and English language skills necessary to use technology-based resources. These colleges also caution that it is vital to integrate these technology systems with curriculum and program review processes used by local committees and the Chancellor's Office, so that changes to programs of study are reflected in the reports used by students, faculty, and counselors. For example, colleges need to ensure that students do not sign up for a course that was suggested in an automated degree audit or online education planning system, only to learn later that the requirements were changed for that program of study but not updated in the software.

A persistent concern about online education plans that has been voiced in the public comments regarding the Student Success Task Force recommendations is how a self-serve system will be used by students. Specifically, if students are the first in their families to attend college and they have little understanding of possible career paths, they may find it difficult to independently develop an appropriate education plan. Colleges will need to ensure that technology-based systems are complemented by work with a counselor to address complex issues, such as ensuring that financial aid eligibility is maintained or developing a plan that fulfills overlapping requirements (e.g., requirements for both transfer and degree preparation). In addition, once an online plan is developed, colleges will need to determine how to support students in making updates or altering these plans.[3]

---

[3] California Community Colleges Chancellor's Office. Student Success Task Force Public Comment Site. October-December 2011. Retrieved from http://studentsuccess.ideascale.com/

Research on Automatic Degree Audits and Online Education Plans

While degree audit systems are widely used, particularly in four-year institutions, there is very little research on their effectiveness. For example, the references listed at the end of this paper recommend implementation of degree audit and online education planning systems for community colleges, yet do not assess the impact on student outcomes. One paper linked the use of automated degree audit systems to increased efficiencies and improved services; however, the author relied only on a survey of 25 registrars to draw these conclusions.[4]

While there are not controlled studies of the impact on students of automated degree audit systems and online education plans, there are examples of institutional impacts. For instance, when colleges implement degree audit systems, they see dramatic increases in their rate of awards. In 2009, the Institute for Higher Education Policy launched Project Win-Win, which leverages degree audit systems to retroactively issue associate's degrees in participating states. This effort is expected to yield a 15 percent increase in degree awards.[5] However, Project Win-Win has found that automated degree audit systems are not sufficient for identifying students eligible for awards and require extensive manual review of student records.[6]

There are also California-based examples of institutional impacts. In early 2011, San Jose/Evergreen Community College District used a degree audit system to identify 1,000 students who had earned but not received an award in the previous five years (half of these were associate's degrees and half were certificates). By encouraging these students to apply for these awards, the district hopes to increase its completion rates.[7] Several years ago, Mt. San Antonio College successfully used a degree audit system to increase its award rates. When the college sent letters to students listing the courses needed to complete certificates, the award rates improved by 700 percent (e.g., from 18 to 133 students in international business and from 28 to 174 students in business management). When the college stopped using the degree audit system because it was incompatible with a new ERP system, completion rates returned to their original rates.[8] Grossmont-Cuyamaca Community College District — which uses an automated

---

[4] Johns, V. (2005). *Degree Audit Systems: Are They Worth It?* Pacific American Association of College Registrars and Admission Officers. Retrieved from http://www.pacrao.org/docs/resources/writersteam/DegreeAuditSystemsPart2.pdf

[5] Institute for Higher Education Policy (2011). Project Win-Win. Available at http://www.ihep.org/projectwin-win.cfm

[6] Moltz, D. (2011, March 24). Graduates Without Degrees. [Online news]. *Inside Higher Education*. Retrieved from http://app3.insidehighered.com/layout/set/popup/layout/set/popup/news/2011/03/24/san_jose_evergreen_community_college_district_pursuing_retroactive_degree_audit

[7] Jacobs, J. (2011, March 29). You may already be a graduate. *Community College Spotlight*. [Web log post]. Retrieved from http://communitycollegespotlight.org/tags/degree-audit/

[8] McNeice-Stallard, B., & Patterson, R. (personal communication, November 14, 2011).

degree audit system to alert students with 45 degree-applicable units that they should see a counselor to determine whether they are ready to graduate — has improved its award rate by 20 percent.[9]

Examples of Colleges Experimenting with Degree Audits and Online Education Plans

The CSU and CCC Chancellors' Offices are working together to identify ways that degree audit programs could **facilitate greater coordination** between the two systems. The two system offices are currently fundraising to support coordinated efforts and are conducting research on other states that have implemented intersegmental degree audit systems. One concept under development is to pair specific CSUs and CCCs to align their technology systems so they can identify students who have already earned an AA or a BA, or who are close to doing so (a process sometimes referred to as "reverse transfer"). Another possibility is to coordinate technology systems between the CSUs and CCCs so that students and institutions could determine where students' current units could be applied to meet transfer and degree-preparation requirements. Not only would this improve students' abilities to develop education plans, but it would also help the CSUs better understand which students are in the pipeline for transfer. A third idea is to identify alternative ways to document attainment of general education requirements, such as assessments or giving credit for related skills and experiences.[10]

Chaffey College recently launched an initiative that makes its **degree audit system available for use by both students and counselors**. Students can access the system on multiple devices, including smartphones, and run "what-if" scenarios regarding the impact of specific courses on their education plans. The college also uses counseling apprentices called "Success Guides" who are embedded in the college's Success Centers. Success Guides conduct popular workshops on goal-setting and academic self-efficacy that use the degree audit system. In the first two months of having Success Guides lead workshops that use the degree audit system, 500 students have made use of these services. While the program is too new to generate outcomes data, Chaffey reports that students appear to be more prepared for meetings with counselors, and the college has been able to serve students who could not get into Extended Opportunity Programs and Services (EOPS) because the particular program was full. The college will be deploying Success Guides in other contexts (e.g., the library, cafeteria, and quad) to increase their reach.[11]

Mott College in Michigan uses a degree audit system to **trigger additional support** for students who are near completion. This system informs the registrar and prompts advisors when students reach a threshold of 45 units, and triggers counselors to provide guidance on how students can most efficiently earn the

[9] Hajj, D. (personal communication, November 29, 2011).

[10] Russell, B. (personal communication, December 5, 2011).

[11] Hope, L. (personal communication, November 28, 2011).

desired certificate or degree. Use of this system has contributed to a nearly 18 percent increase in awards over the past five years.[12]

Palomar College, which has been using a PeopleSoft electronic education planning tool since 2000, is currently developing several additional **interactive student-use degree audit and education planning tools**. Historically, counselors have used the software to create education plans with students, and have had the ability to email a copy to students. Now, in addition to a new e-advising module that is almost ready to roll out, the college has begun work on another system that allows students to compile a list of classes that can be reviewed with a counselor to create semester-by-semester course-taking plans. The college views implementation of these online tools as a key strategy for managing workload issues, such as manually evaluating which students are eligible for degrees and certificates.[13]

Since 1986, **Santa Barbara City College** has had a degree audit system in place that allows students to independently view their status on achieving specific education goals. Seen as a tool to increase **student engagement** and to help make students more proactive in achieving transfers to four-year institutions, the system allows students to check progress on IGETC and CSU-Breadth requirements, transfer associate's degrees, transferable units, and UC transfer limits. The degree audit system is also used by counselors for reference during advising sessions and to identify students within specific cohorts (e.g., ethnically underrepresented students) who need additional supports. Santa Barbara City College is now developing an online education planning system that will include roadmaps for each of its associate's degree programs as well as transfer requirements that are consistent across all UCs and CSUs.[14]

Valencia College in Florida has developed a nationally recognized education planning system called LifeMap. In addition to allowing students to map coursework, LifeMap includes tools that offer financial planning to manage decisions regarding loans, financial aid, and attending college full- or part-time; career advisement that addresses components such as skills, values, and personality as well as possible jobs and majors; workforce information including which local employers might be seeking skills associated with specific programs; and an e-portfolio where students can keep examples of their work. By going beyond the selection of courses to address **study and life skills and career and employment opportunities**, LifeMap enables students to understand the choices they need to make. It also provides a one-stop venue for listing student service resources that can help students reach their goals.[15]

Walla Walla Community College in Washington uses an **array of technology tools** to help achieve its high award rate — 55 percent of students earn a degree or certificate within three years of entering the college. Some supports are automated. When students first register, the college gets their permission to confer degrees or certificates as soon as they are earned. In addition, students and staff have access to a web-based employment tool that gives information about specific careers, including education or training requirements, projected salary, and local employment opportunities. The college also uses technology to focus the work of its student services staff. For example, Walla Walla has a portal that provides advisors

---

[12] Booth, K., & Karandjeff, K. (2011). *Aspen Prize for Community College Excellence Site Visit Internal Report.* Berkeley, CA: RP Group.

[13] Halttunen, L. G. (personal communication, November 30, 2011).

[14] Adams, K., Hollosy, A., & Castro, L. (personal communication, December 6, 2011).

[15] Booth, K., & Karandjeff, K. (2011).

with comprehensive information on students' education plans and milestone progress. The college also tracks students who are close to completing a degree or certificate and offers incentives for students to meet with counselors and develop a completion plan.[16]

Additional Resources

Academy One. (2011). *The South Carolina Transfer and Articulation Center (SC TRAC): A Statewide Transfer and Articulation System Implementation and Integration Success Story.* Retrieved from http://www.che.sc.gov/AcademicAffairs/EEDA/Files/SCTRAC_Success_Story.pdf

Anderson, G., Sun, J. C., & Alfonso, M. (2006). Effectiveness of Statewide Articulation Agreements on the Probability of Transfer: A Preliminary Policy Analysis. *The Review of Higher Education, 29*(3), 261–291.

National Research Council. (2011). Academic and Social Support. In *Expanding Underrepresented Minority Participation: America's Science and Technology Talent at the Crossroads*. Washington, DC: The National Academies Press. Retrieved from http://www.nap.edu/openbook.php?record_id=12984&page=131

Moore, C., Shulock, N., & Jensen, C. (2009). *Crafting a Student-Centered Transfer Process in California: Lessons from Other States.* California State University–Sacramento, Institute for Higher Education Leadership and Policy. Retrieved from http://www.csus.edu/ihelp/PDFs/R_Transfer_Report_08-09.pdf

Rochester Community and Technical College. DARS: Degree Audit Reporting System website: http://www.rctc.edu/admissions/html/dars.html

Shasta College. (2007). *Tech Planning Paper — Impact of Degree Audits on Student Success.* Retrieved from http://www.shastacollege.edu/WorkArea/DownloadAsset.aspx?id=5582

Western Interstate Commission for Higher Education. (2009). *Best Practices in Statewide Articulation and Transfer Systems: Research Literature Overview.* Retrieved from http://www.wiche.edu/info/publications/ATlitOverview.pdf

Research and writing by Kathy Booth, RP Group.

[16] Booth, K., & Karandjeff, K. (2011).