

STUDENT ENGAGEMENT AND STUDENT OUTCOMES: Key Findings from *CCSSE* Validation Research

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The findings from 20 years of research on undergraduate education have been unequivocal: The more actively engaged students are — with college faculty and staff, with other students, and with the subject matter they study — the more likely they are to learn, to stick with their studies, and to attain their academic goals.

The existing literature, however, focuses almost exclusively on students in four-year colleges and universities. This special report provides summary highlights from a large-scale research project that examined, for the first time, relationships between student engagement and a variety of student outcomes — including academic performance, persistence and attainment — *in community colleges*. The bottom line for community colleges: *Student engagement matters*.

Community colleges, known for their commitment to educating a diverse mix of students with widely varying needs, face greater demands than ever. Governing boards, state and federal governments, accrediting organizations, and the public are looking beyond the enrollment numbers traditionally expected of these open-admission institutions — they are demanding higher quality, better performance, and more accountability. Community colleges must respond by improving assessment and demonstrating improvements in student learning and retention.

To meet these higher expectations, community colleges cannot simply adopt data and tools from four-year institutions. Community colleges need assessment tools and improvement strategies tailored to their unique strengths and challenges. The Community College Survey of

Student Engagement (*CCSSE*) has been providing these tools since 2001. *CCSSE*'s survey instrument, the *Community College Student Report*, focuses on institutional practices and student behaviors that promote student engagement.

With completion of the spring 2007 survey administration, *CCSSE* will have surveyed more than 700,000 students from about 550 different community colleges in 48 states, plus British Columbia, Palau, and the Marshall Islands. The findings from this validation research confirm that *CCSSE* results provide a valuable yardstick for assessing the quality of colleges' educational practices and identifying ways they can produce more successful results — more students across all subgroups learning at higher levels and attaining their academic goals.

Verifying the Connection

The Community College Survey of Student Engagement (CCSSE) is built on the premise that student engagement — involvement, integration, and quality of effort in social and academic collegiate experiences — is significantly related to student learning, persistence, and academic attainment. The connection between student engagement and student success is grounded in decades of research. Thus, it makes sense that measures of student engagement may serve as a useful proxy for desired outcomes of students’ collegiate experience.

The CCSSE validation research confirms this premise by demonstrating a positive relationship between students’ self-reported engagement behaviors (the data collected by CCSSE) and better outcomes for community college students. It shows that CCSSE is measuring institutional practices and student behaviors that matter — and therefore, that the CCSSE survey instrument indeed provides a valuable proxy for student success.

The Research. The CCSSE validation research examines the relationship between CCSSE engagement measures and easily verifiable outcome measures, such as course completion, GPA, and graduation. These outcome measures,

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while ultimately more definitive than student engagement, become evident relatively late in students’ educational experiences. In addition, these measures do not help colleges assess their educational practices and pinpoint areas for improvement. A focus on engagement, however, gives colleges systematic evidence that they can use to improve students’ educational experiences and thereby improve student outcomes.

A three-pronged project, the research links responses to the CCSSE survey with three external, student-level data sets that were established for the purposes of this project.

They are:

1. The Florida community colleges;
2. The CCSSE Hispanic Student Success Consortium (HSS); and
3. 24 of the 27 initial colleges participating in the national Achieving the Dream initiative.

Know Thyself. In addition to validating the CCSSE survey, the linked studies contribute significantly to research in higher education. At most, 10% of all higher education research studies use community college samples. Given that deficiency, community colleges have had to rely on student engagement research primarily conducted on students attending baccalaureate-granting institutions. Limiting community colleges to this existing research restricts their ability to serve their students well. The CCSSE validation study offers much-needed research conducted in community college settings.

The Spice of Life. The research project’s three-pronged approach addresses the great diversity in students served and programs offered by community colleges. Community colleges are diverse, in part, because their accessibility provides opportunity to low-income, first-generation, and academically underprepared students. Community colleges also serve older students who are pursuing training for current jobs or education to lead to better ones. They serve students who are squeezing in classes between multiple jobs and students who are on multi-institutional pathways. Programs offered at community colleges reflect their students’ varied goals and aspirations.

CCSSE conducted three separate validation studies to examine a variety of questions across a diverse group of community colleges. This approach allowed for comparisons and synthesis of results across the three studies and for identification of consistent findings. Because of the enormous variety in community colleges and the students they serve, it is to be expected that some environments foster certain types of student engagement and that some students experience greater impact than other students as the result of similar experiences. Given the complexity of the landscape, comparing results across three separate studies provides an opportunity to identify areas of robust relationships between student engagement and student outcomes and also to observe other relationships that may be more contextual.

Overview of the Research Project

Three diverse data sets. The research uses three external, student-level data sets that were established for the purposes of this project.

- **The Florida data set** was provided by the Florida Department of Education. Every community college in the state of Florida participated in CCSSE in 2004; in addition, several colleges had participated in previous administrations. Students enrolled in Florida Community College System (FCCS) institutions who responded to CCSSE in 2002, 2003, and 2004 were matched with all term enrollment records provided by FCCS for the period fall 1996 through summer 2005. A total of 4,823 students participated in CCSSE and provided an ID that could be matched to a record in the Florida Department of Education's database.
- **Achieving the Dream: Community Colleges Count** is a national initiative with the goal of helping more community college students succeed. Colleges participating in the initiative contribute student-level data that track academic performance, persistence, and completion. The study analyzed data from 24 of the 27 initial colleges participating in the Achieving the Dream initiative. A total of 1,623 students participated in CCSSE and provided an ID that could be matched to a record in the Achieving the Dream database.
- **The CCSSE Hispanic Student Success (HSS) consortium** consists of community colleges that are either members of the Hispanic Association of Colleges and Universities (HACU) or have student populations comprised of greater than 25% Hispanic students. Among those colleges, a total of 3,279 students participated in CCSSE and provided an ID. Of these, approximately 33% identified themselves as Hispanic, and 26% indicated that English was not their first language.

Outcome Measures. The studies examined a wide variety of outcome measures. All represent data that are nearly universally available to colleges or easily derived from data contained in transcripts or student information systems. The outcome measures fall into the categories described here.

- **Academic Success Measures** reflect the extent to which students master materials in their courses. Grade-point average and credit completion ratios were used widely in the studies.
- **Early Academic Measures** pertain to early academic experiences in college, with a strong focus on course completion and grades in developmental and gate-keeper courses. In addition, the Florida study included a composite measure termed *College Pathway* that assessed early course completion as a composite of several variables.
- **Persistence Measures** assess enrollment across time. First-to-second-term persistence and first-year-to-second-year persistence were the most common measures.
- **Completion Measures** represent the completion of student goals. The Florida and Achieving the Dream studies examined degree and certificate completion. In addition, the Florida study explored an alternative measure, attainment of Transfer-Ready Status, a variable that was derived from the completion of a cluster of courses.
- **Longevity Measures** represent time spent at the college. These measures included number of terms enrolled and total credit hours completed. These measures were considered hybrids of academic and persistence outcomes. There was overwhelming consistency across studies indicating that these measures were consistently correlated with engagement factors.

To understand the relationship between CCSSE benchmarks and outcome measures, a variety of analyses were employed, including correlations, multiple regression, and logistic regression. These modeling techniques were used to assess bivariate relationships between CCSSE benchmarks and outcomes as well as net effects in models that controlled for students' academic and socio-demographic characteristics.

CCSSE Benchmarks: Relationships to Student Outcomes

Active and Collaborative Learning. Students learn more when they are actively involved in their education and engage in joint educational efforts with other students. The active and collaborative learning benchmark measures the extent to which students participate in class, interact with other students, and extend learning outside of the classroom.

The results for active and collaborative learning suggest that this benchmark measures processes that are important for all of the outcomes measured in the validation studies. Active and collaborative learning was perhaps the most consistent predictor of student success across studies and across measures, suggesting that the impact of active and collaborative learning is pervasive in the college experience. Active and collaborative learning is linked with higher grades and course completion measures as well as long-term persistence and degree completion.

Active and collaborative learning was correlated with two cumulative academic measures: number of terms enrolled and credit hours completed. Credit completion ratio and degree completion correlations were examined in the Achieving the Dream and Florida studies, and active and collaborative learning was correlated with both measures in both studies. In addition, active and collaborative learning was correlated with GPA across all studies.

Student Effort. The student effort benchmark measures time on task, preparation, and use of student services. Examining results across the three studies suggests that the student effort benchmark is predictably related to retention measures and moderately predictive of academic measures. Number of terms enrolled and credit hours completed were consistently correlated with student effort across the studies. Among academic measures, student effort exhibited the strongest consistency with GPA. The benchmark was correlated with credit completion ratio in the Achieving the Dream study, but not in the Florida study, and was not correlated with degree/certificate completion in either of these studies. Student effort was correlated with first-to-second-term persistence and first-to-second-year persistence in the Achieving the Dream and HSS studies, but not in the Florida study.

Given these results, student effort appears to be most strongly associated with persistence, with some effect for academic performance. Because several of the activities measured in this benchmark require extra effort, such as rewriting papers and using tutoring services and skills labs, it may be that the extra effort is essentially compensatory; that is, the extra effort serves to bring students up to the level of their peers and thus enables them to persist.

Academic Challenge. The academic challenge benchmark measures the extent to which students engage in challenging mental activities, such as evaluation and synthesis, as well as the quantity and rigor of their academic work. Academic challenge was most consistently associated with academic outcomes. Number of terms enrolled, credit hours completed, GPA, credit completion ratio, and degree/certificate completion were correlated with academic challenge across all studies. While there were robust and positive relationships between academic challenge and academic measures across studies, there was relatively little evidence linking academic challenge with persistence measures. Thus, academic challenge has the most impact in areas that are most predictable: academic outcomes.



Student-Faculty Interaction. The student-faculty interaction benchmark measures the extent to which students and faculty communicate about academic performance, career plans, and course content and assignments. Here again, the results were positive. There was not, however, a clear pattern indicating that interaction between students and faculty had its greatest impact in any particular outcome domain.

Like other benchmarks, student-faculty interaction was correlated with number of terms enrolled and credit hours completed. Further, it was correlated with GPA in the Achieving the Dream and HSS studies, but not in the Florida study; it was correlated with credit completion ratio in the Achieving the Dream study, but not in the Florida study. In both the Achieving the Dream and the Florida studies, student-faculty interaction was correlated with degree/certificate completion. Student-faculty interaction exhibited a correlation with first-to-second-term persistence in the Achieving the Dream and HSS studies and with first-to-second-year persistence in only the HSS study. While positive results that were present in some studies did not emerge in other studies, the results indicate that the student-faculty interaction benchmark is related to both academic and persistence outcomes.

This broad impact of the student-faculty interaction benchmark appears similar to results observed for active and collaborative learning, though the effects are not as consistent. Conceptually, the benchmarks are similar: Both measure the extent to which students are actively processing the learning experience with others. The more pervasive results observed for active and collaborative learning may exist because students have more opportunities to interact with one another than with faculty members.

Support for Learners. The support for learners benchmark measures students' perceptions of their colleges and assesses their use of advising and counseling services. This benchmark consistently was correlated with measures of persistence, but showed little evidence of correlation with academic measures. Like other benchmarks, the support for learners benchmark was correlated with number of terms enrolled and credit hours completed. Support for learners did not exhibit any notable relationships with GPA or credit completion ratio across the three studies. The Florida study documented a correlation between degree/certificate completion and the support for learners benchmark, while the Achieving the Dream study did not find this relationship.

Results from the support for learners benchmark analyses suggest that this benchmark has its greatest impact on persistence, a finding that is consistent with the extant literature on student retention. In both the HSS and the Florida studies, the support for learners benchmark was correlated with first-to-second-term persistence and first-to-second-year persistence. The absence of a relationship with academic measures may indicate that, to a large degree, students who report higher levels of support for learners are academically underprepared. The findings may reflect that having a supportive campus environment and using academic support services helps to raise the performance of these academically underprepared students to the level of better-prepared students.

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General Conclusions

- The validation research confirms a long tradition of research on student engagement, extending that body of research for the first time to large-scale community college student samples.
- Results from three studies validate CCSSE's use of student engagement as a proxy for student academic achievement and persistence. CCSSE benchmarks consistently exhibited a positive relationship with outcome measures.
- Across all studies, there were positive associations between student engagement and both the number of terms enrolled and credit hours completed.
- CCSSE's five benchmarks of effective educational practice were predictably related to outcome measures. For example, the academic challenge benchmark exhibited the strongest effects on academic outcomes, and support for learners exhibited the strongest effects on persistence measures.
- In addition to the correlation results described here, many of these results hold up as net effects in more complex models in the presence of academic and socio-demographic control variables.

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