

**RESEARCH BRIEF**

**Improvements in NOVA Student Engagement:  
Longitudinal Analysis of SENSE Results from 2009 to 2017**

**Introduction**

The Survey of Entering Student Engagement (SENSE) is an annual, nationwide survey that assesses student engagement among new and entering community college students. The SENSE evaluates institutional performance using conceptually-related survey items grouped into the following six student engagement benchmarks: 1) Early Connections; 2) High Expectations and Aspirations; 3) Clear Academic Plan and Pathway; 4) Effective Track to College Readiness; 5) Engaged Learning; and 6) Academic and Social Support Network.

NOVA has participated in the SENSE for nearly a decade, with SENSE administrations occurring during the fall semesters of 2009, 2010, 2012, 2015, and 2017. This research brief compares NOVA's 2009 and 2017 results on the SENSE student engagement measures. Specifically, it examines benchmarks and survey items that demonstrated the greatest improvements in scores. Benchmark scores, survey item response proportions, and statistical test results are provided in the Appendix data tables.

**Key Findings**

- From 2009 to 2017, NOVA demonstrated considerable improvements on two out of six SENSE benchmarks measuring student engagement among new and entering students.
- Benchmark scores for the Early Connections and Clear Academic Plan and Pathway benchmarks increased by 30 percent and 17 percent, respectively, from 2009 to 2017.
- The proportion of NOVA students who indicated that they were assigned a specific person to assist with their information needs *more than doubled* (from 17 to 46 percent) from 2009 and 2017.

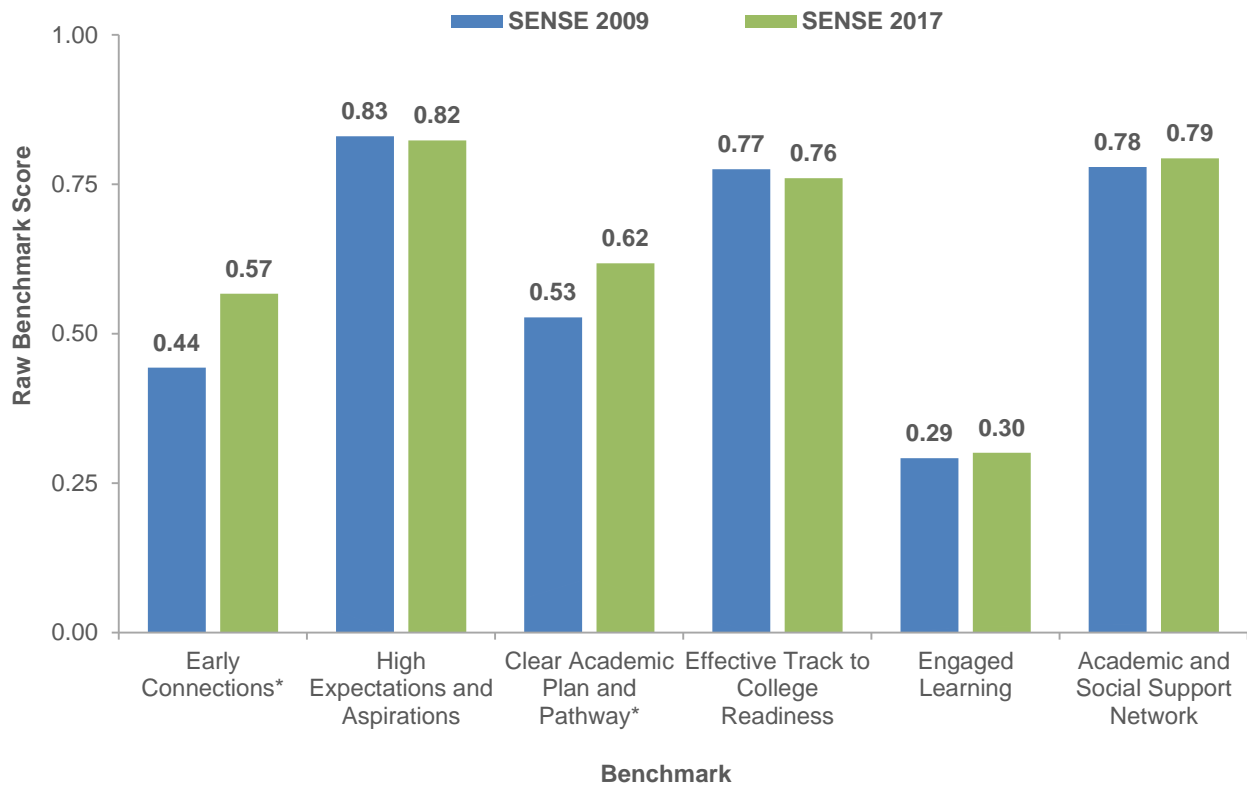
**Summary**

NOVA has shown significant improvement in student engagement among new and entering students for both the Early Connections benchmark (i.e., establishing strong early connections between students and the College) and the Clear Academic Plan and Pathway benchmark (i.e., receiving guided academic planning and goal setting assistance). When comparing SENSE results from 2009 with 2017, NOVA students have more access to advisors and are more readily using advising to help them with financial assistance, selection of their program and major, course scheduling, and academic planning and goal setting.

## SENSE Raw Benchmark Scores<sup>1</sup>

From 2009 to 2017, SENSE raw benchmark scores increased significantly at NOVA for the Early Connections benchmark (from 0.44 to 0.57) and the Clear Academic Plan and Pathway benchmark (from 0.53 to 0.62).<sup>2</sup> These improvements were not only statistically significant but also quite sizable, with benchmark scores increasing by as much as 30 percent from 2009 to 2017. No statistically significant differences occurred for the remaining four SENSE benchmarks, as scores for the High Expectations and Aspirations, Effective Track to College Readiness, Engaged Learning, and Academic and Social Support Network benchmarks were nearly identical in both 2009 and 2017 (Figure 1).

**Figure 1. NOVA Raw Benchmark Scores for SENSE 2009 and SENSE 2017**



\*Difference in SENSE 2009 and SENSE 2017 raw benchmark scores was statistically significant ( $p < .001$ )  
 Note: Raw benchmark scores are *not weighted* and can be used for longitudinal comparisons of SENSE benchmark scores.

Further examination of the SENSE survey items associated with the Early Connections and Clear Academic Plan and Pathway benchmarks was conducted given the substantial improvement in their scores from 2009 to 2017. This was done in an effort to assess the survey item responses that drove the score increases at NOVA for these benchmarks. The following compares SENSE 2009 and SENSE 2017 responses to survey items of the Early Connections benchmark and the Clear Academic Plan and Pathway benchmark.

<sup>1</sup> The Center for Community College Student Engagement (CCCSE), the governing body that administers the SENSE, provides raw unweighted benchmark scores to be used for institutional longitudinal analysis of SENSE benchmark scores. For the purpose of comparison, CCSSE rescales the survey items associated with each benchmark so that all items are on the same scale (0 to 1).

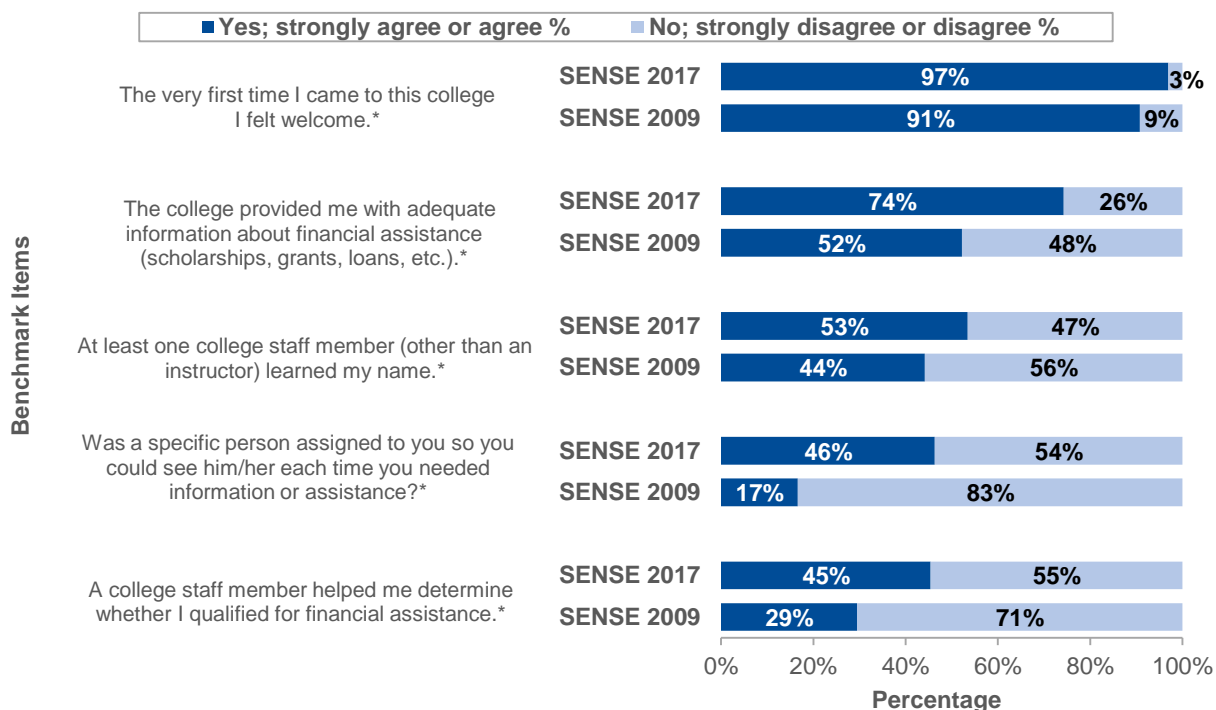
<sup>2</sup> Two-tailed, independent means difference test (t-test),  $p < .001$ , equal variances not assumed

## Early Connections Benchmark

According to the Center for Community College Student Engagement, “when students describe their early college experiences, they typically reflect on occasions when they felt discouraged or thought about dropping out. Their *reasons for persisting almost always include one common element: a strong, early connection to someone at the college.*”<sup>3</sup> This rationale informs the Early Connections benchmark of the SENSE, a proxy for student engagement among new and entering community college students.

NOVA improved on all five survey items of the Early Connections benchmark from 2009 to 2017.<sup>4</sup> The largest improvement occurred for the proportion of students who indicated ‘yes’, a specific person at NOVA was assigned to them with whom they could meet each time they needed information or assistance (from 17 to 46 percent). Substantial improvement was also apparent for the proportion of students who either strongly agreed or agreed that NOVA provided adequate information about financial assistance (from 52 to 74 percent). Notably, a large proportion (91 percent) of NOVA students in 2009 strongly agreed or agreed that the very first time that they came to NOVA, they felt welcome—this proportion was even greater in 2017 with 97 percent of NOVA students who strongly agreed or agreed (Figure 2).

**Figure 2. NOVA Comparison of SENSE 2009 and SENSE 2017 Survey Items: Early Connections Benchmark**



\*Difference in SENSE 2009 and SENSE 2017 ratings is statistically significant ( $p < .001$ )

Note: Neutral responses are excluded from percentage proportions.

<sup>3</sup> Center for Community College Student Engagement. (2018, August 8). Benchmarks of Effective Practice with Entering Students. *SENSE*. Retrieved from [http://www.ccsse.org/sense/tools/docs/working\\_with\\_results/SENSE\\_Benchmarks.pdf](http://www.ccsse.org/sense/tools/docs/working_with_results/SENSE_Benchmarks.pdf)

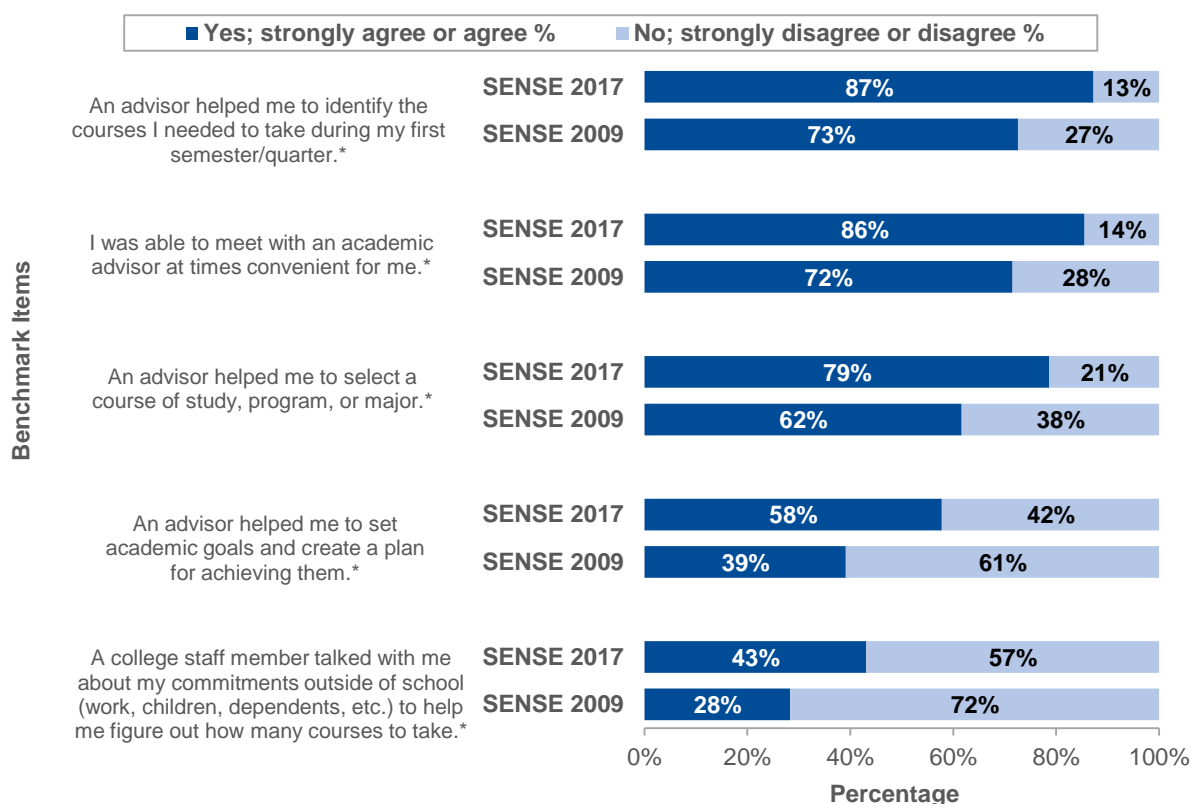
<sup>4</sup> Early Connections benchmark is measured by five survey items— four items utilized a five-point Likert scale (1=strongly disagree; 5=strongly agree) while the fifth item utilized a dichotomous (yes or no) response set.

## Clear Academic Plan and Pathway Benchmark

According to the Center for Community College Student Engagement, “when a student, with knowledgeable assistance, creates a road map . . . that student has a critical tool for staying on track. *Students are more likely to persist if they not only are advised about what courses to take but also are helped to set academic goals and to create a plan for achieving them.*”<sup>5</sup> This rationale informs the Clear Academic Plan and Pathway benchmark of the SENSE, a proxy for student engagement among new and entering community college students.

NOVA improved on all five survey items of the Clear Academic Plan and Pathway benchmark from 2009 to 2017 (Figure 3).<sup>6</sup> The greatest improvement occurred for the portion of students who either strongly agreed or agreed that an advisor helped them to set academic goals and create a plan for achieving those goals (from 39 to 58 percent). Ample improvement also occurred for the portion of students who strongly agreed or agreed that an advisor helped them to select a course of study, program, or major (from 62 to 79 percent).

**Figure 3. NOVA Comparison of SENSE 2009 and SENSE 2017 Survey Items: Clear Academic Plan and Pathway Benchmark**



\*Difference in SENSE 2009 and SENSE 2017 ratings is statistically significant ( $p < .001$ )  
 Note: Neutral responses are excluded from percentage proportions.

<sup>5</sup> Center for Community College Student Engagement. (2018, August 8). Benchmarks of Effective Practice with Entering Students. SENSE. Retrieved from [http://www.ccsse.org/sense/tools/docs/working\\_with\\_results/SENSE\\_Benchmarks.pdf](http://www.ccsse.org/sense/tools/docs/working_with_results/SENSE_Benchmarks.pdf)

<sup>6</sup> Clear Academic Plan and Pathway benchmark is measured by five survey items all of which used a five-point Likert scale (1=strongly disagree; 5=strongly agree).

## Discussion

At NOVA, improvement in student engagement among new and entering students was exhibited by significant increases in SENSE raw benchmark scores from 2009 to 2017.<sup>7</sup> These increases occurred for both the Early Connections benchmark (i.e., establishing strong early connections between students and the College) and the Clear Academic Plan and Pathway benchmark (i.e., receiving guided academic planning and goal setting assistance).

The Early Connections benchmark score increase was driven primarily by greater proportions of students indicating that:

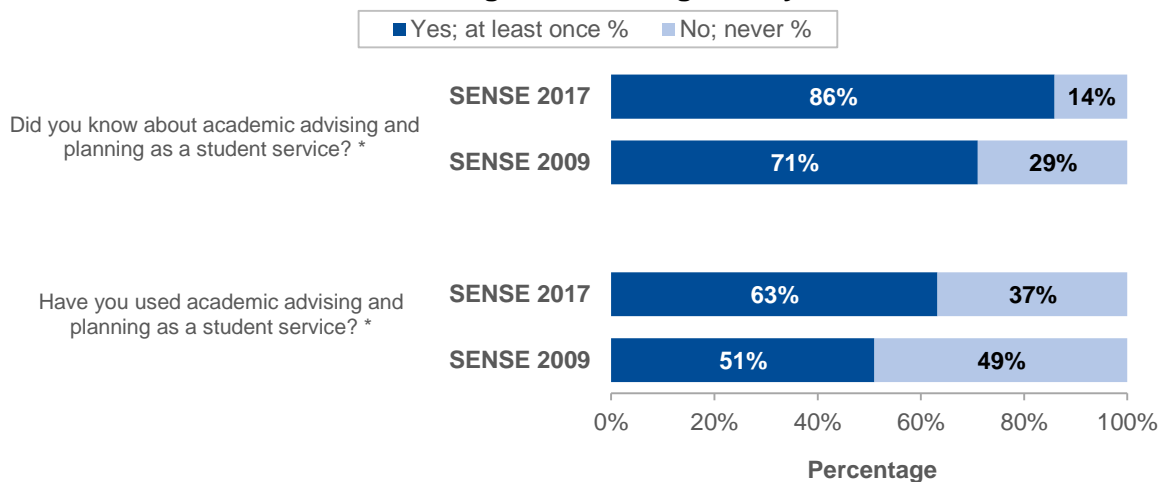
- a specific person was assigned to them each time they needed information or assistance.
- NOVA provided adequate information about financial assistance.
- a staff member helped them determine whether they qualified for financial assistance.

The Clear Academic Plan and Pathway benchmark score increase was heavily influenced by greater proportions of students indicating that:

- an advisor helped them to set academic goals and create a plan for achieving those goals.
- an advisor helped them to select a course of study, program, or major.
- a staff member talked with them about their commitments outside of school in order to help them determine how many courses they should take.

Given the improvement among measures of both the Early Connections benchmark and the Clear Academic Plan and Pathway benchmark, it is not surprising that when comparing to 2009 to 2017, NOVA students were also more likely to *know* about academic advising and planning services (from 71 to 86 percent) and more likely to *use* academic advising and planning services (from 51 to 63 percent) (Figure 4).

**Figure 4. NOVA Comparison of SENSE 2009 and SENSE 2017:  
Academic Advising and Planning Survey Items**



\*Difference in SENSE 2009 and SENSE 2017 ratings was statistically significant ( $p < .001$ )

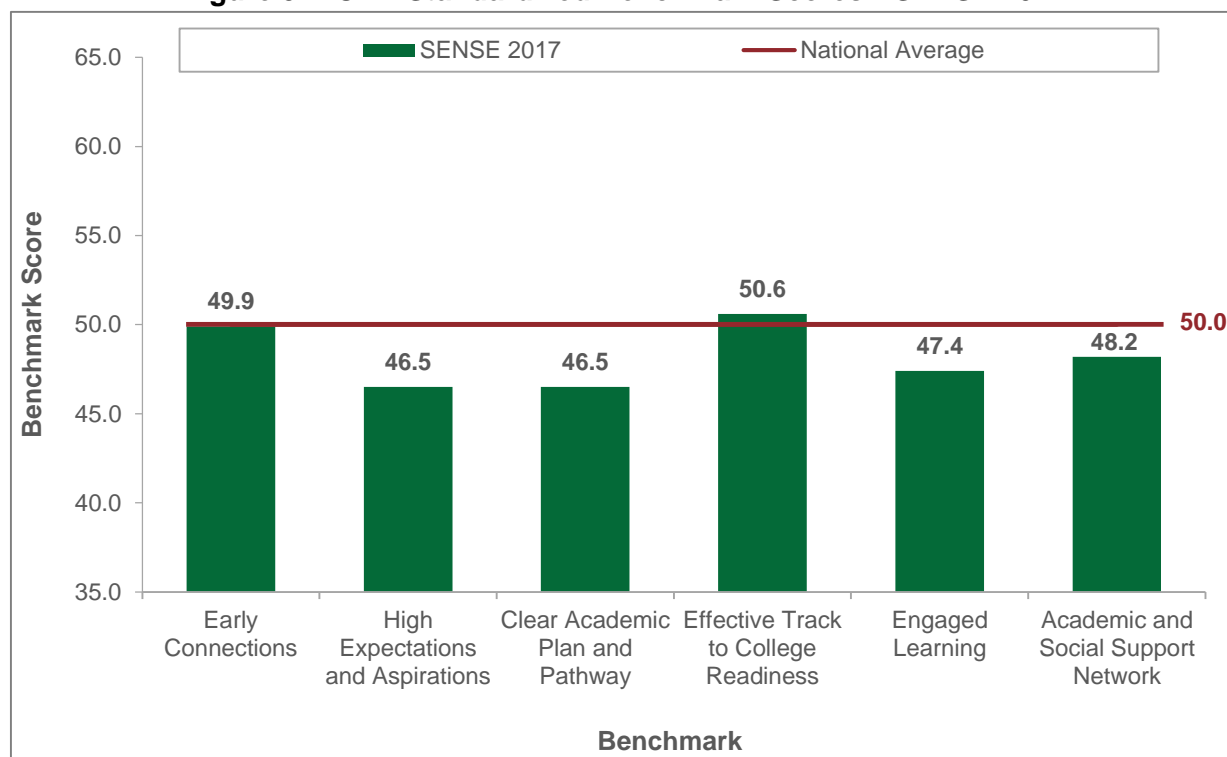
<sup>7</sup> Two-tailed, independent means difference test (t-test),  $p < .001$ , equal variances not assumed

Further analysis of NOVA's scores on the Early Connections benchmark and the Clear Academic Plan and Pathway benchmark found a strong positive correlation ( $r^{(2,010)}=0.58$ ;  $p < .001$ ) between these proxies of student engagement.<sup>8</sup> This suggests that enhancing efforts that help establish students' strong early connections to the College will likely result in increased academic planning and goal setting behavior among students. Similarly, enhancing efforts that increase academic planning and goal setting behavior among students will likely result in strengthening students' early connections to the College.

## Conclusion

From 2009 to 2017, NOVA demonstrated considerable improvement on two out of six SENSE benchmark scores that measured student engagement among new and entering students; scores for the remaining four benchmarks held constant. Specifically, benchmark scores improved significantly for both the Early Connections benchmark and the Clear Academic Plan and Pathway benchmark.<sup>9</sup> These improvements have now placed NOVA on par with the national average score for the Early Connections benchmark and within 4 points of the national average score for the Clear Academic Plan and Pathway benchmark for the 2017 SENSE (Figure 5).

**Figure 5. NOVA Standardized Benchmark Scores\*: SENSE 2017**



\*Benchmark scores are standardized and weighted by the Center for Community College Student Engagement (CCCSE) to be used for comparison against the national average for each benchmark (50.0). Standardized benchmark scores (weighted or unweighted) *should not* be compared longitudinally as standardized benchmark scores are based on response distributions and recalculated annually.

<sup>8</sup> Pearson's correlation (r) coefficient

<sup>9</sup> Two-tailed, independent means difference test (t-test),  $p < .001$ , equal variances not assumed

## Appendix

**Table A1. Raw Benchmark Scores: SENSE 2009 and SENSE 2017**

SENSE Benchmark	Raw Benchmark Score				Score Difference From 2009 to 2017	Statistical Results (t-test)
	n	SENSE 2009	n	SENSE 2017		
Early Connections*	990	0.44	1,053	0.57	0.12	$t(2,040)=13.65$ , $p<0.001$ , $d=0.60$
High Expectations and Aspirations	991	0.83	1,053	0.82	- 0.01	$t(2,036)=1.27$ , $p=0.203$ , $d=0.06$
Clear Academic Plan and Pathway*	977	0.53	1,033	0.62	0.09	$t(1,942)=9.12$ , $p<0.001$ , $d=0.41$
Effective Track to College Readiness	991	0.77	1,053	0.76	- 0.01	$t(2,042)=2.09$ , $p=0.036$ , $d=0.09$
Engaged Learning	991	0.29	1,053	0.30	0.01	$t(2,042)=1.40$ , $p=0.161$ , $d=0.06$
Academic and Social Support Network	977	0.78	1,033	0.79	0.01	$t(2,002)=2.22$ , $p=0.027$ , $d=0.10$

\*Difference in SENSE 2009 and SENSE 2017 raw benchmark scores was statistically significant ( $p < .001$ ), equal variances not assumed

**Table A2. Early Connections Benchmark Survey Item Responses: SENSE 2009 and SENSE 2017**

Early Connections Benchmark Survey Items	SENSE 2009			SENSE 2017			Statistical Results (t-test)
	n	Yes, strongly agree or agree %	No, strongly disagree or disagree %	n	Yes, strongly agree or agree %	No, strongly disagree or disagree %	
The very first time I came to this college I felt welcome.*	650	91%	9%	790	97%	3%	$t(1,009)=4.80$ , $p<0.001$ , $d=0.26$
The college provided me with adequate information about financial assistance (scholarships, grants, loans, etc.).*	659	52%	48%	742	74%	26%	$t(1,317)=8.74$ , $p<0.001$ , $d=0.47$
At least one college staff member (other than an instructor) learned my name.*	809	44%	56%	823	53%	47%	$t(1,630)=3.79$ , $p<0.001$ , $d=0.19$
Was a specific person assigned to you so you could see him/her each time you needed information or assistance?*	943	17%	83%	984	46%	54%	$t(1,818)=14.84$ , $p<0.001$ , $d=0.67$
A college staff member helped me determine whether I qualified for financial assistance.*	673	29%	71%	727	45%	55%	$t(1,398)=6.26$ , $p<0.001$ , $d=0.33$

\*Difference in SENSE 2009 and SENSE 2017 percentages was statistically significant ( $p < .001$ ), equal variances not assumed

Note: Neutral responses are excluded.

**Table A3. Clear Academic Plan and Pathway Benchmark Survey Item Responses:  
SENSE 2009 and SENSE 2017**

Clear Academic Plan and Pathway Benchmark Survey Items	SENSE 2009			SENSE 2017			Statistical Results (t-test)
	n	Yes, strongly agree or agree %	No, strongly disagree or disagree %	n	Yes, strongly agree or agree %	No, strongly disagree or disagree %	
An advisor helped me to identify the courses I needed to take during my first semester/quarter.*	810	73%	27%	878	87%	13%	$t(1,493)=7.59$ , $p<0.001$ , $d=0.37$
I was able to meet with an academic advisor at times convenient for me.*	660	72%	28%	719	86%	14%	$t(1,244)=6.39$ , $p<0.001$ , $d=0.35$
An advisor helped me to select a course of study, program, or major.*	761	62%	38%	826	79%	21%	$t(1,491)=7.52$ , $p<0.001$ , $d=0.38$
An advisor helped me to set academic goals and create a plan for achieving them.*	659	39%	61%	706	58%	42%	$t(1,359)=7.01$ , $p<0.001$ , $d=0.38$
A college staff member talked with me about my commitments outside of school (work, children, dependents, etc.) to help me figure out how many courses to take.*	728	28%	72%	752	43%	57%	$t(1,472)=6.01$ , $p<0.001$ , $d=0.31$

\*Difference in SENSE 2009 and SENSE 2017 percentages was statistically significant ( $p < .001$ ), equal variances not assumed  
Note: Neutral responses are excluded.

**Table A4. Academic Advising and Planning Item Responses:  
SENSE 2009 and SENSE 2017**

Academic Advising and Planning Survey Items	SENSE 2009			SENSE 2017			Statistical Results (t-test)
	n	Yes, strongly agree or agree %	No, strongly disagree or disagree %	n	Yes, strongly agree or agree %	No, strongly disagree or disagree %	
Did you know about academic advising and planning as a student service?*	970	71%	29%	1,043	86%	14%	$t(1,814)=8.21$ , $p<0.001$ , $d=0.37$
Have you used academic advising and planning as a student service?*	931	51%	49%	1,019	63%	37%	$t(1,917)=5.46$ , $p<0.001$ , $d=0.25$

\*Difference in SENSE 2009 and SENSE 2017 percentages was statistically significant ( $p < .001$ ), equal variances not assumed  
Note: Neutral responses are excluded.