



Antelope Valley College

Institutional Effectiveness, Research, and Planning

Collaborations and Partnerships for Student Success

2013-2014 SMARTHINKING REPORT

Objective:

The following report presents the results of the analysis of the impact of SMARTHINKING (ST) online tutoring tool on success, course completion, and retention rates of students enrolled in English (ENGL) 097, 099, and 101 courses during the two major terms of the 2013-2014 academic year, Fall 2013 and Spring 2014.

The data on ST users was provided by SMARTHINKING. The IDs of ST users were matched with IDs of the students who were enrolled in ENGL 097, 099, and 101 classes during in the aforementioned terms. An analysis was conducted to determine if student utilization of ST resulted in higher or lower success, course completion, and retention rates. The results are reported separately for three ENGL groups.

Definitions:

The following definitions adopted by RP Group (RP Group, 2011¹) that are applicable for AVC grading system were used:

Success rate: Percentage of students who earned a passing (P) or satisfactory grade (A, B, or C).

Numerator: A, B, C, or P (pass);

Denominator: A, B, C, D, F, P, NP, W.

(RD (no record) grades were removed)

Course Completion Rate (Formerly Retention Rate): Percentage of students who do not withdraw and earn a valid course grade.

Numerator: A, B, C, D, F, I, NP, P, RD.

Denominator: A, B, C, D, F, I, P, NP, RD, W.

Retention Rate (Formerly Persistence Rate): Percentage of students who are enrolled as of census in an initial fall term and then enrolled in any course during the subsequent spring term.

Numerator: A, B, C, D, F, I, P, NP, RD, W in at least one class in the subsequent primary term.

Denominator: A, B, C, D, F, I, P, NP, RD, R, W in at least one class in the initial primary term.

¹ RP Group Standard Definitions (Revised April 5, 2011). Retrieved from <http://www.rpgroup.org/sites/default/files/RP%20Group%20Standard%20Definitions%20-%20April%202011.pdf>

Findings:

Enrollment

The total number of students enrolled in ENGL 097, 099 (basic skills) and ENGL 101 (transferable) courses in Fall 2012, Spring 2013, and 2012-2013 academic year (major terms only) are reported in Table 1-3. The data is also separated by the ST users and non-users who utilized the tool during those semesters.

Table 1. Fall 2013 Student Count and Percentage by Course and ST-Users

ENGL Level	Non-ST Users		ST Users		ENGL Term Total	
	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%
ENGL 101	1,137	93.9%	74	6.1%	1,211	100%
ENGL 099	551	86.4%	87	13.6%	638	100%
ENGL 097	320	89.1%	39	10.9%	359	100%
Total (N)	2,008	90.9%	200	9.1%	2,208	100%

Table 2. Spring 2014 Student Count and Percentage by Course and ST-Users

ENGL Level	Non-ST Users		ST Users		ENGL Term Total	
	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%
ENGL 101	1,279	96.5%	46	3.5%	1,325	100%
ENGL 099	558	85.6%	94	14.4%	652	100%
ENGL 097	280	84.6%	51	15.4%	331	100%
Total (N)	2,117	91.7%	191	8.3%	2,308	100%

Table 3. 2013-2014 Student Count and Percentage by Course and ST-Users

ENGL Level	Non-ST Users		ST Users		ENGL Year Total	
	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%
ENGL 101	2,416	95.3%	120	4.7%	2,536	100%
ENGL 099	1,109	86.0%	181	14.0%	1,290	100%
ENGL 097	600	87.0%	90	13.0%	690	100%
Total (N)	4,125	91.3%	391	8.7%	4,516	100%

In the two major terms of the 2013-2014 academic year, a total number of 391 (8.7%) students enrolled in ENGL 097, 099, and 101 courses utilized ST online tutoring tool. Among ST users, 120 (4.7%) students took ENGL 101, and 271 students (13.7%) took basic skills ENGL courses. As compared to the previous academic year, the percentage of AVC basic skills ENGL students utilizing ST tool has increased by 4.6% (from 9.1% to 13.7%²).

² See AVC 2012-2013 Smarthinking Report

Course Success Rates:

Tables 4-6 report course success rates for students who utilized the ST tool and those who did not, as well as group differences. The data is disaggregated ENGL course in Fall 2013, Spring 2014, and 2013-2014 academic year.

Table 4. Fall 2013 Success Rate Comparison

ENGL Level	Non-ST Users	ST Users	Groups Difference ¹	All Students
ENGL 101	64%	88%	24%	66%
ENGL 099	54%	82%	28%	58%
ENGL 097	64%	79%	15%	66%
Total	61%	84%	23%	63%

Note: ¹ST Users minus Non-ST Users. A positive difference signifies higher success rates by ST-User group than by Non-ST-User group and vice versa.

Table 5. Spring 2014 Success Rate Comparison

ENGL Level	Non-ST Users	ST Users	Groups Difference ¹	All Students
ENGL 101	58%	83%	25%	59%
ENGL 099	57%	79%	22%	60%
ENGL 097	63%	75%	12%	65%
Total	59%	79%	20%	60%

Note: ¹ST Users minus Non-ST Users. A positive difference signifies higher success rates by ST-User group than by Non-ST-User group and vice versa.

Table 6. 2013-2014 Success Rate Comparison

ENGL Level	Non-ST Users	ST Users	Groups Difference ¹	All Students
ENGL 101	61%	86%	25%	62%
ENGL 099	55%	80%	25%	59%
ENGL 097	64%	77%	13%	65%
Total	60%	81%	21%	62%

Note: ¹ST Users minus Non-ST Users. A positive difference signifies higher success rates by ST-User group than by Non-ST-User group and vice versa.

As shown in tables above, the success rates for ST users are higher than those for non-users across the three ENGL courses included in this analysis in 2013-2014 academic year and its major terms. The group difference in success rates between ST users and non-users ranged from 12 to 28 percent. Among three ENGL courses, the success rate differences between ST user and non-user groups were the lowest among ENGL 097 students. The mean differences in the annual course success rates between ST user and non-user groups were statistically significant³ (at $p < .01$) across three ENGL courses.

³ Two-sample t-tests were conducted to compare annual success rates between ST user and non-user groups.

Course Completion Rates:

Tables 7-9 report course completion rates for students who utilized the ST tool and those who did not, as well as group differences.

Table 7. Fall 2013 Course Completion Rate Comparison

ENGL Level	Non-Users	ST Users	Groups Difference ¹	All Students
ENGL 101	84%	93%	9%	84%
ENGL 099	86%	97%	11%	87%
ENGL 097	90%	100%	10%	91%
Total	85%	96%	11%	86%

Note: ¹ST Users minus Non-ST Users. A positive difference signifies higher course completion rates by ST-User group than by Non-ST-User group and vice versa.

Table 8. Spring 2014 Course Completion Rate Comparison

ENGL Level	Non-ST Users	ST Users	Groups Difference ¹	All Students
ENGL 101	81%	89%	8%	81%
ENGL 099	88%	97%	9%	89%
ENGL 097	90%	98%	8%	92%
Total	84%	95%	11%	85%

Note: ¹ST Users minus Non-ST Users. A positive difference signifies higher course completion rates by ST-User group than by Non-ST-User group and vice versa.

Table 9. 2013-2014 Course Completion Rate Comparison

ENGL Level	Non-ST Users	ST Users	Groups Difference ¹	All Students
ENGL 101	82%	92%	10%	83%
ENGL 099	87%	97%	10%	88%
ENGL 097	90%	99%	9%	91%
Total	85%	96%	11%	86%

Note: ¹ST Users minus Non-ST Users. A positive difference signifies higher course completion rates by ST-User group than by Non-ST-User group and vice versa.

As shown in Tables 7-9, course completion rates for ST-users are higher than those for non-users across the three ENGL courses in 2013-2014 academic year overall and its major terms. Course completion rates for basic skills ENGL 097 and 099 ST users were high and ranged between 97 and 100 percent. The difference in course completion rates across all ST users and non-users was 11 percent in two major terms of the 2013-2014 academic year. Among the three ENGL courses, the differences in course completion rates between ST user and non-user groups ranged from 8 to 11 percent. The mean differences in the annual course completion rates between ST users and non-users were statistically significant (at $p < .01$) across ENGL courses.

Retention Rates (Fall 2013 to Spring 2014):

Students who received a valid grade in ENGL 097, ENGL 099 or ENGL 101 during the Fall 2013 term were followed to see if they enrolled in any course during the subsequent Spring 2014 term. The results were also disaggregated by student utilization of the ST tool. Tables 10 and 11 show the number of Fall 2012 ENGL students who retained in the Spring 2013 term and the percentages of the students who retained and those who did not. The data is separated by ST users and non-users, as well as by ENGL courses.

Table 10. Number and Percentage of Fall 2013 Students Who Retained in Spring 2014, by ST Groups

Smarthinking	Retention	Number of Students	Percent
Non-Users	Did not retain	323	16%
	Retained	1,685	84%
	Total	2,008	100%
Users	Did not retain	16	8%
	Retained	184	92%
	Total	200	100%

Table 11. Number and Retention Rate by ENGL Course and ST Groups

ENGL Course	Smarthinking	Number of Students	Retention Rate	Difference (ST Users minus Non-Users)
097	Non-Users	320	78%	17%
	Users	39	95%	
099	Non-Users	551	83%	7%
	Users	87	90%	
101	Non-Users	1,137	86%	7%
	Users	74	93%	

As shown in Table 10, ST users tended to retain at a higher rate than non-users. The retention rate among all ST users (92%) was eight percent higher than that among all non-users (84%). The Fall 2013 to Spring 2013 retention rates were higher among ST users than among non-users (Table 11). By-ENGL course retention rate differences between ST users and non-users groups ranged from 7 to 17 percent. The highest retention rate difference was among the students enrolled in ENGL 097.

Limitations of the Study:

This study included only one student variable to analyze the differences in course success and completion rates. This variable was the utilization of the ST online tutoring tool. Other factors,

which might have influenced ENGL course outcomes and the differences in the success and completion rates, were outside the scope of the analysis for this report. In addition, the ST user and non-user groups were disproportionate in size. The inclusion of a larger number of variables and having a larger group of ST users would provide more conclusive evidence of the impact of the Smarthinking online tutoring tool on course outcomes and student learning.

Conclusion:

The analysis showed that ENGL 097, 099, and 101 students who utilized the ST online tutoring tool tended to have higher success, course completion, and retention rates than the students who were enrolled in the same ENGL courses but did not utilize the ST tool.