Antelope Valley College

Institutional Effectiveness, Research, and Planning

Collaborations and Partnerships for Student Success

2012-2013 Smarthinking Report

Objective:

The following report presents the impact of the SmartThinking (ST) online tutoring tool on success, retention and persistence for students enrolled in an English (ENGL) 097, 099, and 101 courses during the fall 2012 term.

The data on ST users was gathered through student usage reports obtained from the ST website. The data was matched to students who were enrolled during the fall 2012 term. Term code variables were linked to ensure the students participated in ST during the term ENGL course enrollment. Additionally, an analysis was conducted to determine if ST impacted success, retention and persistence. The data was split into three ENGL groups (e.g., 097, 099, 101) in order to identify the impact at each level.

Definitions:

Success is defined as a student earning a course grade of A, B, C, CR (credit), or P (pass). If a student receives a course grade other than any of the grades previously listed, they are deemed unsuccessful. To increase the accuracy of the study, RD (no record) grades were removed. RD codes indicate a grade was not entered and therefore cannot be determined.

Retention is defined as a student earning a course grade other than W (withdraw). To increase the accuracy of the study, RD (no record) grades were removed. RD codes indicate a grade was not entered and therefore cannot be determined.

Persistence is defined as a student who enrolled in a fall term and then enrolled in any course during the subsequent spring term.

Assumptions and Limitations:

Though the study covered the impact of the ST tool on student success, retention and persistence through descriptive and statistical measures which have yielded promising results, the reader should be aware of a few assumptions. The students in the comparison groups may not have been provided information about the ST tool, which might have contributed to their lack of participation. The study assumes each subject had an equal opportunity to utilize the SmarThinking tool. Currently, there is no measure available to determine how students are made aware of the SmarThinking tool, limiting the results of this study.

Findings:

Tables 1-3 present the total number of students enrolled in basic skills ENGL courses for the fall 2012, spring 2013, and 2012-2013 academic year (major terms only) respectively. In addition, these tables present the total number of students who did and did not utilize the SmarThinking tool to assist them during those same periods. The data suggest that 6.4 percent of ENGL students included in this study and 9.2 percent of basic skills ENGL students included in this study utilized ST.

Table 1. Participant count for Fall 2012

Fall 2012 Count			
ENGL Level	Non-ST Users	ST Users	Term Total
ENGL 101	1129	72	1201
ENGL 099	582	62	644
ENGL 097	306	22	328
Term Total	2017	156	2173

Table 2. Participant count for Spring 2012

Spring 2013 Count			
ENGL Level	Non-ST Users	ST Users	Term Total
ENGL 101	1444	46	1490
ENGL 099	613	72	685
ENGL 097	307	27	334
Term Total	2364	145	2509

Table 3. Participant count for 2013-2013 academic year

2012-2013 Count			
ENGL Level	Non-ST Users	ST Users	Term Total
ENGL 101	2573	118	2691
ENGL 099	1195	134	1329
ENGL 097	613	49	662
Term Total	4381	301	4682

2012-2013

94%

6%

■ SmarThinking

■ Non-SmarThinking
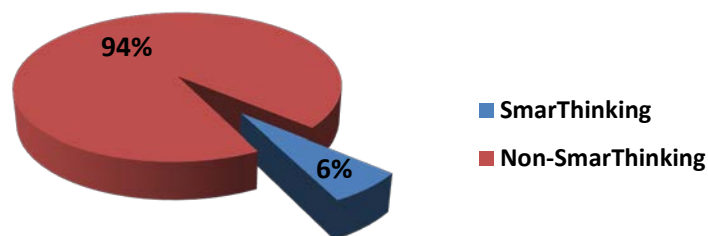
Success

Tables 4-6 present a success rate comparison of students who utilized the ST tool and those who did not. The results indicate a higher rate of success for students utilizing ST across the board.

Table 4. Success rate comparison for Fall 2012

Fall 2012 Percent Success				
ENGL Level	**Non-ST Users**	**ST Users**	**Group Difference**	**All Students**
ENGL 101	66.3%	86.1%	19.8%	67.5%
ENGL 099	51.7%	56.5%	4.7%	52.2%
ENGL 097	62.1%	81.8%	19.7%	63.4%
All Students	61.5%	73.7%	12.2%	62.4%

Table 5. Success rate comparison for Spring 2013

Spring 2013 Percent Success				
ENGL Level	**Non-ST Users**	**ST Users**	**Group Difference**	**All Students**
ENGL 101	60.1%	82.6%	22.5%	60.8%
ENGL 099	53.2%	66.7%	13.5%	54.6%
ENGL 097	59.3%	66.7%	7.4%	59.9%
All Students	58.2%	71.7%	13.5%	59.0%

Table 6. Success rate comparison for 2013-2013 academic year

2012-2013 Percent Success				
ENGL Level	**Non-ST Users**	**ST Users**	**Group Difference**	**All Students**
ENGL 101	62.8%	84.7%	21.9%	63.8%
ENGL 099	52.5%	61.9%	9.5%	53.4%
ENGL 097	60.7%	73.5%	12.8%	61.6%
All Students	59.7%	72.8%	**13.0%**	60.6%

An additional statistical analysis was conducted in order to determine if success in ENGL was dependent upon ST participation. The results of the Chi-squared analysis, utilized for determining such a relationship, confirmed (at a $p<.000$ level) that success in ENGL is in fact dependent upon participation in ST. Using the ST tool increases the likelihood of being successful by 13.0%.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	20.065[a]	1	.000		
Fisher's Exact Test				.000	.000
N of Valid Cases	4682				

Retention

Tables 7-9 present a retention rate comparison of students who utilized the ST tool and those who did not. Again, the results indicate a higher rate of retention for students utilizing ST across the board.

Table 7. Retention rate comparison for Fall 2012

Fall 2012 Percent Retention				
ENGL Level	**Non-ST Users**	**ST Users**	**Group Difference**	**All Students**
ENGL 101	84.9%	97.2%	12.4%	85.6%
ENGL 099	82.8%	83.9%	1.1%	82.9%
ENGL 097	84.0%	90.9%	6.9%	84.5%
All Students	84.1%	91.0%	6.9%	84.6%

Table 8. Retention rate comparison for Spring 2013

Spring 2013 Percent Retention				
ENGL Level	**Non-ST Users**	**ST Users**	**Group Difference**	**All Students**
ENGL 101	60.1%	82.6%	22.5%	81.5%
ENGL 099	53.2%	66.7%	13.5%	84.4%
ENGL 097	59.3%	66.7%	7.4%	85.3%
All Students	82.4%	90.3%	8.0%	82.8%

Table 9. Retention rate comparison for 2012-2013 academic year

2012-2013 Percent Retention				
ENGL Level	**Non-ST Users**	**ST Users**	**Group Difference**	**All Students**
ENGL 101	82.7%	96.6%	13.9%	83.4%
ENGL 099	83.3%	87.3%	4.0%	83.7%
ENGL 097	84.8%	85.7%	0.9%	84.9%
All Students	83.2%	90.7%	**7.5%**	83.7%

An additional statistical analysis was conducted in order to determine if retention in ENGL was dependent upon ST participation. The results of the Chi-squared analysis, utilized for determining such a relationship, confirmed (at a $p<.001$ level) that retention in ENGL is in fact dependent upon participation in ST. Using the ST tool increases the likelihood of being retained by 7.5%.

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	11.653[a]	1	.001		
Fisher's Exact Test				.000	.000
N of Valid Cases	4682				

Persistence

Students who received a course grade in ENGL 097, ENGL 099 or ENGL 101 during the fall term were followed to see if they enrolled in any course during the subsequent spring term. The results have been disaggregated by student utilization of the ST tool. Tables 10-13 present the cohort total for fall 2012, the number of students from the cohort who persisted to the spring 2013 term, and the proportion of students from the cohort who persisted to the spring 2013 term respectively. Students enrolled in ENGL 097 during the cohort defining term who utilize the ST tool tend to persist to the consecutive major term at a lower rate than students enrolled in the same ENGL 097 course who do not utilize the ST tool.

Table 10. Cohort total

Fall 2012 Cohort			
ENGL Level	**Non-ST Users**	**ST Users**	**All Students**
ENGL 101	1129	72	1201
ENGL 099	582	62	644
ENGL 097	306	22	328
All Students	2017	156	2173

Table 11. Count of students who persisted

Number Persisted to Spring 2013			
ENGL Level	**Non-ST Users**	**ST Users**	**All Students**
ENGL 101	985	65	1050
ENGL 099	478	52	530
ENGL 097	245	16	261
All Students	1708	133	1841

Table 12. Proportion of students who persisted

Proportion Persisted to Spring 2013				
ENGL Level	**Non-ST Users**	**ST Users**	**Group Difference**	**All Students**
ENGL 101	87.2%	90.3%	3.0%	87.4%
ENGL 099	82.1%	83.9%	1.7%	82.3%
ENGL 097	80.1%	72.7%	-7.3%	79.6%
All Students	84.7%	85.3%	0.6%	84.7%

An additional statistical analysis was conducted in order to determine if student persistence was dependent upon ST participation. The results of the Chi-squared analysis, utilized for determining such a relationship, rejects the claim that persistence is dependent upon participation in ST. Put simply, there is no relationship between ST utilization and student persistence.

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.037[a]	1	.847		
Fisher's Exact Test				.908	.478
N of Valid Cases	2173				