

2014-2015 SMARTHINKING REPORT (ENGLISH)

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 101¹ courses during the 2014-2014 academic year and major terms, Fall 2014 and Spring 2015.

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 the same 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 course success, course completion, and retention rates. The results are reported separately for four ENGL course groups.

Definitions:

The following definitions adopted by RP Group (RP Group, 2011²) 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 ENGL 095 was not considered since there were fewer than 10 ST-users.

² 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 2014, Spring 2015, and 2014-2015 academic year 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. 2014-2015* Student Count and Percentage by Course and ST-Users

| Course | ST-Users | | Non-ST-Users | | ENGL Course Total | |
|-----------|----------|----|--------------|-----|-------------------|------|
| | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % |
| ENGL 097 | 71 | 8% | 785 | 92% | 856 | 100% |
| ENGL 099 | 85 | 6% | 1342 | 94% | 1427 | 100% |
| ENGL 101 | 141 | 5% | 2637 | 95% | 2778 | 100% |
| Total (N) | 297 | 6% | 4764 | 94% | 5061 | 100% |

*including Summer 2014 and Intersession 2015 enrollment

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

| Course | ST-Users | | Non-ST-Users | | ENGL Course Total | |
|-----------|----------|-----|--------------|-----|-------------------|------|
| | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % |
| ENGL 097 | 41 | 11% | 335 | 89% | 376 | 100% |
| ENGL 099 | 40 | 6% | 644 | 94% | 684 | 100% |
| ENGL 101 | 74 | 6% | 1153 | 94% | 1227 | 100% |
| Total (N) | 155 | 7% | 2132 | 93% | 2287 | 100% |

Table 3. Spring 2015 Student Count and Percentage by Course and ST-Users

| Course | ST-Users | | Non-ST-Users | | ENGL Course Total | |
|-----------|----------|----|--------------|-----|-------------------|------|
| | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % |
| ENGL 097 | 12 | 3% | 414 | 97% | 426 | 100% |
| ENGL 099 | 24 | 4% | 636 | 96% | 660 | 100% |
| ENGL 101 | 34 | 3% | 1217 | 97% | 1251 | 100% |
| Total (N) | 70 | 3% | 2583 | 97% | 2653 | 100% |

In the 2014-2015 academic year, a total number of 297 (5%) students enrolled in ENGL 097, 099, and 101 courses utilized ST Online Writing Lab tutoring tool. Among ST-users, 141 (46%) students took ENGL 101, and 163 students (54%) took basic skills ENGL courses.

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, which were calculated by subtracting success rates of non-ST-users from ST-users'. The data are disaggregated by ENGL course in Fall 2014, Spring 2015, and 2014-2015 academic year.

Table 4. 2014-2015 Success Rate Comparison

| ENGL Level | ST Users | Non-ST Users | Groups Difference | All Students |
|------------|----------|--------------|-------------------|--------------|
| ENGL 097 | 87.3% | 62.8% | 24.5%* | 65% |
| ENGL 099 | 82.4% | 61.3% | 21.0%* | 63% |
| ENGL 101 | 91.5% | 65.8% | 25.7%* | 67% |
| Total (N) | 87.0% | 65.6% | 21.4% | 65% |

*Significant at $p < 0.01$

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. Fall 2014 Success Rate Comparison

| ENGL Level | ST Users | Non-ST Users | Groups Difference | All Students |
|------------|----------|--------------|-------------------|--------------|
| ENGL 097 | 88.9% | 47.2% | 41.7%* | 61% |
| ENGL 099 | 81.0% | 58.1% | 22.9%* | 64% |
| ENGL 101 | 100% | 85.9% | 14.1%* | 87% |
| Total (N) | 87.0% | 65.6% | 21.4% | 67% |

*Significant at $p < 0.01$

Table 6. Spring 2015 Success Rate Comparison

| ENGL Level | ST Users | Non-ST Users | Groups Difference ¹ | All Students |
|------------|----------|--------------|--------------------------------|--------------|
| ENGL 097 | 83.3% | 60.6% | 22.7% | 61% |
| ENGL 099 | 75.0% | 62.7% | 12.3% | 63% |
| ENGL 101 | 94.1% | 60.1% | 34.0%* | 61% |
| Total (N) | 86.0% | 61.0% | 25.0% | 62% |

*Significant at $p < 0.01$

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 2014-2015 academic year and in its major terms. The group difference in success rates between ST users and non-users varied by courses and ranged from 12 to 42 percent. 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 in the academic year.

³ Independent samples *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 Online Writing Lab and those who did not, as well as group differences.

Table 7. 2014-2015 Retention Rate Comparison

| ENGL Level | ST Users | Non-ST Users | Groups Difference | All Students |
|------------|----------|--------------|-------------------|--------------|
| ENGL 097 | 97% | 89% | 8%** | 90% |
| ENGL 099 | 98% | 88% | 10%** | 88% |
| ENGL 101 | 95% | 86% | 9%** | 86% |
| Total (N) | 96% | 87% | 9% | 88% |

*Significant at $p < 0.05$

Table 8. Fall 2014 Retention Rate Comparison

| ENGL Level | ST Users | Non-ST Users | Groups Difference | All Students |
|------------|----------|--------------|-------------------|--------------|
| ENGL 097 | 100% | 91.6% | 8.4%* | 93% |
| ENGL 099 | 95.0% | 86.3% | 8.7%* | 87% |
| ENGL 101 | 90.5% | 89.6% | 0.9% | 89% |
| Total (N) | 94% | 89% | 15% | 89% |

*Significant at $p < 0.01$

Table 9. Spring 2015 Retention Rate Comparison

| ENGL Level | ST Users | Non-ST Users | Groups Difference ¹ | All Students |
|------------|----------|--------------|--------------------------------|--------------|
| ENGL 097 | 91.7% | 87.9% | 3.8% | 88% |
| ENGL 099 | 100% | 89.6% | 10.4%* | 90% |
| ENGL 101 | 100% | 81.5% | 18.5%* | 82% |
| Total (N) | 99% | 85% | 14% | 85% |

*Significant at $p < 0.01$

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 2014-2015 academic year overall and its major terms. Course completion rates for ENGL ST-users were high and ranged between 91 and 100 percent. Course completion rates among non-ST-Users are lower, ranging between 82 and 92 percent. Among the three ENGL courses, the differences in course completion rates between ST user and non-user groups ranged from 9 to 15 percent across terms for the entire year. The mean differences in the annual course completion rates between ST users and non-users were statistically significant (at $p < 0.05$) across ENGL courses.

Retention Rates (Fall 2014 to Spring 2015):

Students who received a valid grade in ENGL 097, ENGL 099 or ENGL 101 during the Fall 2014 term were followed to see if they enrolled in any course during the subsequent Spring 2015 term. The Fall 2014 number of students was unduplicated. The results of the data merging were disaggregated by student utilization of the ST tool. Table 10 shows the numbers and percentages of Fall 2014 ENGL students who retained in the Spring 2015 term and those who did not.

Table 10. Number and Percentage of Fall 2014 Students Who Retained in Spring 2015, by ST Groups

| Smarthinking | Retention | Number of Students | Percent |
|---------------------|------------------|---------------------------|----------------|
| Non-Users | Did not retain | 508 | 24% |
| | Retained | 1571 | 76% |
| | Total | 2079 | 100% |
| Users | Did not retain | 16 | 10% |
| | Retained | 139 | 90% |
| | Total | 155 | 100% |

As shown in Table 10, ST users tended to retain at a higher rate than non-users. The Fall 2014 to Spring 2015 retention rates were 14 percentage points higher among ST users than among non-users (Table 10).

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 tend to have higher success, course completion, and retention rates than the students who were enrolled in the same ENGL sections but did not utilize the SMARTHINKING Online Writing Lab tool