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ETS Proficiency Profile 2014-2015 Data Brief

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Executive Summary


ETS Proficiency Profile Data Brief
2014-2015 Academic Year

Background


The ETS Proficiency Profile is a 36-question standardized test on reading, writing, critical thinking, and mathematics. Divided into three context areas (humanities, social sciences, and natural sciences), ESU has administered it to assess part of its [General Education Learning Outcomes](#) since 2009. ETS provides comparative data for similar institutions, and it helps ESU improve student learning by providing faculty and administrators with data on student skills that can inform important program/curricular discussions. It provides a value-added report to the State System, and it fulfills Voluntary System of Accountability obligations to measure learning outcomes and provide key accountability data to the public.

Data Summary

Scaled Scores

- FY-to-SR score increases are greatest in reading (+19.1%) & critical thinking (+16.0%)
 - Up 14.3% on average in the 4 skill areas
- 14-15 AY FY-to-SR score increases are on average greater than those of 13-14 AY
- Mean 2014 freshmen scores are lower in 4 of 7 skill/context areas than 2013 freshmen
- Spring 2014 seniors scored higher than spring 2013 seniors in humanities, reading, writing, & critical thinking (3.2% - 6.2% higher)

- Freshmen mean scores are higher on all skill/content areas than PASSHE means
 - Senior mean scores are higher than PASSHE for reading & writing
- Senior mean scores are below national means
 - Freshmen mean scores are higher in humanities & social sciences
- Freshmen improved their PASSHE percentile ranking relative to the 13-14 administration in math & social science
 - Seniors: total score, reading, & humanities percentiles up in 14-15
- Freshmen have higher national percentiles compared to the 13-14 AY in total score, math, & social sciences
 - Seniors: total score, critical thinking, reading, humanities, & natural sciences percentiles are up in 14-15

Proficiency Classifications

- Seniors show the greatest gains in “Proficient” classifications in level 1 writing, reading, & math versus freshmen
- In many areas where “Proficient” increases are not seen in 2015 seniors (vs. 2014 seniors), there are notable increases in “Marginally Proficient” students compared to the last AY

- Freshmen have higher “proficient” ratings than PASSHE & national means in level 1 math, & similar ratings in critical thinking & level 3 math
- Seniors have higher “proficient” ratings than PASSHE & national means in level 1 reading, writing, & math

Content Areas

- Content area strengths:
 - FY: lower- to mid-level math, lower level reading & writing
 - SR: math, lower- to mid-level reading & writing
- Content area weaknesses:
 - FY: critical thinking, level 2 reading & writing
 - SR: math & critical thinking

ETS Proficiency Profile Report

2014-2015 Academic Year

East Stroudsburg University of Pennsylvania (ESU) administered the ETS Proficiency Profile to incoming first-time freshmen in the summer of 2014 and to graduating seniors during the spring 2015 semester. The abbreviated test that ESU uses (and that is used by a majority of participating institutions) is a 36 question multiple choice exam that takes approximately 40 minutes to complete, and it is just one of the measures ESU has chosen to demonstrate students' attainment of three of the university's [General Education Learning Outcomes](#). This report will provide an overview of the results of the 2014-2015 academic year administration.

Background

The ETS Proficiency Profile (EPP) is a standardized test composed of 36 multiple choice questions assessing students' skills in reading, writing, critical thinking, and mathematics. Divided into three broad knowledge areas (humanities, social sciences, and natural sciences), ESU has been administering the abbreviated exam as a means to assess a portion of the institution's General Education Learning Outcomes since 2009. The assessment also provides comparative data between ESU and similar institutions. Most importantly, it helps ESU improve student learning by providing faculty and the administration with information about freshmen and senior general education skills that can inform program and curricular modifications, learning design, and improvements to assessments. The Proficiency Profile also fulfills requirements determined by the Voluntary System of Accountability (VSA) to provide key accountability information to the public. The VSA uses a common web reporting template to communicate information on the undergraduate student experience to the public, and ESU chose the ETS Proficiency Profile to evaluate student abilities on the areas mentioned above.

In keeping with VSA guidelines, ESU uses a cross-sectional study design that compares different cohorts of freshmen and seniors. The institution also follows VSA and ETS guidelines recommending a minimum of 400 students (200 freshmen and 200 seniors) to provide an adequately representative data source for their College Portrait. ESU recognizes that not all students who take the exam will be included in the analysis. Some, for example, could fail to complete the required minimum of 75% of the exam, or they could have been misidentified in the wrong class level. As such, each semester the school aims to administer the Proficiency Profile to approximately 300 first-time freshmen and 300 graduating seniors.

Results

The EPP provides an overall score between 400 and 500. It also provides separate scores between 100 and 130 for each of the four skills (reading, writing, critical thinking, and mathematics), and for each of the three subject contexts (humanities, social sciences, and natural sciences)¹. These are referred to as the exam's "scaled scores." Finally, students are given proficiency classifications (proficient, marginally proficient, or not proficient) for each of the different levels of skills (mathematics 1, mathematics 2, and so on). This section will discuss freshmen and senior scores for the 2014-2015 academic year. Further detail on the scoring system and structure of the exam can be found in [Appendix A](#).

¹ Percent changes in this report reflect the actual score range for each area (100 points for the total score, and 30 points for the skill and subject area scores), not the change calculated without accounting for this range limitation. These were calculated by subtracting 400 from total score averages, and subtracting 100 from skill and subject score averages.

Scaled Scores

Table 1 provides mean scores for the total scaled score as well as for both skill and context area scaled scores for ESU freshmen and seniors. These results are intended to provide comparisons between cohorts of students and to demonstrate ability in each skill dimension. A total of 433 freshman and 228 senior tests were used in this 2014-2015 academic year analysis.

Table 1.	Mean ESU Proficiency Profile Scaled Scores				
	Score Range	2013-2014		2014-2015	
		Freshmen	Seniors	Freshmen	Seniors
Total Score	400-500	434.62	441.72	435.37	443.14
Skills Subscores:					
<i>Critical Thinking</i>	100-130	108.1	110.0	108.93	110.36
<i>Reading</i>	100-130	115.37	116.75	114.56	117.34
<i>Writing</i>	100-130	113.22	114.09	112.77	114.64
<i>Mathematics</i>	100-130	111.14	113.68	112.62	113.54
Context-Based Subscores:					
<i>Humanities</i>	100-130	113.58	112.85	112.93	113.7
<i>Social Sciences</i>	100-130	110.21	111.69	111.52	111.79
<i>Natural Sciences</i>	100-130	113.25	114.69	112.98	114.72

Data from this current administration of the EPP show an average freshman-to-senior gain in score of 14.3 percent in the four skill areas, and an average gain of 7.2 percent in the three context-based areas. The greatest gains are seen in reading (a 19.1 percent increase), critical thinking (up 16.0 percent), and writing (up 14.6 percent). Total scores for freshmen and seniors show an increase on average of 22.0 percent.

Comparison to 2013-2014 Results

Current academic year score increases are mostly in line with those of the 2013-2014 administration. Last year, freshmen-to-senior gains were at an average of 15.7 percent in the four skill areas, and 6.7 percent in the three context-based areas. Average total scores between fall 2013 freshmen and spring 2014 seniors increased 20.5 percent. The data show an improvement this year versus last year's administration in increasing student scores upon graduation, particularly in the areas of reading and writing. See [Appendix B](#) for all score increase percentages by skill and context.

This slightly higher rate of overall score increases between freshmen and seniors in the 2014-2015 administration could be due in part to the lower performance seen in last year's freshmen compared to this year's freshmen. Looking at data presented in ESU's [2013-2014 EPP Data Brief](#), average fall 2013 freshmen scores were lower than that of freshmen who took the exam in fall 2014 in reading and writing (5.5 and 3.3 percent lower respectively), as well as in humanities and natural sciences (4.9 percent and 2.4 percent lower respectively). Spring 2014 seniors, however, scored on average slightly higher than spring 2013 seniors; the greatest gains were seen in reading, critical thinking, and writing scores (3.2 percent, 3.6 percent, 3.8 percent higher respectively), and in the humanities (6.2 percent higher). It appears that fall 2014 incoming freshmen are slightly better prepared (based on these scores) than their fall 2013 counterparts, as their scores are on average 3 percent higher. Meanwhile, seniors in spring 2015 scored 2.4 percent higher on average in the 7 skill/context areas than seniors in spring 2014.

Proficiency Classifications

The skills measured by the ETS Proficiency Profile are grouped into proficiency levels – three for writing, three for mathematics, and three for the combined skill set of reading and critical thinking. Table 2 shows the percentage of students who are proficient, marginal, and not proficient at each of the proficiency levels for freshmen and senior students. A student is classified as marginal when test results do not provide enough evidence to classify the student as either proficient or not proficient. See [Appendix A](#) for more information about these classifications, including a list of specific skills associated with each skill and proficiency level.

Table 2.	Proficiency Classifications					
	Proficient		Marginal		Not Proficient	
	Freshmen	Seniors	Freshmen	Seniors	Freshmen	Seniors
<i>Reading, Level 1</i>	37%	65%	25%	22%	38%	13%
<i>Reading, Level 2</i>	13%	26%	14%	25%	73%	49%
<i>Critical Thinking</i>	1%	1%	3%	11%	96%	89%
<i>Writing, Level 1</i>	39%	68%	35%	27%	25%	5%
<i>Writing, Level 2</i>	10%	14%	24%	46%	65%	40%
<i>Writing, Level 3</i>	3%	5%	14%	23%	82%	71%
<i>Math, Level 1</i>	44%	59%	26%	25%	30%	16%
<i>Math, Level 2</i>	15%	26%	31%	31%	55%	43%
<i>Math, Level 3</i>	3%	5%	11%	13%	86%	82%

When it comes to scoring at a “proficient” level, seniors show the greatest gains in level 1 writing, level 1 reading, and level 1 math compared to their freshmen counterparts (an increase of 29, 28, and 15 percentage points, respectively, for spring 2015 seniors over fall 2014 freshmen). Seniors, however, show little to no gains in critical thinking proficiency compared to freshmen, while gains in higher levels of writing and math were small (2 percentage points higher each in level 3 writing and level 3 math). Looking at the other proficiency categories, it appears as if most gains are made in moving students from being classified as “Not Proficient” into the “Marginally Proficient” classification.

Comparison to 2013-2014 Results

The current 2014-2015 cohorts of students looks somewhat different than the 2013-2014 cohorts. Incoming freshmen in the 2014-2015 administration of the ETS Proficiency Profile have markedly better lower-level (level 1) math skills than fall 2013 entering freshmen, as on average 15 percent more fall 2014 freshmen were proficient in this area than their fall 2013 counterparts. Freshmen are also slightly more proficient in level 2 math (by 4 percent) and level 2 writing (by 1 percent). However, 9 percent fewer fall 2014 freshmen are proficient in level 1 writing compared to fall 2013 freshmen, and lower proficiency levels are seen for reading levels 1 and 2. Seniors in spring 2015, meanwhile, are more proficient than their spring 2014 counterparts in levels 1 and 2 of reading (6 and 2 percentage points higher, respectively), as well as in level 1 writing, which shows an increase to “Proficient” level of 9 percent. All levels of mathematics saw a small increase in senior proficiency over last spring’s seniors.

Spring 2015 senior critical thinking proficiency, however, decreased by 1 percent compared to spring 2014 seniors. However, 2 percent more seniors in spring 2015 were classified as “Marginally Proficient” in critical thinking versus spring 2014 seniors. It appears that in many areas where increases in

“Proficient” percentages are not seen over spring 2014 seniors, there are increases in the percent of students classified as “Marginally Proficient” versus last year. For example, 39 percent of seniors in 2014 were marginally proficient in level 2 writing; in spring 2015 that had risen to 46 percent. “Marginally Proficient” percent increases are seen in level 2 reading and level 3 writing as well.

One purpose of the ETS Proficiency Profile is to use the freshmen-senior academic year cohort to demonstrate improvements in students’ skills in the key general education areas covered by the exam. In the 2013-2014 academic year, freshmen-to-senior proficiency increased the most in level 1 math, level 1 reading, and level 2 math (by 29, 16, and 14 percentage points, respectively). For the 2014-2015 administration, seniors show the most gains in level 1 writing, level 1 reading, and level 1 math. Compared to the previous year’s administration, however, ESU students for this academic year demonstrate proficiency at lower rates in critical thinking, level 2 writing, and level 2 math, while holding steady in level 3 writing and level 3 math. See [Appendix C](#) for year-to-year proficiency comparisons.

Content/Item Analysis

The total ETS Proficiency Profile consists of 108 items. For the abbreviated form used by ESU and most other institutions, these questions are split over three forms of the test, which are distributed to students randomly in both the online freshmen administration and in the paper-and-pencil senior administration. In this section, ESU scores are compared to the overall national percentage of students answering an item correctly, where data came from testing occurring between July 2009 and June 2014. [Appendix D](#) contains an overview of both freshmen and senior strengths and weaknesses, highlighting for both classes the top 20 content areas in which the percent of ESU students who correctly answered the question was above the national average, and the top 20 items for which the percent of correct answers was below the national average. [Appendices E](#) and [F](#) have a full Item Information Report for freshmen and seniors respectively, for all item content areas. Both appendices are a breakdown of results by exam content area.

2014-2015 AY ESU freshmen strengths appear to be in lower- to mid-level mathematics content areas, as well as lower level reading and writing. The strongest content areas include averaging negative and positive integers, exponential functions, applying formulas, and solving problems involving inequalities. The strongest non-mathematical content for freshmen include the ability to recognize incorrect word choices, using appropriate connectors, and determining meaning in context. Freshmen weaknesses center on the areas of critical thinking and middle level reading and writing. The biggest content weaknesses for ESU freshmen include the abilities to evaluate data for consistency, order sentences in a paragraph, discern the purpose of a reference, and recognize explicit information.

ESU senior strengths also appear to center on mathematics and lower- to mid-level reading and writing. Their strongest content areas include arithmetic word problems involving percents, word problems involving averages, recognizing appropriate transitions, and determining meaning in context. Senior weaknesses are across all four skill areas, with mathematics and critical thinking comprising the majority of the top 20 content areas. The biggest content weaknesses for ESU seniors all center on mathematics, and include word problems with algebraic equations, compound interest, properties of integers, and arithmetic word problems involving graduated rates. Non-mathematical weaknesses include evaluating data for consistency, recognizing redundancy, and recognizing a lack of agreement.

When examining the similarities and differences between the cohorts, specifically to use the cross-sectional design outlined by the VSA to determine institutional impact on learning, certain data also stick out. Fall 2014 freshmen and spring 2015 seniors only have three strengths in common: number lines, determining meaning in context, and recognizing incorrect word choice. Though seniors made gains in the first two (from 80.3 percent correct to 84.5 percent correct, and from 38.7 percent correct to 78 percent correct respectively), in the latter seniors fared worse on average than freshmen; while 85.4 percent of freshmen could recognize incorrect word choices, only 59.5 percent of seniors demonstrated this ability. Meanwhile, though one freshmen weakness (recognizing agreement) showed up as senior strength, five weaknesses of the freshmen cohort remained a senior weakness as well. These continued weaknesses include word problems involving algebraic expressions, evaluating data for consistency, recognizing valid inferences, discerning the primary purpose of a passage, and determining the relevance of information.

Comparison to 2013-2014 Results

By examining the Item Analysis of the 2013-2014 administration compared to the 2014-2015 academic year administration, data show freshmen and seniors made gains in a few key areas. Freshmen in the most recent administration on average got a higher percent of questions correct in mid- to higher-level mathematics items, as well as certain lower- and mid-level reading and writing questions. The percent of fall 2014 freshmen answering a question correctly compared to that of fall 2013 freshmen is highest for recognizing incorrect word choices, exponential functions, data interpretations involving reading information, and algebraic manipulation of number lines, with 18.9, 16.3, 14.6, and 13.2 percent more freshmen, respectively, answering these correctly in fall 2014. Conversely, 26.3 percent fewer fall 2014 freshmen demonstrated the ability to recognize explicit information when compared to fall 2013 freshmen, while 12.2 percent fewer freshmen demonstrated the ability to order sentences in a paragraph, and 11.5 percent fewer freshmen were able to evaluate data for consistency.

Turning to seniors, spring 2015 students overall showed the most improvement versus spring 2014 students in demonstrating the ability to combine simple clauses, interpret data in bar charts, answer word problems involving averages, and translate word problems into algebraic expressions, with 13.6, 13.4, 12.4, and 11.7 percent more students answering these content items correctly compared to seniors in spring 2014. Spring 2015 seniors, however, fared worse in demonstrating their abilities to determine compound interest, recognize a lack of agreement, and recognize certain properties of integers. For these, an average of 16.2, 15.6, and 9.9 percent fewer seniors answered these questions correctly versus spring 2014 seniors. [Appendix E](#) has percent differences between 2014-2015 administrations and 2013-2014 administrations for freshmen. [Appendix F](#) has the same data for seniors.

Comparative Data: PA State System and National Performance

Scaled Scores

Table 3 provides means, standard deviations, and confidence limits² for the total score as well as for both skills and context area scores. US data are for 101 Master's Comprehensive Colleges and

² Confidence limits are based on the assumption that the questions contributing to each scaled score are a sample from a much larger set of possible questions that could have been used to measure those same skills. If the group of students taking the test is a sample from some larger population of students eligible to be tested, the confidence limits include both sampling of students and sampling of questions as factors that could cause the mean score to vary. The population size used in the calculation of the confidence limits for the mean scores in this report is 433 freshmen and 228 seniors. (Source: ETS)

Universities I and II that administered the exam to entering freshmen (81,998 students), and 126 institutions in the same classification that administered the exam to seniors (97,846 students). Nationwide data was collected between July 2010 and June 2015. Pennsylvania State System³ (PASSHE) data are from a Custom Comparative Data Report of freshmen and seniors calculated separately, and include scores from July 2010 through June 2015. For this cohort, a total of 10 institutions (including ESU) were included, for a total of 13,042 freshmen and 4,753 seniors in the analysis.

Table 3.	2014-2015 Proficiency Profile Score Comparison					
	Score Range	Comparison		East Stroudsburg University		
		Nat'l Mean	PASSHE Mean	Mean	95% Conf. Limits	Std. Dev.
FALL 2014 FRESHMEN MEAN SCORES						
Total Score	400-500	436.6	434.4	435.37	434-437	15.58
Skills Subscores:						
<i>Critical Thinking</i>	100-130	109.6	109.0	108.93	108-110	5.14
<i>Reading</i>	100-130	115.3	114.5	114.56	114-116	6.73
<i>Writing</i>	100-130	112.8	112.6	112.77	112-114	5.01
<i>Mathematics</i>	100-130	111.9	111.4	112.62	112-114	5.13
Context-Based Subscores:						
<i>Humanities</i>	100-130	112.9	112.5	112.93	112-114	6.06
<i>Social Sciences</i>	100-130	111.5	110.9	111.52	111-112	5.84
<i>Natural Sciences</i>	100-130	113.3	112.8	112.98	112-114	5.7
SPRING 2015 SENIOR MEAN SCORES						
Total Score	400-500	446.4	443.3	443.14	441-445	15.3
Skills Subscores:						
<i>Critical Thinking</i>	100-130	112.2	111.1	110.36	109-111	5.52
<i>Reading</i>	100-130	118.5	117.2	117.34	116-118	6.46
<i>Writing</i>	100-130	114.7	114.3	114.64	114-116	4.49
<i>Mathematics</i>	100-130	114.1	113.6	113.54	113-115	5.27
Context-Based Subscores:						
<i>Humanities</i>	100-130	115.3	114.2	113.7	113-115	5.81
<i>Social Sciences</i>	100-130	113.9	112.9	111.79	111-113	5.65
<i>Natural Sciences</i>	100-130	115.8	114.8	114.72	114-116	5.27

ESU freshmen achieved higher average scores compared to PASSHE freshmen averages in all areas except critical thinking. ESU seniors, however, achieved slightly higher average scores than other PASSHE schools in only reading and writing. Compared to national averages, ESU freshmen outperformed others in humanities and the social sciences by fractions of points, while ESU seniors did not score higher on average in any skill or context area relative to national scores.

Table 4 presents the percent of PASSHE schools scoring below ESU for entering freshmen and graduating seniors by Proficiency Profile score category. Data are gathered from a Custom Comparative Data Report of freshmen and seniors calculated separately, and include mean scores calculated over separate five year periods for each academic year, noted below.

³ 10 schools were included: Bloomsburg, California, Cheyney, Clarion, East Stroudsburg, Edinboro, Kutztown, Lock Haven, Mansfield, and Slippery Rock. ESU is included to meet the ETS minimum requirement of 10 schools to conduct analyses.

Table 4.	PASSHE Percentile Comparison			
	Freshmen		Seniors	
	AY 13-14	AY 14-15	AY 13-14	AY 14-15
Total Score	30%	30%	10%	30%
Skills Subscores:				
Critical Thinking	20%	10%	10%	10%
Reading	50%	30%	10%	50%
Writing	60%	10%	30%	30%
Mathematics	30%	50%	20%	10%
Context-Based Subscores:				
Humanities	50%	30%	0%	10%
Social Sciences	30%	40%	10%	10%
Natural Sciences	40%	10%	10%	10%

Percent of PASSHE institutions scoring below ESU. 2013-2014 AY results from July 2009 to June 2014. 2014-2015 results are from July 2010 to June 2015.

Average score data show that fall 2014 freshmen scored higher than their peers in fall 2013. However, PASSHE percentile comparisons demonstrate that the same cohort of freshmen have fallen behind their peers at other State System schools. ESU 2014 freshmen show lower percentile ranks compared to PASSHE schools in critical thinking, reading, writing, humanities, and natural sciences. This could show that, while ESU's 2014 freshmen cohort is stronger than its 2013 cohort, PASSHE freshmen on average have even stronger skills coming into college. Spring 2015 seniors have largely performed on par with spring 2014 seniors, and increased their percentile ranks relative to PASSHE schools in humanities, reading, and total scores. Because PASSHE cohorts do not necessarily match up perfectly to ESU's 2013-2014 and 2014-2015 cohorts, one should exercise caution in interpreting these percentile comparisons.

Table 5 displays the percent of all Carnegie Master's Comprehensive I and II universities scoring below ESU for entering freshmen and graduating seniors by Proficiency Profile score category. Data are gathered from a Custom Comparative Data Report of freshmen and seniors calculated separately, and include mean scores calculated over separate five year periods for each academic year, noted below.

Table 5.	Masters I & II Percentile Comparison			
	Freshmen		Seniors	
	AY 13-14	AY 14-15	AY 13-14	AY 14-15
Score Category				
Total Score	33%	45%	18%	29%
Skills Subscores:				
Critical Thinking	20%	18%	6%	12%
Reading	41%	27%	9%	21%
Writing	46%	32%	25%	25%
Mathematics	30%	49%	29%	27%
Context-Based Subscores:				
Humanities	48%	31%	3%	10%
Social Sciences	17%	40%	6%	6%
Natural Sciences	39%	21%	11%	12%

Percent of Masters I and II institutions scoring below ESU. 2013-2014 AY results from July 2009 to June 2014. 2014-2015 results from July 2010 to June 2015.

Again, the data show 2014 freshmen do not rank as highly in many areas as their 2013 peers, however some gains are seen in mathematics and social sciences. Seniors improved their national rank in critical thinking, reading, humanities, and natural sciences. It should be noted, however, in both PASSHE and national comparisons that ESU senior percentile rankings are lower than those of ESU freshmen in all areas. In addition, because the Master’s I and II cohorts do not necessarily match up perfectly to ESU’s cohorts, one should exercise caution in interpreting these percentile comparisons.

Proficiency Classifications

Table 6 compares ESU freshmen proficiency classifications to PASSHE and national percentages.

Table 6.	Freshmen Proficiency Classification Comparison								
	Proficient			Marginal			Not Proficient		
	ESU	PA*	US	ESU	PA*	US	ESU	PA*	US
<i>Reading, Level 1</i>	37%	42%	47%	25%	23%	23%	38%	35%	30%
<i>Reading, Level 2</i>	13%	16%	20%	14%	16%	18%	73%	68%	63%
<i>Critical Thinking</i>	1%	1%	2%	3%	5%	9%	96%	94%	89%
<i>Writing, Level 1</i>	39%	46%	48%	35%	34%	33%	25%	19%	19%
<i>Writing, Level 2</i>	10%	12%	12%	24%	29%	30%	65%	60%	59%
<i>Writing, Level 3</i>	3%	4%	4%	14%	17%	17%	82%	80%	79%
<i>Math, Level 1</i>	44%	40%	41%	26%	28%	27%	30%	32%	32%
<i>Math, Level 2</i>	15%	16%	18%	31%	25%	24%	55%	59%	58%
<i>Math, Level 3</i>	3%	3%	3%	11%	11%	11%	86%	86%	86%

* 10 PASSHE schools were included in this analysis. For a list, see footnote #3.
Weighted number of freshmen: 59,198 (US); 7,920 (PASSHE); 433 (ESU)

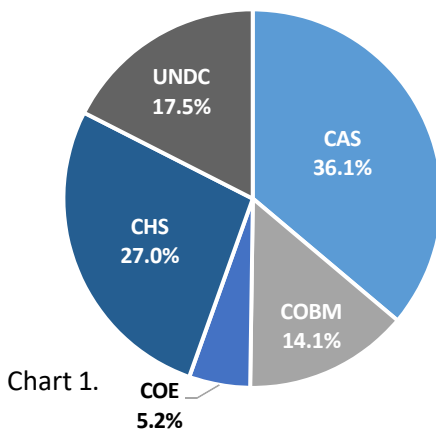
The percent of freshmen scoring “proficient” is lower than both PASSHE and national percentages in 6 of the 9 skill/context levels. It is higher in level 1 math, and equal (or close to it) in critical thinking and level 3 math. On average 4.6 percent more ESU freshmen are classified as “not proficient” in the seven skill- or context-based areas where such percentages are higher for ESU students.

Table 7 relates ESU senior proficiency classifications at each level to PASSHE and national percentages.

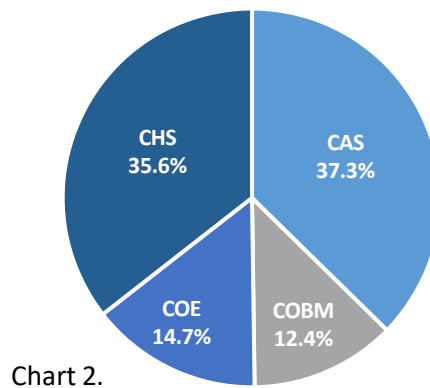
Table 7.	Senior Proficiency Classification Comparison								
	Proficient			Marginal			Not Proficient		
	ESU	PA*	US	ESU	PA*	US	ESU	PA*	US
<i>Reading, Level 1</i>	65%	59%	64%	22%	20%	18%	13%	21%	18%
<i>Reading, Level 2</i>	26%	29%	36%	25%	21%	20%	49%	51%	44%
<i>Critical Thinking</i>	1%	3%	6%	11%	14%	18%	89%	83%	76%
<i>Writing, Level 1</i>	68%	60%	62%	27%	27%	26%	5%	12%	12%
<i>Writing, Level 2</i>	14%	18%	20%	46%	37%	36%	40%	45%	44%
<i>Writing, Level 3</i>	5%	7%	8%	23%	24%	25%	71%	70%	67%
<i>Math, Level 1</i>	59%	57%	55%	25%	24%	23%	16%	19%	22%
<i>Math, Level 2</i>	26%	28%	29%	31%	29%	25%	43%	43%	45%
<i>Math, Level 3</i>	5%	6%	8%	13%	16%	17%	82%	77%	76%

* 10 PASSHE schools were included in this analysis. For a list, see footnote #3.
Weighted number of seniors: 69,918 (US); 4,351 (PASSHE); 228 (ESU)

Fall 2014 Freshmen Participation



Spring 2015 Senior Participation



Based on self-reports for both freshmen and seniors, when it comes to the fall 2014 freshmen cohort, 55 percent of valid participants are female, and the group is 75.7 percent white. 65.2 percent of these freshmen report working at least 1 hour per week, up from 53 percent working in fall 2013. As only entering freshmen were targeted for participation, none of them are transfer students. The group is almost entirely (97.3 percent) full-time students. For the spring 2015 senior cohort, 63.6 percent of participants are female, and the group is 85.6 percent white according to self-reports. In addition, 31.7 percent of seniors reported they were transfer students who had transferred at least 30 credits to ESU, and a majority (78.9 percent) work at least 1 hour per week. This is up from the 72.5 percent who reported working in spring 2014. The group is almost entirely (97.8 percent) full-time students.

Conclusion

Freshmen-to-senior scaled score increases in the 2014-2015 academic year are on average higher than those increases seen during the 2013-2014 administration of the ETS Proficiency Profile in certain key areas, especially in reading, writing, and the humanities. Average increases across the seven skills/contexts are also comparable between the academic year cohorts. It remains to be seen, however, if ESU plays any significant role in freshmen-to-senior score increases, though research is beginning using longitudinal data that may help to answer that question. Readers should examine the evidence provided in this report and come to their own conclusions regarding what it can tell the campus community about how are students are performing in these key areas. The data do provide evidence of improvement between freshmen and seniors in their demonstration of certain skills, however a target threshold for improvement (or a goal related to score increases between freshmen and seniors) has yet to be evaluated at East Stroudsburg University. Perhaps this data will help inform that discussion.

These results of the ETS Proficiency Profile are meant to provide a brief overview and comparisons to both the previous academic year administration as well as PASSHE and national performances. Data here should be used first and foremost as a point of discussion on what General Education skill areas ESU should highlight to celebrate student achievement, as well as in what areas improvements might be targeted. Campus discussion among faculty should begin with a review of the data and findings presented in this report. However, as discussion progresses, faculty and administration alike should

keep in mind that this is only one indicator of students' skills in these areas, and should be examined in conjunction with a variety of measures.

It is recommended that these data be used to stimulate dialogue across campus. Academic program faculty should reflect on whether these scores are congruent with the knowledge, skills, and abilities students demonstrate in the classroom. In addition, when looking at the item/content information in [Appendices D, E, and F](#), faculty may find it helpful to determine if their department or program is teaching the type of content listed. Finally, ESU encourages the development of action plans to respond to the findings of this report if they are deemed appropriate. OAA welcomes any questions faculty and/or administration may have about the ETS Proficiency Profile and/or the results presented herein.

Appendix A. Explanation of Proficiency Classifications

Excerpted directly from the *ETS Proficiency Profile Users Guide*, pages 9-11

http://www.ets.org/s/proficiencyprofile/pdf/Users_Guide.pdf

Proficiency Levels

The skills measured by the ETS Proficiency Profile test are grouped into three skill areas:

- Reading and critical thinking
- Writing
- Mathematics

Within each of these three skill areas, the specific skills tested by the ETS Proficiency Profile test are classified into three *proficiency levels*, identified simply as **Level 1**, **Level 2**, and **Level 3**. Each proficiency level is defined in terms of a set of specific competencies expected of students.

Skills Tested at Each Level

Reading and Critical Thinking

To be considered proficient at **Level 1**, a student should be able to:

- Recognize factual material explicitly presented in a reading passage
- Understand the meaning of particular words or phrases in the context of a reading passage

To be considered proficient at **Level 2**, a student should be able to:

- Synthesize material from different sections of a passage
- Recognize valid inferences derived from material in the passage
- Identify accurate summaries of a passage or of significant sections of the passage
- Understand and interpret figurative language
- Discern the main idea, purpose, or focus of a passage or a significant portion of the passage

To be considered proficient at **Level 3 (Critical Thinking)**, a student should be able to:

- Evaluate competing casual explanations
- Evaluate hypothesis for consistency with known facts
- Determine the relevance of information for evaluating an argument or conclusion
- Determine whether an artistic interpretation is supported by evidence contained in a work
- Recognize the salient features or themes in a work of art

- Evaluate the appropriateness of procedures for investigating a question of causation
- Evaluate data for consistency with known facts, hypotheses or methods

Writing

To be considered proficient at **Level 1**, a student should be able to:

- Recognize agreement among basic grammatical elements (e.g., nouns, verbs, pronouns and conjunctions)
- Recognize appropriate transition words
- Recognize incorrect word choice
- Order sentences in a paragraph
- Order elements in an outline

To be considered proficient at **Level 2**, a student should be able to:

- Incorporate new material into a passage
- Recognize agreement among basic grammatical elements (e.g., nouns, verbs, pronouns and conjunctions) when these elements are complicated by intervening words or phrases
- Combine simple clauses into single, more complex combinations
- Recast existing sentences into new syntactic combinations

To be considered proficient at **Level 3**, a student should be able to:

- Discriminate between appropriate and inappropriate use of parallelism
- Discriminate between appropriate and inappropriate use of idiomatic language
- Recognize redundancy
- Discriminate between correct and incorrect constructions
- Recognize the most effective revision of a sentence

Mathematics

To be considered proficient at **Level 1**, a student should be able to:

- Solve word problems that would most likely be solved by arithmetic and do not involve conversion of units or proportionality (These problems can be multi-step if the steps are repeated rather than embedded.)
- Solve problems involving the informal properties of numbers and operations, often involving the Number Line, including positive and negative numbers, whole numbers and fractions (including conversions of common fractions to percent, such as converting $\frac{1}{4}$ to 25%)
- Solve problems requiring a general understanding of square roots and the squares of numbers

- Solve a simple equation or substitute numbers into an algebraic expression
- Find information from a graph (This task may involve finding a specified piece of information in a graph that also contains other information.)

To be considered proficient at **Level 2**, a student should be able to:

- Solve arithmetic problems with some complications, such as complex wording, maximizing or minimizing and embedded ratios (these problems include algebra problems that can be solved by arithmetic [the answer choices are numeric])
- Simplify algebraic expressions, perform basic translations and draw conclusions from algebraic equations and inequalities (these tasks are more complicated than solving a simple equation, though they may be approached arithmetically by substituting numbers.)
- Interpret a trend represented in a graph, or choose a graph that reflects a trend
- Solve problems involving sets (the problems would have numeric answer choices.)

To be considered proficient at **Level 3**, student should be able to:

- Solve word problems that would be unlikely to be solved by arithmetic; the answer choices are either algebraic expressions or are numbers that do not lend themselves to back-solving
- Solve problems involving difficult arithmetic concepts such as exponents and roots other than squares and square roots and percent of increase or decrease
- Generalize about numbers, e.g., identify the values of (x) for which an expression increases as (x) increases
- Solve problems requiring an understanding of the properties of integers, rational numbers, etc.
- Interpret a graph in which the trends are to be expressed algebraically or in which one of the following is involved: exponents and roots other than squares and square roots, percent of increase or decrease
- Solve problems requiring insight or logical reasoning

Appendix B. Scaled Score Increase Percent Comparisons

Percent Score Increases Between 2014-2015 and 2013-2014 Administration				
	Freshmen-Senior (Single AY Cohort)		Comparisons (Between Cohorts)	
	13-14 AY	14-15 AY	Freshmen	Seniors
Total Score	20.52%	21.97%	2.23%	3.45%
Skills Subscores:				
<i>Critical Thinking</i>	23.46%	16.01%	10.25%	3.60%
<i>Reading</i>	9.09%	19.09%	-5.45%	3.21%
<i>Writing</i>	6.82%	14.64%	-3.26%	3.83%
<i>Mathematics</i>	23.42%	7.29%	13.69%	-1.17%
Context-Based Subscores:				
<i>Humanities</i>	-5.15%	5.96%	-4.93%	6.20%
<i>Social Sciences</i>	14.71%	2.34%	12.94%	0.77%
<i>Natural Sciences</i>	10.53%	13.41%	-2.41%	0.14%

Percent changes in this report reflect the actual score range for each area (100 points for the total score, and 30 points for the skill and subject area scores), not the change calculated without accounting for this range limitation. These were calculated by subtracting 400 from total score averages, and subtracting 100 from skill and subject score averages.

Appendix C. Proficiency Comparisons by Academic Year Administration

"Proficient" Classification Comparison				
	Freshmen to Senior Gains¹		Class Comparisons²	
	13-14 AY	14-15 AY	Freshmen	Seniors
<i>Reading, Level 1</i>	16%	28%	-6%	6%
<i>Reading, Level 2</i>	9%	13%	-2%	2%
<i>Critical Thinking</i>	2%	0%	1%	-1%
<i>Writing, Level 1</i>	11%	29%	-9%	9%
<i>Writing, Level 2</i>	5%	4%	1%	0%
<i>Writing, Level 3</i>	2%	2%	1%	1%
<i>Math, Level 1</i>	29%	15%	15%	1%
<i>Math, Level 2</i>	14%	11%	4%	1%
<i>Math, Level 3</i>	2%	2%	1%	1%

¹ Senior minus Freshmen "Proficient" classification for a given AY.

² (2014-2015 AY) minus (2013-2014 AY) for a given class level.

Appendix D. Content Strengths and Weaknesses by Class Level

(National data based on Comparative Data testing population, dated July 2009 thru June 2014.)

Table 1. Freshmen.

ESU Freshmen Content Strengths					
Type of Content	Skill Area	Prof. Level	% Correct ESU	% Correct Nat'l	Difference
Negative and positive integers - average	Math	I	78.5	54.1	24.4
Exponential functions	Math	III	86.3	62.7	23.6
Apply formula	Math	I	78.4	55.3	23.1
Solve problems involving inequalities	Math	III	81.5	62.1	19.4
Algebraic expression	Math	I	74.3	57.1	17.2
Problems involving sets - properties of numbers	Math	II	78.1	61.9	16.2
Draw conclusion from algebraic equations	Math	II	60.1	47	13.1
Number line	Math	I	80.3	71.7	8.6
Algebraic manipulation - ratio & proportion	Math	II	29	20.5	8.5
Arithmetic word problem - ratio & proportion	Math	II	72.2	64.7	7.5
Recognize incorrect word choice	Writing	I	85.4	77.9	7.5
Interpret a trend represented in a graph	Math	I	75	68.8	6.2
Appropriate connector	Writing	I	90.4	84.7	5.7
Data interpretation - find information	Math	I	72.8	67.9	4.9
Data interpretation - read information*	Math	I	78.7	75.1	3.6
Meaning in context	Reading	I	38.7	35.1	3.6
Algebraic word problem - system of equations	Math	II	64.9	61.4	3.5
Recognize inappropriate idiom	Writing	III	45.7	42.7	3.0
Arithmetic word problem - work units	Math	I	95.4	92.6	2.8
Recognize coordination	Writing	II	56.9	54.2	2.7
ESU Freshmen Content Weaknesses					
Evaluate data for consistency	CT	III	34	45.5	11.5
Order sentences in a paragraph	Writing	I	31.8	39.3	7.5
Discern purpose of a reference	Reading	II	62.4	68.9	6.5
Recognize explicit information	Reading	II	26.0	32.5	6.5
Recognize explicit information*	Reading	I	44.4	50.4	6.0
Evaluate hypotheses*	CT	III	55.8	61.8	6.0
Recognize an assumption*	CT	III	53.5	59.4	5.8
Recognize agreement	Writing	II	61.0	65.6	4.6
Recognize a valid inference*	Reading	II	42.9	47.3	4.4
Word problem - sampling	Math	III	19.3	23.7	4.4
Exponential function	Math	III	16.3	20.6	4.3
Word problem - algebraic equation	Math	III	37.2	41.1	3.9
Discern facts from a passage*	Reading	I	52.5	56.4	3.8
Recognize grammatical correction	Writing	I	68.9	72.7	3.8
Translation to algebraic expression*	Math	II	52.1	55.8	3.7
Discern purpose of a reference*	CT	III	38.9	42.5	3.6
Number line - algebraic manipulation	Math	II	13.2	16.4	3.2
Discern primary purpose*	Reading	II	39.6	42.6	3.0
Determine relevance of information*	CT	III	37.1	39.8	2.7
Synthesize material	Reading	II	60.3	62.5	2.2

Items with a * indicate content that was evaluated using more than one question. Percents correct for these items are averages.

Appendix D. Continued. (Seniors)

Table 2. Seniors.

ESU Senior Content Strengths					
Type of Content	Skill Area	Prof. Level	% Correct ESU	% Correct Nat'l	Difference
Arithmetic word problem - percents	Math	I	81	61	20
Word problem - averages	Math	II	81	62	19
Recognize appropriate transitions	Writing	I	65	56	9
Meaning in context	Reading	I	78	70	8
Recognize incorrect capitalization	Writing	I	80	72	8
Properties of integers - modular arithmetic	Math	III	68	60	8
Data interpretation - probability	Math	II	66	59	7
Word problem - algebraic translation	Math	III	40	33	7
Data interpretation - bar chart	Math	I	81	75	7
Data interpretation - ratios	Math	I	79	73	6
Number line	Math	I	85	79	5
Data interpretation - read data	Math	I	61	57	5
Recognize lack of agreement*	Writing	I	91	87	4
Recognize appropriate transition	Writing	I	57	54	3
Arithmetic word problem - profit/loss	Math	I	81	78	3
Arithmetic word problem - rates	Math	II	45	43	2
Combine simple clauses	Writing	II	58	56	2
Recognize agreement*	Writing	II	80	78	2
Recognize incorrect word choice	Writing	I	60	58	2
Interpretation of graphs	Math	III	41	39	2
ESU Senior Content Weaknesses					
Word problem - algebraic equation	Math	III	28	43	15
Compound interest	Math	III	52	61	9
Properties of integers	Math	I	51	59	8
Arithmetic word problem - graduated rate	Math	II	35	43	8
Properties of integers - average	Math	II	47	54	7
Evaluate data for consistency*	CT	III	38	45	7
Algebraic word problem - translation	Math	II	64	71	7
Exponential growth	Math	III	17	23	7
Recognize redundancy	Writing	III	8	15	7
Linear growth	Math	II	21	27	6
Recognize lack of agreement	Writing	II	67	73	6
Apply formula	Math	I	66	71	5
Word problem - percent of percent	Math	III	29	34	5
Recognize a valid inference*	Reading	II	47	52	5
Discern primary purpose*	Reading	II	50	55	5
Evaluate interpretations*	CT	III	46	51	4
Incorporate new material*	Writing	II	48	52	4
Word problem - sets	Math	III	6	10	4
Determine relevance of information*	CT	III	46	50	4
Draw conclusion from algebraic equations	Math	II	57	61	4

Items with a * indicate content that was evaluated using more than one question. Percents correct for these items are averages.

Appendix E. All Item Information Report (Freshmen)

(National data based on Comparative Data testing population, dated July 2009 thru June 2014.)

Table 1. Freshmen.

Freshmen Item Analysis (n=452)								
Type of Content	# of Q's	Skill Area	Prof. Level	% Correct ESU	% Correct Fa. 13	% Correct Nat'l	ESU 14 - Nat'l	Fa. 14 - Fa. 13
Discern facts from a passage*	5	Reading	I	52.5	55.0	56.4	-3.8	-2.5
Meaning in context	1	Reading	I	38.7	45.5	35.1	3.6	-6.8
Recognize explicit information*	7	Reading	I	44.4		50.4	-6.0	
Discern purpose of a reference	1	Reading	II	62.4	54.5	68.9	-6.5	7.9
Discern primary purpose*	4	Reading	II	39.6	35.6	42.6	-3.0	4.0
Recognize a valid inference*	7	Reading	II	42.9	50.4	47.3	-4.4	-7.5
Recognize explicit information	1	Reading	II	26.0	52.3	32.5	-6.5	-26.3
Synthesize material	1	Reading	II	60.3		62.5	-2.2	
Evaluate hypotheses*	3	CT	III	55.8	44.3	61.8	-6.0	11.5
Recognize an assumption*	3	CT	III	53.5	46.2	59.4	-5.8	7.3
Determine relevance of information*	13	CT	III	37.1	31.5	39.8	-2.7	5.6
Evaluate an argument*	2	CT	III	41.0	37.2	41.9	-0.9	3.8
Recognize a valid inference*	2	CT	III	36.3	42.7	34.7	1.6	-6.4
Evaluate data for consistency	1	CT	III	34	45.5	45.5	-11.5	-11.5
Discern purpose of a reference*	3	CT	III	38.9		42.5	-3.6	
Data interpretation - read information*	2	Math	I	78.7	64.1	75.1	3.6	14.6
Arithmetic word problem - work units	1	Math	I	95.4	91	92.6	2.8	4.4
Number line	1	Math	I	80.3	82.1	71.7	8.6	-1.8
Algebraic expression	1	Math	I	74.3	77.8	57.1	17.2	-3.5
Interpret a trend represented in a graph	1	Math	I	75		68.8	6.2	
Negative and positive integers - average	1	Math	I	78.5		54.1	24.4	
Apply formula	1	Math	I	78.4		55.3	23.1	
Data interpretation - find information	1	Math	I	72.8		67.9	4.9	
Number line - algebraic manipulation	1	Math	II	13.2		16.4	-3.2	13.2
Translation to algebraic expression*	2	Math	II	52.1	44.5	55.8	-3.7	7.6
Alg. manipulation - ratio and proportion	1	Math	II	29		20.5	8.5	
Problems involving sets - properties of #s	1	Math	II	78.1		61.9	16.2	
Arith. word problem - ratio & proportion	1	Math	II	72.2		64.7	7.5	
Alg. word problem - system of equations	1	Math	II	64.9		61.4	3.5	
Draw conclusion from algebraic equations	1	Math	II	60.1		47	13.1	
Arith. word problem - units of msmnt	1	Math	II	41.1		38.8	2.3	
Exponential function	1	Math	III	16.3		20.6	-4.3	16.3
Word problem - logarithmic function	1	Math	III	11.6		12.1	-0.5	11.6
Data interpretation - percent change	1	Math	III	6.1		6.1	0.0	6.1
Percent change - ratio and proportion	1	Math	III	15.5	14.6	14.7	0.8	0.9
Word problem - algebraic expression	1	Math	III	6	7.7	6	0.0	-1.7
Exponential functions	1	Math	III	86.3		62.7	23.6	
Solve problems involving inequalities	1	Math	III	81.5		62.1	19.4	
Word problem - algebraic equation	1	Math	III	37.2		41.1	-3.9	
Word problem - sampling	1	Math	III	19.3		23.7	-4.4	
Recognize incorrect word choice	1	Writing	I	85.4	66.5	77.9	7.5	18.9
Recognize agreement*	4	Writing	I	83.7	75.6	83.0	0.7	8.1

Freshmen Item Analysis (n=452)								
Type of Content	# of Q's	Skill Area	Prof. Level	% Correct ESU	% Correct Fa. 13	% Correct Nat'l	ESU 14 - Nat'l	Fa. 14 - Fa. 13
Recognize grammatical correction	1	Writing	I	68.9	71.7	72.7	-3.8	-2.8
Order sentences in a paragraph	1	Writing	I	31.8	44.03	39.3	-7.5	-12.2
Appropriate connector	1	Writing	I	90.4		84.7	5.7	
Recognize incorrect adjective comparison	1	Writing	I	36.4		38.5	-2.1	
Recast an existing sentence*	6	Writing	II	73.6	65.4	74.6	-1.0	8.2
Recognize agreement	1	Writing	II	61.0		65.6	-4.6	
Recognize coordination	1	Writing	II	56.9		54.2	2.7	
Recognize grammatical correction	1	Writing	II	55.6		55.6	0.0	
Recognize correct construction*	6	Writing	III	50.4	55.2	50.8	-0.4	-4.8
Recognize correct usage	1	Writing	III	55.6		54.2	1.4	
Recognize inappropriate idiom	1	Writing	III	45.7		42.7	3.0	
Recognize inappropriate parallelism	1	Writing	III	36.4		36.2	0.2	

National data based on Comparative Data population for this form, ranging from July 2009 thru June 2014.

Items with a * indicate content that was evaluated using more than one question. Percents correct for these items are averages.

Appendix F. All Item Information Report (Seniors)

Table 2. Seniors.

Senior Item Analysis (n=251)								
Type of Content	# of Q's	Skill Area	Prof. Level	% Correct ESU	% Correct Sp. 14	% Correct Nat'l	ESU 15 – Nat'l	Sp. 15 - Sp. 14
Meaning in context	1	Reading	I	78	74	69.6	8.4	4.0
Discern facts from a passage*	12	Reading	I	61.4	58.5	63.2	-1.8	2.9
Recognize a valid inference*	8	Reading	II	47.3	44.4	52.3	-5.0	2.9
Discern primary purpose*	6	Reading	II	50.0	53.7	54.7	-4.7	-3.8
Evaluate hypotheses*	3	CT	III	50.6	44.3	52.5	-1.9	6.3
Determine relevance of information*	8	CT	III	46.1	42.1	49.9	-3.8	4.0
Evaluate an argument*	3	CT	III	53.5	50.8	54.6	-1.2	2.7
Evaluate interpretive claims	1	CT	III	52.4	50	51.1	1.3	2.4
Recognize assumptions*	2	CT	III	42.8	41.1	46.3	-3.5	1.7
Evaluate interpretations*	6	CT	III	46.3	47.7	50.7	-4.4	-1.4
Evaluate data for consistency*	4	CT	III	38.5	40.2	45.4	-6.9	-1.8
Data interpretation - bar chart	1	Math	I	81	67.6	74.5	6.5	13.4
Data interpretation - read data	1	Math	I	61.2	57	56.5	4.7	4.2
Number line	1	Math	I	84.5	80.4	79.2	5.3	4.1
Arithmetic word problem - percents	1	Math	I	81	77.6	60.8	20.2	3.4
Data interpretation - ratios	1	Math	I	79.3	79	73	6.3	0.3
Apply formula	1	Math	I	65.9	66	71.2	-5.3	-0.1
Solve algebraic equation	1	Math	I	87.1	92	87.8	-0.7	-4.9
Arithmetic word problem - profit/loss	1	Math	I	80.5	88	78	2.5	-7.5
Properties of integers	1	Math	I	51.2	61	58.9	-7.7	-9.8
Word problem - averages	1	Math	II	81	68.6	61.6	19.4	12.4
Algebraic word problem - translation	1	Math	II	64.3	52.6	71.1	-6.8	11.7
Linear growth	1	Math	II	21.2	18.2	27.2	-6.0	3.0
Draw conclusion from algebraic equations	1	Math	II	57.3	55	60.9	-3.6	2.3
Word problem - similar triangles	1	Math	II	48.2	46	49.5	-1.3	2.2
Arithmetic word problem - rates	1	Math	II	45.2	44.1	42.9	2.3	1.1
Arithmetic word problem - graduated rate	1	Math	II	35.3	35	42.8	-7.5	0.3
Data interpretation - probability	1	Math	II	65.9	67	58.6	7.3	-1.1
Properties of integers - average	1	Math	II	47.1	57	54.4	-7.3	-9.9
Properties of integers - modular arithmetic	1	Math	III	67.9	56.9	60.1	7.8	11.0
Word problem - algebraic translation	1	Math	III	40.2	34	32.9	7.3	6.2
Interpretation of graphs	1	Math	III	40.5	35.4	39	1.5	5.1
Exponential growth	1	Math	III	16.5	12.1	23.1	-6.6	4.4
Data interpretation - percent change	1	Math	III	11	10	11.1	-0.1	1.0
Word problem - algebraic equation	1	Math	III	28	29	42.5	-14.5	-1.0
Word problem - percent of percent	1	Math	III	29.4	34.3	34.4	-5.0	-4.9
Word problem - sets	1	Math	III	6	13.8	9.8	-3.8	-7.8
Compound interest	1	Math	III	51.8	68	60.9	-9.1	-16.2
Recognize appropriate transitions	1	Writing	I	64.7	54	56.2	8.5	10.7
Recognize appropriate transition	1	Writing	I	57.3	51	54.4	2.9	6.3
Recognize agreement*	3	Writing	I	84.4	82.6	86.2	-1.8	1.8

Senior Item Analysis (n=251)								
Type of Content	# of Q's	Skill Area	Prof. Level	% Correct ESU	% Correct Sp. 14	% Correct Nat'l	ESU 15 – Nat'l	Sp. 15 - Sp. 14
Recognize incorrect word choice	1	Writing	I	59.5	63.7	57.8	1.7	-4.2
Recognize incorrect capitalization	1	Writing	I	79.8	86.3	71.5	8.3	-6.5
Recognize lack of agreement*	2	Writing	I	91.2		87.0	4.2	
Combine simple clauses	1	Writing	II	57.6	44	55.7	1.9	13.6
Recast existing sentences*	2	Writing	II	67.1	60.0	68.9	-1.8	7.1
Incorporate new material*	3	Writing	II	47.9	49.0	52.2	-4.3	-1.1
Recognize lack of agreement	1	Writing	II	67.1	82.7	72.6	-5.5	-15.6
Recognize agreement*	2	Writing	II	79.9		78.1	1.8	
Recognize appropriate idiom	1	Writing	III	91.7	88.2	90.8	0.9	3.5
Recognize redundancy	1	Writing	III	8.2	5	14.7	-6.5	3.2
Recognize correct construction*	3	Writing	III	73.3	71.1	74.0	-0.7	2.2
Recognize most effective revision*	4	Writing	III	67.5	66.0	67.7	-0.2	1.5

National data based on Comparative Data population for this form, ranging from July 2009 thru June 2014.

Items with a * indicate content that was evaluated using more than one question. Percents correct for these items are averages.