

**General Education Assessment
ETS Proficiency Profile Report
2020-2021 Academic Year**

In the Spring of 2021, 207 randomly chosen Southeastern students took some portion of the ETS Proficiency Profile (ETS PP) as part of the assessment of Southeastern’s general education program. However, 9 of them took only the essay portion of the exam, 23 took everything except the essay, and one had all of their general education somewhere besides Southeastern so their scores were not included in the following analyses. Altogether, 197 took the main part of the exam and 183 took the essay portion of the exam.

The mean number of general education hours taken was 28 with 6 of those being online. The percentage of general education courses taken online (21%) is up very slightly from 20% in the 2019-2020 academic year.

The mean composite ACT was 21.7 (up from 21.3 in 2020 and 20.4 in 2019) and the mean SE GPA was 3.15 (down from 3.28 in 2020 but up from 3.02 in 2019). Both ACT and SE GPA are statistically significant predictors of how well students will do on the ETS PP.

Descriptive Statistics

	N	Mean	Std. Deviation
ACT	196	21.66	4.056
GPA	204	3.1540	.62913
Valid N (listwise)	194		

There were roughly an equal number of students in each classification that took the exam (by design) and about the same number of females and males that took the exam.

Class

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Freshman	51	24.8	24.8	24.8
Sophomore	49	23.8	23.8	48.5
Junior	55	26.7	26.7	75.2
Senior	51	24.8	24.8	100.0
Total	206	100.0	100.0	

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	103	50.0	50.5	50.5
	Female	101	49.0	49.5	100.0
	Total	204	99.0	100.0	
Missing	System	2	1.0		
Total		206	100.0		

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Asian	2	1.0	1.0	1.0
	Black	13	6.3	6.5	7.5
	Hispanic	12	5.8	6.0	13.5
	Native American	38	18.4	19.0	32.5
	White	135	65.5	67.5	100.0
	Total	200	97.1	100.0	
Missing	System	6	2.9		
Total		206	100.0		

The most common majors of those randomly chosen to take the exam in descending order were: Aviation (n=22), Safety (n=21), Undecided (n=21), Elem Ed (n=19), Biology (n=16), Psychology (n=14) and Business (n=11).

Major

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Accounting	3	1.5	1.5	1.5
	Aerospace Admin	1	.5	.5	1.9
	Art	3	1.5	1.5	3.4
	Aviation	22	10.7	10.7	14.1
	Biology	16	7.8	7.8	21.8
	Business	11	5.3	5.3	27.2
	Chemistry	5	2.4	2.4	29.6
	CIS	2	1.0	1.0	30.6
	Communication	7	3.4	3.4	34.0
	Criminal Justice	8	3.9	3.9	37.9
	CS	1	.5	.5	38.3
	Early Intervention	2	1.0	1.0	39.3
	Elem Ed	19	9.2	9.2	48.5
	English	5	2.4	2.4	51.0
	English Ed	4	1.9	1.9	52.9
	Finance	3	1.5	1.5	54.4
	Health	8	3.9	3.9	58.3
	History	3	1.5	1.5	59.7
	LAS	5	2.4	2.4	62.1
	Management	3	1.5	1.5	63.6
	Marketing	3	1.5	1.5	65.0
	Math	1	.5	.5	65.5
	Math Ed	1	.5	.5	66.0
	Music	4	1.9	1.9	68.0
	Music Ed	3	1.5	1.5	69.4
	Political Science	1	.5	.5	69.9
	Psychology	14	6.8	6.8	76.7
	Safety	21	10.2	10.2	86.9
	Sociology	2	1.0	1.0	87.9
	Special Ed	2	1.0	1.0	88.8
	Theater	2	1.0	1.0	89.8
	Undecided	21	10.2	10.2	100.0
	Total	206	100.0	100.0	

Possible scores

Scores were reported for the following areas:

<u>Area</u>	<u>Possible Score Range</u>
Total	400-500
Critical Thinking	100-130
Reading	100-130
Writing	100-130
Mathematics	100-130
Humanities	100-130
Social Sciences	100-130
Natural Sciences	100-130
Essay	1-6

Results

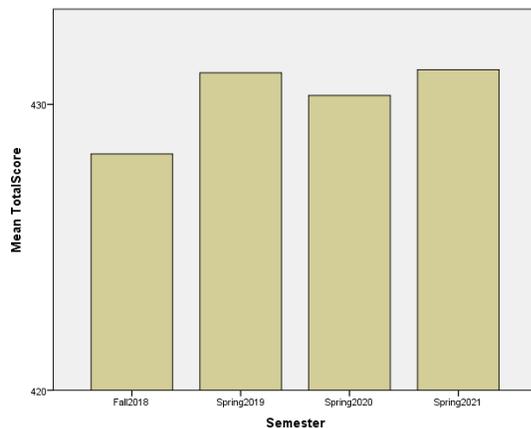
Total Score (for all SE students)

The national comparative group had an overall national average of 437.6 (down from 441.7 over the previous 5-year period) with a standard deviation of 20.5. Southeastern's average was 431.2 (about 1/3 of a standard deviation below the national average). That is the highest that Southeastern's score has been in the 4 years of using this exam (though just barely). Individual scores ranged from 400 (0th percentile) to 488 (99th percentile).

Report

TotalScore

Semester	Mean	N	Std. Deviation
Fall2018	428.27	90	15.318
Spring2019	431.11	140	16.494
Spring2020	430.31	154	15.427
Spring2021	431.21	197	19.770
Total	430.49	581	17.237



Statistics

TotalScore

N	Valid	197
	Missing	9
Mean		431.21
Median		430.00
Std. Deviation		19.770
Minimum		400
Maximum		488
Percentiles	25	415.00
	50	430.00
	75	444.00

Total Score (freshmen)

The freshmen in the comparative group had an overall average of 434.6 (down from 438.4 in the previous 5-year period) with a standard deviation of 20.0. Southeastern's average was 426.2 (not quite 1/2 standard deviation below the national average). Individual scores ranged from 400 (0th percentile) to 482 (98th percentile).

Statistics

TotalScore

N	Valid	48
	Missing	3
Mean		426.23
Median		421.50
Std. Deviation		18.436
Minimum		400
Maximum		482
Percentiles	25	412.00
	50	421.50
	75	440.00

Total Score (sophomores)

The sophomores in the comparative national group had an overall average of 434.1 (down from 439.4 over the previous 5-year period) with a standard deviation of 19.3. Southeastern's average was 435.2 (up from 432.0) which is slightly **above the national average** for the first time! Individual scores ranged from 400 (0th percentile) to 488 (99th percentile).

Statistics

TotalScore

N	Valid	46
	Missing	3
Mean		435.24
Median		432.50
Std. Deviation		21.544
Minimum		400
Maximum		488
Percentiles	25	415.00
	50	432.50
	75	448.00

Total Score (juniors)

The juniors in the national comparative group had an overall average of 439.7 (down from 442.0) with a standard deviation of 20.3. Southeastern's average was 429.6 (down from 432.7) ($\frac{1}{2}$ standard deviation below the national average). Individual scores ranged from 400 (0th percentile) to 478 (95th percentile).

Statistics

TotalScore

N	Valid	52
	Missing	3
Mean		429.63
Median		428.50
Std. Deviation		17.276
Minimum		400
Maximum		478
Percentiles	25	415.50
	50	428.50
	75	439.25

Total Score (seniors)

The seniors in the comparative group had an overall average of 443.2 (down from 446.4) with a standard deviation of 21.2. Southeastern's average was 433.9 (up from 433.6) (a little less than $\frac{1}{2}$ standard deviation below the national average). Individual scores ranged from 403 (1st percentile) to 486 (97th percentile).

Statistics

TotalScore

N	Valid	51
	Missing	0
Mean		433.88
Median		431.00
Std. Deviation		21.022
Minimum		403
Maximum		486
Percentiles	25	420.00
	50	431.00
	75	445.00

Conclusion: SE students make huge gains between their freshman and sophomore years (as has been the case every year for which we have data) but then tend to lose some of those gains their junior year before getting them back their senior year. However, in our comparison group nationally, students' scores actually decrease between freshman and sophomore years and the biggest gain comes from sophomore to junior year.

Class	SE Total Score Average	National Total Score Average
Freshmen	426.2	434.6
Sophomores	435.2	434.1
Juniors	429.6	439.7
Seniors	433.9	443.2

Critical Thinking Score (for all SE students)

The comparative group had an overall average of 109.9 with a standard deviation of 6.3. Southeastern's average was 108.6 (up from 108.2 the year before). Individual scores ranged from 100 (0th percentile) to 128 (99th percentile).

Statistics

CT

N	Valid	197
	Missing	9
Mean		108.63
Median		107.00
Std. Deviation		6.208
Minimum		100
Maximum		128
Percentiles	25	104.00
	50	107.00
	75	113.00

Critical Thinking Score (freshmen)

The freshmen in the comparative group had an overall average of 109.2 with a standard deviation of 6.0. Southeastern's average was 107.2 (1/3 of a standard deviation below the national average and up from 105.8 a year ago). Individual scores ranged from 100 (0th percentile) to 127 (99th percentile).

Statistics

CT

N	Valid	48
	Missing	3
Mean		107.17
Median		106.00
Std. Deviation		5.673
Minimum		100
Maximum		127
Percentiles	25	103.00
	50	106.00
	75	110.00

Critical Thinking Score (sophomores)

The sophomores in the comparative group had an overall average of 109.2 with a standard deviation of 6.0. Southeastern's average was 109.8 (up from 108.8 a year ago and above the national average for the first time). Individual scores ranged from 100 (0th percentile) to 128 (99th percentile).

Statistics

CT

N	Valid	46
	Missing	3
Mean		109.78
Median		109.00
Std. Deviation		6.643
Minimum		100
Maximum		128
Percentiles	25	104.75
	50	109.00
	75	114.00

Critical Thinking Score (juniors)

The juniors in the comparative group had an overall average of 110.6 with a standard deviation of 6.3. Southeastern's average was 108.1 (down from 109.0 a year ago and between 1/3 and 1/2 standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 123 (95th percentile).

Statistics

CT

N	Valid	52
	Missing	3
Mean		108.10
Median		107.00
Std. Deviation		5.647
Minimum		100
Maximum		123
Percentiles	25	104.00
	50	107.00
	75	110.75

Critical Thinking Score (seniors)

The seniors in the comparative group had an overall average of 111.4 with a standard deviation of 6.6. Southeastern's average was 109.5 (up from 108.9 a year ago and a little less than 1/3 standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 126 (98th percentile).

Statistics

CT

N	Valid	51
	Missing	0
Mean		109.51
Median		109.00
Std. Deviation		6.649
Minimum		100
Maximum		126
Percentiles	25	104.00
	50	109.00
	75	114.00

Conclusion: Our freshmen are coming in closer to the national average than they have in the past. By the time they are sophomores we have gotten them to above the national average. Our juniors are a bit lower than our sophomores and then our seniors are back to the sophomore level. This may be the result of us increasing the size of our honors classes the last couple of years and hopefully our junior scores will increase once those extra honors students hit the junior level (next year).

Class	SE CT Average	National CT Average
Freshmen	107.2	109.2
Sophomores	109.8	109.2
Juniors	108.1	110.6
Seniors	109.5	111.4

Reading Score (for all SE students)

The comparative group had an overall average of 115.7 with a standard deviation of 7.5. Southeastern’s average was 113.3 (about 1/3 of a standard deviation below the national average). Individual scores ranged from 101 (1st percentile) to 130 (a perfect score).

Statistics

Reading

N	Valid	197
	Missing	9
Mean		113.30
Median		112.00
Std. Deviation		7.605
Minimum		101
Maximum		130
Percentiles	25	107.00
	50	112.00
	75	119.00

Reading Score (freshmen)

The freshmen in the comparative group had an overall average of 114.6 with a standard deviation of 7.5. Southeastern’s average was 112.2 (about 1/3 of a standard deviation below the national average). Individual scores ranged from 102 (2nd percentile) to 127 (94th percentile).

Statistics

Reading

N	Valid	48
	Missing	3
Mean		112.17
Median		111.00
Std. Deviation		6.929
Minimum		102
Maximum		127
Percentiles	25	106.00
	50	111.00
	75	117.75

Reading Score (sophomores)

The sophomores in the comparative group had an overall average of 114.9 with a standard deviation of 7.4. Southeastern's average was 114.6 (right at the national average). Individual scores ranged from 102 (1st percentile) to 130 (a perfect score).

Statistics

Reading

N	Valid	46
	Missing	3
Mean		114.59
Median		114.00
Std. Deviation		7.850
Minimum		102
Maximum		130
Percentiles	25	107.75
	50	114.00
	75	120.25

Reading Score (juniors)

The juniors in the comparative group had an overall average of 116.6 with a standard deviation of 7.4. Southeastern's average was 112.1 (a little more than 1/2 standard deviation below the national average). Individual scores ranged from 101 (1st percentile) to 130 (a perfect score).

Statistics

Reading

N	Valid	52
	Missing	3
Mean		112.08
Median		111.00
Std. Deviation		7.535
Minimum		101
Maximum		130
Percentiles	25	106.25
	50	111.00
	75	118.75

Reading Score (seniors)

The seniors in the comparative group had an overall average of 117.6 with a standard deviation of 7.5. Southeastern's average was 114.5 (less than 1/2 of a standard deviation below the national average). Individual scores ranged from 102 (1st percentile) to 129 (95th percentile).

Statistics

Reading		
N	Valid	51
	Missing	0
Mean		114.47
Median		113.00
Std. Deviation		7.905
Minimum		102
Maximum		129
Percentiles	25	108.00
	50	113.00
	75	121.00

Conclusion: Our freshmen are coming in closer to the national average than they have in the past. By the time they are sophomores we have gotten them to right at the national average. Our juniors are a bit lower than our sophomores and then our seniors are back to the sophomore level. Again, this may be the result of us increasing the size of our honors classes the last couple of years and hopefully our junior scores will increase once those extra honors students hit the junior level (next year).

<u>Class</u>	<u>SE Reading Average</u>	<u>National Reading Average</u>
Freshmen	112.2	114.6
Sophomores	114.6	114.9
Juniors	112.1	116.6
Seniors	114.5	117.6

Writing Score (for all SE students)

The comparative group had an overall average of 112.8 with a standard deviation of 5.6. Southeastern's average was 110.9 (less than 1/2 standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 125 (99th percentile).

Statistics

Writing

N	Valid	197
	Missing	9
Mean		110.93
Median		111.00
Std. Deviation		5.794
Minimum		100
Maximum		125
Percentiles	25	107.00
	50	111.00
	75	115.00

Writing Score (freshmen)

The freshmen in the comparative group had an overall average of 112.1 with a standard deviation of 5.6. Southeastern's average was 108.8 (more than 1/2 of a standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 121 (92nd percentile).

Statistics

Writing

N	Valid	48
	Missing	3
Mean		108.79
Median		108.50
Std. Deviation		5.547
Minimum		100
Maximum		121
Percentiles	25	105.00
	50	108.50
	75	111.75

Writing Score (sophomores)

The sophomores in the comparative group had an overall average of 112.0 with a standard deviation of 5.4. Southeastern's average was 112.4 (slightly above the national average). Individual scores ranged from 100 (0th percentile) to 125 (99th percentile).

Statistics

Writing

N	Valid	46
	Missing	3
Mean		112.41
Median		113.00
Std. Deviation		5.882
Minimum		100
Maximum		125
Percentiles	25	108.00
	50	113.00
	75	116.25

Writing Score (juniors)

The juniors in the comparative group had an overall average of 113.3 with a standard deviation of 5.4. Southeastern's average was 111.4 (about 1/3 of a standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 125 (99th percentile).

Statistics

Writing

N	Valid	52
	Missing	3
Mean		111.42
Median		112.00
Std. Deviation		5.410
Minimum		100
Maximum		125
Percentiles	25	108.00
	50	112.00
	75	114.00

Writing Score (seniors)

The seniors in the comparative group had an overall average of 114.1 with a standard deviation of 5.5. Southeastern's average was 111.1 (a little more than 1/2 standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 124 (98th percentile).

Statistics

Writing

N	Valid	51
	Missing	0
Mean		111.10
Median		111.00
Std. Deviation		5.914
Minimum		100
Maximum		124
Percentiles	25	107.00
	50	111.00
	75	116.00

Conclusion: Our freshmen are coming in closer to the national average than they have in the past. By the time they are sophomores we have gotten them to above the national average. Then they drop off as juniors and seniors. Again, this may be the result of us increasing the size of our honors classes the last couple of years and hopefully our junior scores will increase once those extra honors students hit the junior level (next year).

Class	SE Writing Average	National Writing Average
Freshmen	108.8	112.1
Sophomores	112.4	112.0
Juniors	111.4	113.3
Seniors	111.1	114.1

Mathematics Score (for all SE students)

The comparative group had an overall average of 112.0 with a standard deviation of 5.9. Southeastern's average was 110.5 (about 1/4 standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 128 (99th percentile).

Statistics

Math

N	Valid	197
	Missing	9
Mean		110.52
Median		110.00
Std. Deviation		5.500
Minimum		100
Maximum		128
Percentiles	25	106.00
	50	110.00
	75	113.00

Mathematics Score (freshmen)

The freshmen in the comparative group had an overall average of 111.5 with a standard deviation of 5.8. Southeastern's average was 109.8 (about 1/3 standard deviation below the national average). Individual scores ranged from 102 (3rd percentile) to 122 (93rd percentile).

Statistics

Math

N	Valid	48
	Missing	3
Mean		109.79
Median		109.00
Std. Deviation		5.263
Minimum		102
Maximum		122
Percentiles	25	105.00
	50	109.00
	75	113.00

Mathematics Score (sophomores)

The sophomores in the comparative group had an overall average of 111.0 with a standard deviation of 5.6. Southeastern's average was 110.8 (right at the national average). Individual scores ranged from 100 (0th percentile) to 127 (99th percentile).

Statistics

Math

N	Valid	46
	Missing	3
Mean		110.83
Median		110.50
Std. Deviation		5.874
Minimum		100
Maximum		127
Percentiles	25	105.75
	50	110.50
	75	116.00

Mathematics Score (juniors)

The juniors in the comparative group had an overall average of 112.4 with a standard deviation of 6.1. Southeastern's average was 110.0 (a little more than 1/3 of a standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 122 (90th percentile).

Statistics

Math

N	Valid	52
	Missing	3
Mean		109.96
Median		110.00
Std. Deviation		4.546
Minimum		100
Maximum		122
Percentiles	25	106.25
	50	110.00
	75	113.00

Mathematics Score (seniors)

The seniors in the comparative group had an overall average of 113.2 with a standard deviation of 6.2. Southeastern's average was 111.5 (about 1/4 of a standard deviation below the national average). Individual scores ranged from 102 (1st percentile) to 128 (99th percentile).

Statistics

Math

N	Valid	51
	Missing	0
Mean		111.51
Median		110.00
Std. Deviation		6.204
Minimum		102
Maximum		128
Percentiles	25	107.00
	50	110.00
	75	113.00

Conclusion: As students progress through Southeastern’s general education program, their mathematics scores on the ETS continue to increase but with a slight dip from sophomore to junior year. The biggest gain comes between junior and senior year.

<u>Class</u>	<u>SE Math Average</u>	<u>National Math Average</u>
Freshmen	109.8	111.5
Sophomores	110.8	111.0
Juniors	110.0	112.4
Seniors	111.5	113.2

Humanities Score (for all SE students)

The comparative group had an overall average of 113.4 with a standard deviation of 6.6. Southeastern’s average was 111.5 (less than 1/3 of a standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 130 (a perfect score!).

Statistics

Humanities

N	Valid	197
	Missing	9
Mean		111.49
Median		110.00
Std. Deviation		6.781
Minimum		100
Maximum		130
Percentiles	25	107.00
	50	110.00
	75	116.00

Humanities Score (freshmen)

The freshmen in the comparative group had an overall average of 112.6 with a standard deviation of 6.4. Southeastern's average was 110.3 (a little more than 1/3 standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 128 (98th percentile).

Statistics

Humanities

N	Valid	48
	Missing	3
Mean		110.31
Median		109.00
Std. Deviation		6.491
Minimum		100
Maximum		128
Percentiles	25	106.00
	50	109.00
	75	114.50

Humanities Score (sophomores)

The sophomores in the comparative group had an overall average of 113.0 with a standard deviation of 6.4. Southeastern's average was 112.8 (right at the national average). Individual scores ranged from 101 (1st percentile) to 130 (a perfect score!).

Statistics

Humanities

N	Valid	46
	Missing	3
Mean		112.78
Median		111.00
Std. Deviation		7.121
Minimum		101
Maximum		130
Percentiles	25	107.00
	50	111.00
	75	119.00

Humanities Score (juniors)

The juniors in the comparative group had an overall average of 114.2 with a standard deviation of 6.6. Southeastern's average was 111.3 (less than 1/2 standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 127 (96th percentile).

Statistics

Humanities

N	Valid	52
	Missing	3
Mean		111.13
Median		111.00
Std. Deviation		6.362
Minimum		100
Maximum		127
Percentiles	25	105.25
	50	111.00
	75	116.25

Humanities Score (seniors)

The seniors in the comparative group had an overall average of 114.9 with a standard deviation of 6.8. Southeastern’s average was 111.8 (less than ½ of a standard deviation below the national average). Individual scores ranged from 101 (1st percentile) to 128 (96th percentile).

Statistics

Humanities

N	Valid	51
	Missing	0
Mean		111.78
Median		109.00
Std. Deviation		7.114
Minimum		101
Maximum		128
Percentiles	25	107.00
	50	109.00
	75	116.00

Conclusion: As students progress through Southeastern’s general education program, their humanities scores increase significantly from freshman to sophomore year, drop off junior year and then rebound somewhat senior year. Again, this may be the result of us increasing the size of our honors classes the last couple of years and hopefully our junior scores will increase once those extra honors students hit the junior level (next year).

<u>Class</u>	<u>SE Humanities Average</u>	<u>National Humanities Average</u>
Freshmen	110.3	112.6
Sophomores	112.8	113.0
Juniors	111.3	114.2
Seniors	111.8	114.9

Social Sciences Score (for all SE students)

The comparative group had an overall average of 111.7 with a standard deviation of 6.4. Southeastern's average was 110.2 (less than $\frac{1}{4}$ standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 130 (a perfect score!).

Statistics

SocialSci

N	Valid	197
	Missing	9
Mean		110.19
Median		110.00
Std. Deviation		5.884
Minimum		100
Maximum		130
Percentiles	25	106.00
	50	110.00
	75	114.00

Social Sciences Score (freshmen)

The freshmen in the comparative group had an overall average of 110.9 with a standard deviation of 6.2. Southeastern's average was 108.1 (about $\frac{1}{2}$ of a standard deviation below the national average). Individual scores ranged from 103 (5th percentile) to 122 (92nd percentile).

Statistics

SocialSci

N	Valid	48
	Missing	3
Mean		108.10
Median		107.00
Std. Deviation		4.464
Minimum		103
Maximum		122
Percentiles	25	105.00
	50	107.00
	75	111.50

Social Sciences Score (sophomores)

The sophomores in the comparative group had an overall average of 111.1 with a standard deviation of 6.2. Southeastern's average was 111.9 (above the national average). Individual scores ranged from 100 (0th percentile) to 130 (a perfect score!).

Statistics

SocialSci

N	Valid	46
	Missing	3
Mean		111.85
Median		112.00
Std. Deviation		6.095
Minimum		100
Maximum		130
Percentiles	25	107.00
	50	112.00
	75	116.00

Social Sciences Score (juniors)

The juniors in the comparative group had an overall average of 112.3 with a standard deviation of 6.4. Southeastern's average was 109.5 (less than ½ of a standard deviation below the national average). Individual scores ranged from 102 (1st percentile) to 126 (97th percentile).

Statistics

SocialSci

N	Valid	52
	Missing	3
Mean		109.52
Median		108.00
Std. Deviation		5.672
Minimum		102
Maximum		126
Percentiles	25	105.00
	50	108.00
	75	113.50

Social Sciences Score (seniors)

The seniors in the comparative group had an overall average of 113.2 with a standard deviation of 6.6. Southeastern's average was 111.4 (about ¼ of a standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 126 (96th percentile).

Statistics

SocialSci

N	Valid	51
	Missing	0
Mean		111.35
Median		110.00
Std. Deviation		6.496
Minimum		100
Maximum		126
Percentiles	25	106.00
	50	110.00
	75	116.00

Conclusion: Freshmen at Southeastern start off with social sciences scores that are ½ standard deviation below the national average. By the time they are sophomores, they are above the national average. As juniors they fall back to ½ standard deviation below and then as seniors are only ¼ standard deviation below. Again, this may be the result of us increasing the size of our honors classes the last couple of years and hopefully our junior scores will increase once those extra honors students hit the junior level (next year).

<u>Class</u>	<u>SE Total Score Average</u>	<u>National Total Score Average</u>
Freshmen	108.1	110.9
Sophomores	111.9	111.1
Juniors	109.5	112.3
Seniors	111.4	113.2

Natural Sciences Score (for all SE students)

The comparative group had an overall average of 113.6 with a standard deviation of 6.2. Southeastern’s average was 112.1 (about ¼ standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 130 (a perfect score!).

Statistics

NaturalSci

N	Valid	197
	Missing	9
Mean		112.07
Median		111.00
Std. Deviation		6.496
Minimum		100
Maximum		130
Percentiles	25	107.00
	50	111.00
	75	116.50

Natural Sciences Score (freshmen)

The comparative group had an overall average of 112.8 with a standard deviation of 6.1. Southeastern’s average was 111.5 (about ¼ of a standard deviation below the national average). Individual scores ranged from 103 (3rd percentile) to 130 (a perfect score!).

Statistics

NaturalSci

N	Valid	48
	Missing	3
Mean		111.54
Median		111.00
Std. Deviation		5.929
Minimum		103
Maximum		130
Percentiles	25	107.00
	50	111.00
	75	115.75

Natural Sciences Score (sophomores)

The comparative group had an overall average of 112.9 with a standard deviation of 6.1. Southeastern's average was 112.4 (right at the national average).

Individual scores ranged from 100 (0th percentile) to 127 (99th percentile).

Statistics

NaturalSci

N	Valid	46
	Missing	3
Mean		112.43
Median		111.50
Std. Deviation		6.914
Minimum		100
Maximum		127
Percentiles	25	107.00
	50	111.50
	75	117.75

Natural Sciences Score (juniors)

The comparative group had an overall average of 114.3 with a standard deviation of 6.2. Southeastern's average was 111.0 (about ½ standard deviation below the national average). Individual scores ranged from 100 (0th percentile) to 130 (a perfect score).

Statistics

NaturalSci

N	Valid	52
	Missing	3
Mean		110.98
Median		110.00
Std. Deviation		6.694
Minimum		100
Maximum		130
Percentiles	25	106.00
	50	110.00
	75	115.50

Natural Sciences Score (seniors)

The comparative group had an overall average of 115.0 with a standard deviation of 6.2. Southeastern's average was 113.3 (about $\frac{1}{4}$ of a standard deviation below the national average). Individual scores ranged from 104 (3rd percentile) to 130 (a perfect score!).

Statistics

NaturalSci		
N	Valid	51
	Missing	0
Mean		113.33
Median		112.00
Std. Deviation		6.355
Minimum		104
Maximum		130
Percentiles	25	109.00
	50	112.00
	75	119.00

Conclusion: Freshmen at Southeastern start off with natural sciences scores that are $\frac{1}{4}$ standard deviation below the national average. By the time they are sophomores, they are right at the national average. As juniors they fall back to $\frac{1}{2}$ standard deviation below and then as seniors are only $\frac{1}{4}$ standard deviation below. Again, this may be the result of us increasing the size of our honors classes the last couple of years and hopefully our junior scores will increase once those extra honors students hit the junior level (next year).

<u>Class</u>	<u>SE Total Score Average</u>	<u>National Total Score Average</u>
Freshmen	111.5	112.8
Sophomores	112.4	112.9
Juniors	111.0	114.3
Seniors	113.3	115.0

Essay Score

ETS only reports an overall national average for the essay score and does not parse it into different kinds of universities or into different classifications of students. The overall national average is 3.8 with a standard deviation of 1.1. Possible scores range from 0 to 6. Though all of the national averages reported above are through the Spring 2021 semester, ETS has not updated the national average for the essay score since Spring 2019.

Students at all levels

Southeastern's average was 3.6 (slightly below the national average). Individual scores ranged from 1 to 6.

Freshmen

Southeastern's freshmen average was 3.4 (a little less than 1/2 of a standard deviation below the national average). Individual scores ranged from 1 to 5.

Sophomores

Southeastern's sophomore average was 3.7 (right at the national average) Individual scores ranged from 1 to 6.

Juniors

Southeastern's junior average was 3.6 (slightly below the national average) Individual scores ranged from 1 to 5.

Seniors

Southeastern's senior average was 3.9 (slightly above the national average) Individual scores ranged from 1 to 6.

Report

Essay

Class	Mean	N	Std. Deviation	Minimum	Maximum
Freshman	3.42	45	1.076	1	5
Sophomore	3.68	44	1.216	1	6
Junior	3.58	50	1.052	1	5
Senior	3.86	44	1.173	1	6
Total	3.63	183	1.130	1	6

Differences between classifications (value-added)

To test for value-added, a One-way ANOVA is run to test the null hypothesis

H₀: $\mu_{\text{Fresh}} = \mu_{\text{Soph}} = \mu_{\text{Jr}} = \mu_{\text{Sr}}$

vs.

H₁: There is a difference somewhere

First we need to check the ANOVA assumption of approximately equal variances among the groups so Levene's test is run.

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Essay	.137	3	179	.938
TotalScore	1.043	3	193	.375
CT	1.081	3	193	.358
Reading	.549	3	193	.650
Writing	.477	3	193	.699
Math	1.253	3	193	.292
Humanities	.653	3	193	.582
SocialSci	2.582	3	193	.055
NaturalSci	.930	3	193	.427

Since all p-values (Sig.) are greater than .05 (although one is very close) then we consider the assumption of equal variances to be met. Now to test for equal means.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Essay	Between Groups	4.585	3	1.528	1.200	.311
	Within Groups	227.885	179	1.273		
	Total	232.470	182			
TotalScore	Between Groups	2430.845	3	810.282	2.108	.101
	Within Groups	74178.201	193	384.343		
	Total	76609.046	196			
CT	Between Groups	218.192	3	72.731	1.914	.129
	Within Groups	7335.757	193	38.009		
	Total	7553.949	196			
Reading	Between Groups	285.509	3	95.170	1.662	.177
	Within Groups	11050.217	193	57.255		
	Total	11335.726	196			
Writing	Between Groups	334.734	3	111.578	3.449	.018
	Within Groups	6244.271	193	32.354		
	Total	6579.005	196			
Math	Between Groups	95.954	3	31.985	1.058	.368
	Within Groups	5833.194	193	30.224		
	Total	5929.147	196			
Humanities	Between Groups	154.395	3	51.465	1.121	.342
	Within Groups	8856.824	193	45.890		
	Total	9011.218	196			
SocialSci	Between Groups	427.628	3	142.543	4.326	.006
	Within Groups	6359.042	193	32.948		
	Total	6786.670	196			
NaturalSci	Between Groups	162.607	3	54.202	1.290	.279
	Within Groups	8107.535	193	42.008		
	Total	8270.142	196			

The p-values from this One-way ANOVA are significant at the $p < .05$ level for Writing, and Social Science. The Total Score is also close ($p = .101$) but not quite statistically significant.

Now to find WHERE the differences are, Tukey's Multiple Comparison Tests are run.

For the Writing Score, seniors statistically significantly outscore freshmen and for Social Science the seniors and sophomores statistically significantly outscore the freshmen.

Writing

Tukey HSD^{a,b}

Class	N	Subset for alpha = 0.05	
		1	2
Freshman	48	108.79	
Senior	51	111.10	111.10
Junior	52	111.42	111.42
Sophomore	46		112.41
Sig.		.103	.662

Means for groups in homogeneous subsets are displayed.

- a. Uses Harmonic Mean Sample Size = 49.133.
- b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

SocialSci

Tukey HSD^{a,b}

Class	N	Subset for alpha = 0.05	
		1	2
Freshman	48	108.10	
Junior	52	109.52	109.52
Senior	51		111.35
Sophomore	46		111.85
Sig.		.614	.188

Means for groups in homogeneous subsets are displayed.

- a. Uses Harmonic Mean Sample Size = 49.133.
- b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Differences between genders

Here we are testing the hypotheses

$H_0: \mu_{\text{Female}} = \mu_{\text{Male}}$

vs.

$H_1: \mu_{\text{Female}} \neq \mu_{\text{Male}}$

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Essay	Male	89	3.53	1.197	.127
	Female	92	3.74	1.047	.109
TotalScore	Male	95	430.14	20.768	2.131
	Female	100	432.79	18.578	1.858
CT	Male	95	108.31	6.083	.624
	Female	100	109.07	6.317	.632
Reading	Male	95	112.62	7.533	.773
	Female	100	114.11	7.634	.763
Writing	Male	95	109.89	5.997	.615
	Female	100	112.06	5.373	.537
Math	Male	95	111.23	5.797	.595
	Female	100	109.99	5.116	.512
Humanities	Male	95	110.34	6.609	.678
	Female	100	112.75	6.719	.672
SocialSci	Male	95	110.02	6.090	.625
	Female	100	110.79	6.591	.659
NaturalSci	Male	95	112.07	6.323	.649
	Female	100	112.15	6.700	.670

The females outscored the males in 8 of the 9 areas (Essay, Total Score, Critical Thinking, Reading, Writing, Humanities, Social Science and Natural Science). The males had higher scores in Math. The only statistically significant differences were in Writing ($p=.009$) and Humanities ($p=.012$) with the females being higher in each.

Pearson Correlation Coefficients

There is a statistically significant ($p < .001$) positive correlation ($r = .61$) between ACT and TotalScore on the exam. ACT is also statistically significantly correlated ($p < .001$) with every subarea with the strongest being Math ($r = .54$) and the weakest being Essay ($r = .41$).

Southeastern GPA is also statistically significantly correlated ($p < .001$) with the TotalScore and every subarea but not as strongly correlated as ACT. The subarea best predicted by GPA is Writing ($r = .32$). The subarea least predicted by GPA is Essay ($r = .16$).

Correlations

		ACT	GPA	Essay	TotalScore	CT	Reading	Writing	Math	Humanities	SocialSci	NaturalSci	OnlineGenEd
ACT	Pearson Correlation	1	.382**	.406**	.612**	.517**	.522**	.501**	.536**	.494**	.450**	.530**	b
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.
	N	196	194	176	187	187	187	187	187	187	187	187	0
GPA	Pearson Correlation	.382**	1	.159	.284**	.223**	.188**	.319**	.210**	.206**	.239**	.187**	b
	Sig. (2-tailed)	.000		.032	.000	.002	.008	.000	.003	.004	.001	.009	.
	N	194	204	182	195	195	195	195	195	195	195	195	0
Essay	Pearson Correlation	.406**	.159	1	.478**	.401**	.438**	.425**	.355**	.370**	.410**	.396**	b
	Sig. (2-tailed)	.000	.032		.000	.000	.000	.000	.000	.000	.000	.000	.
	N	176	182	183	174	174	174	174	174	174	174	174	0
TotalScore	Pearson Correlation	.612**	.284**	.478**	1	.884**	.873**	.867**	.779**	.848**	.795**	.844**	b
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.
	N	187	195	174	197	197	197	197	197	197	197	197	0
CT	Pearson Correlation	.517**	.223**	.401**	.884**	1	.750**	.695**	.564**	.824**	.789**	.847**	b
	Sig. (2-tailed)	.000	.002	.000	.000		.000	.000	.000	.000	.000	.000	.
	N	187	195	174	197	197	197	197	197	197	197	197	0
Reading	Pearson Correlation	.522**	.188**	.438**	.873**	.750**	1	.691**	.565**	.854**	.767**	.844**	b
	Sig. (2-tailed)	.000	.008	.000	.000	.000		.000	.000	.000	.000	.000	.
	N	187	195	174	197	197	197	197	197	197	197	197	0
Writing	Pearson Correlation	.501**	.319**	.425**	.867**	.695**	.691**	1	.571**	.686**	.629**	.649**	b
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.
	N	187	195	174	197	197	197	197	197	197	197	197	0
Math	Pearson Correlation	.536**	.210**	.355**	.779**	.564**	.565**	.571**	1	.530**	.519**	.547**	b
	Sig. (2-tailed)	.000	.003	.000	.000	.000	.000	.000		.000	.000	.000	.
	N	187	195	174	197	197	197	197	197	197	197	197	0
Humanities	Pearson Correlation	.494**	.206**	.370**	.848**	.824**	.854**	.686**	.530**	1	.651**	.721**	b
	Sig. (2-tailed)	.000	.004	.000	.000	.000	.000	.000	.000		.000	.000	.
	N	187	195	174	197	197	197	197	197	197	197	197	0
SocialSci	Pearson Correlation	.450**	.239**	.410**	.795**	.789**	.767**	.629**	.519**	.651**	1	.689**	b
	Sig. (2-tailed)	.000	.001	.000	.000	.000	.000	.000	.000	.000		.000	.
	N	187	195	174	197	197	197	197	197	197	197	197	0
NaturalSci	Pearson Correlation	.530**	.187**	.396**	.844**	.847**	.844**	.649**	.547**	.721**	.689**	1	b
	Sig. (2-tailed)	.000	.009	.000	.000	.000	.000	.000	.000	.000	.000		.
	N	187	195	174	197	197	197	197	197	197	197	197	0
OnlineGenEd	Pearson Correlation	b	b	b	b	b	b	b	b	b	b	b	b
	Sig. (2-tailed)	.	.	.	.	.	.	.	.	.	.	.	.
	N	0	0	0	0	0	0	0	0	0	0	0	0

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

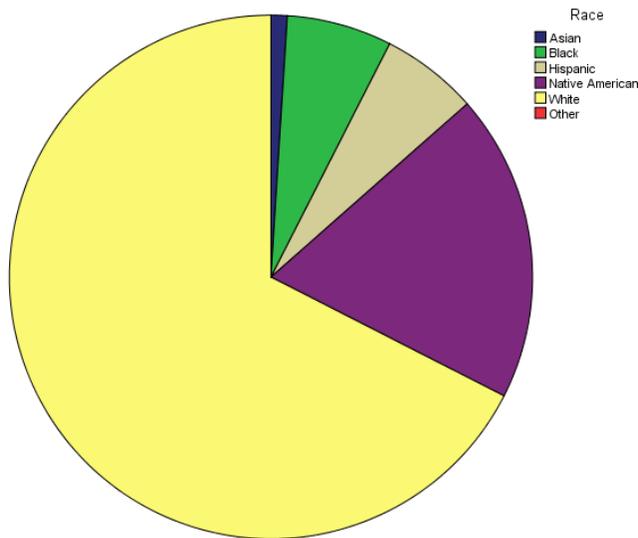
b. Cannot be computed because at least one of the variables is constant.

Differences between races

Of the 200 students, 135 identified as White, 38 as Native American, 12 as Hispanic, 13 as Black, 2 as Asian and 6 preferred not to answer.

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Asian	2	1.0	1.0	1.0
	Black	13	6.3	6.5	7.5
	Hispanic	12	5.8	6.0	13.5
	Native American	38	18.4	19.0	32.5
	White	135	65.5	67.5	100.0
	Total	200	97.1	100.0	
Missing	System	6	2.9		
Total		206	100.0		



Because of the low numbers of Asians, Blacks and Hispanics, no statistical analysis could be done comparing those groups with the other groups. However, Native Americans were compared to Whites but no statistically significant differences were found. As we gather more data in future years we will hopefully have enough students in each category to make all needed comparisons. In the meantime, we can at least give the averages for each of the ethnic categories.

Report

Race		TotalScore	CT	Reading	Writing	Math	Humanities	SocialSci	NaturalSci	Essay
Asian	Mean	435.00	109.00	113.50	111.50	111.50	113.50	108.00	112.50	3.00
	N	2	2	2	2	2	2	2	2	1
Black	Mean	428.17	107.00	112.83	110.33	110.33	109.58	109.08	112.50	3.17
	N	12	12	12	12	12	12	12	12	12
Hispanic	Mean	430.17	107.00	113.00	110.67	111.75	111.42	109.75	109.50	4.00
	N	12	12	12	12	12	12	12	12	10
Native American	Mean	432.03	108.69	113.69	111.23	110.57	111.69	110.34	112.06	3.88
	N	35	35	35	35	35	35	35	35	34
White	Mean	431.86	109.03	113.35	111.04	110.64	111.75	110.66	112.28	3.61
	N	131	131	131	131	131	131	131	131	120
Total	Mean	431.59	108.71	113.36	111.01	110.69	111.60	110.42	112.08	3.65
	N	192	192	192	192	192	192	192	192	177

Ignoring the two Asian students (because of the very low sample size), the Native American students scored the highest in Total Score (as they did last year) but there is virtually no difference between Hispanics, Native Americans and Whites. The 12 Blacks (a small sample size) did seem to score a bit lower though.

In Critical Thinking, the Whites scored the highest (as they did last year) with the Native Americans being very close, but with the Blacks and Hispanics lagging a bit behind.

In Reading, the Native Americans scored the highest (as they did last year) but all the groups scored virtually the same.

In Writing, the Native Americans scored the highest but all the groups were very close.

The Hispanics also scored the highest in Math and all the other groups were considerably behind.

In Humanities, the two Asians scored very high followed by the Whites, Native Americans and Hispanics (all virtually tied) with the Blacks being further behind.

In the Social Sciences, the Whites scored the highest but all the groups were very close.

In the Natural Sciences, the Blacks and Asians scored the highest with Whites and Native Americans being very close but with the Hispanics being considerable behind.

In Essay, the Hispanics scored the highest (as they did last year) with the Blacks and Asians being considerably behind.

Some of the differences in race listed above may be explained by beginning ability. Native Americans and Whites come in with the highest ACT scores (21.94 and 21.91), a full 3 points ahead of Blacks (18.91) and almost a point and a half ahead of Hispanics (20.55). However, a year ago, the Blacks only had an average ACT of 17.5 so progress has been made. Native Americans also have the highest GPA of all the races.

Report

Race		ACT	GPA
Asian	Mean	18.00	2.7200
	N	2	2
Black	Mean	18.91	2.7315
	N	11	13
Hispanic	Mean	20.55	3.0833
	N	11	12
Native American	Mean	21.94	3.2445
	N	36	38
White	Mean	21.91	3.1979
	N	131	133
Total	Mean	21.62	3.1644
	N	191	198

Online vs. Traditional

There is no statistically significant correlation between “the percentage of gen ed hours taken online” and the TotalScore ($r=.021$, $p=.775$). This means we cannot predict how well our students will do on the TotalScore based on the percentage of online general education hours that they have taken.

There were 22 students (out of 207) in this year’s dataset that took the majority of their general education classes online. In 2018-19 there were 12 such students (out of 234) and in 2019-20 there were 15 (out of 157), so the percentage this year (10.6%) is up quite a bit compared to 2018-19 (5.1%) and up slightly from 2019-20 (9.6%).

The 22 students in this year’s dataset who took the majority of their courses online underperformed compared to the other students. Note, that this is still a small sample, but the results are almost identical to those obtained in the previous two years’ worth of data.

Report

MajorityType		GPA	ACT	Essay	TotalScore	CT	Reading	Writing	Math	Humanities	SocialSci	NaturalSci
Majority Face-to-Face	Mean	3.1757	22.05	3.68	432.46	108.87	113.87	111.13	110.91	111.99	110.51	112.44
	N	175	170	155	171	171	171	171	171	171	171	171
	Std. Deviation	.60112	4.054	1.092	20.091	6.417	7.580	5.871	5.598	6.784	6.594	6.623
Majority Online	Mean	3.1659	19.00	3.32	427.26	108.63	110.63	110.95	108.63	110.00	110.16	110.42
	N	22	19	22	19	19	19	19	19	19	19	19
	Std. Deviation	.64588	2.925	1.249	14.745	3.655	7.433	4.790	4.058	5.568	4.622	4.948
Total	Mean	3.1746	21.74	3.64	431.94	108.85	113.54	111.11	110.68	111.79	110.47	112.24
	N	197	189	177	190	190	190	190	190	190	190	190
	Std. Deviation	.60456	4.054	1.115	19.652	6.190	7.609	5.761	5.497	6.686	6.415	6.493

In every measure, the students who took the majority of their general education online scored lower than their counterparts. Not all of the differences are statistically significant however, including GPA, Critical Thinking, Writing and Social Sciences. The differences that are most striking are the Composite ACT where those taking the majority online have an average ACT of 19 vs. 22 for those in face-to-face courses. I believe the explanation for this is that our honors students tend to take most of their courses face-to-face. The other main difference is in Total Score (427.3 vs. 432.5) but I believe the difference in ACT scores explains the difference in Total Score as well as the other subscores.

Overall Conclusions

Though one might have expected there to be a “hiccup” when it came to this year’s scores due to the pandemic and the rush to move things online in the Spring of 2020, it turns out that that didn’t happen at all. Our students scored higher on the Total Score than they ever have before (albeit very slightly). In the meantime, the national average fell by over 4 points. This means that our sophomores actually scored higher than the national average for the first time ever on this exam.

One reason for this (other than the great professors we have here at Southeastern and their heroic effort during the pandemic) is that our ACT scores are also up due to increasing the size of our honors program. Our juniors and seniors performed similarly to how they did the last couple of years, and not quite as well as the sophomores, but when our larger crop of honors students hits the junior level (next year) then those scores will hopefully be up as well.

Our online students do not do quite as well as our traditional face-to-face students but it seems the differences can be found in the entering ability of those students and not in the courses themselves.

Overall, there is much to be proud of in these results especially considering what we went through the last year or two and there are plenty of reasons to be excited about the future at Southeastern.