

Validating Accuplacer: A Status Report

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The Way We Were

NEW JERSEY INSTITUTE OF TECHNOLOGY
Department of Humanities

Revised May 9, 1997

PLACEMENT GUIDELINES: ENGLISH To be used when the essay is scored twice on a six point scale (i.e., 2 – 12)

SAT-R Scholastic Aptitude Test, College Board, Reading
NJ Reading Comprehension New Jersey College Basic Skills Placement Test, Reading Comprehension Score
NJ Sentence Sense Sentence Sense Score
Essay Essay Score, New Jersey College Basic Skills Placement Test

I Consistent patterns:

HUM 101H	HUM 101	HUM 099-100 Seq.	HUM 099S-100S ESL
SAT-R ≥ 610 NJ Reading Comp. ≥ 31 NJ Sentence Sense ≥ 30 Essay ≥ 9	SAT-R ≥ 500 NJ Reading Comp. > 27 NJ Sentence Sense ≥ 26 Essay ≥ 7	SAT-R < 500 NJ Reading Comp. ≤ 27 NJ Sentence Sense < 26 Essay < 7	SAT-R ≤ 400 NJ Reading Comp. ≤ 27 NJ Sentence Sense < 26 Essay ≤ 5 ESL section questions ≤ 4

II Inconsistency formula:

SAT-R NJ Reading Comp. NJ Sentence Sense Essay	(SAT-R / 10 Raw Score X 2 Raw Score X 2 Essay X 7)	Number	Placement
		≥ 246	HUM 101H
		≥ 205	HUM 101
		< 205	HUM 101
		> 205 and ESL review	HUM 099S – 100S or ENG 095

SAT-R/10 + (RC X 2) + (SS x 2) + (Essay X 7) =

When no SAT scores are available:
 ≥ 185 = HUM 101H
 ≥ 155 = HUM 101
 < 155 = HUM 099/100

(June 11, 1997)

- Once ETS-based, state-of-the-art, now a very dated placement test
- Impossible to refresh test with new items
- Difficult to establish item performance
- “Inconsistency formula” based on desire for equivalent value, not on established performance weights.

The Way We Are

Correlations

		RC_Fall	SS_Fall	Essay_Fall	SAT_V_Fall	SAT_W_Fall	RC_Spring	SS_Spring	ESSAY_Spring	Reading Comprehension	Sentence Skills	Default WritePlacer Test
RC_Fall	Pearson Correlation	1	.687**	.360*	.701**	.557**	.792**	.694**	.303	.821**	.783**	.272
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.054	.000	.000	.074
	N	660	660	641	646	639	62	47	41	44	44	44
SS_Fall	Pearson Correlation	.687**	1	.421**	.639**	.624**	.594**	.737**	.271	.695**	.591**	.334**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.086	.000	.000	.027
	N	660	660	641	646	639	62	47	41	44	44	44
Essay_Fall	Pearson Correlation	.360*	.421**	1	.390**	.424**	.153	.318*	.419*	.205	.402**	.265
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.309	.039	.011	.199	.009	.094
	N	641	641	641	627	619	46	43	36	41	41	41
SAT_V_Fall	Pearson Correlation	.701**	.639**	.390**	1	.748**	.607**	.629**	.254*	.759**	.555**	.203
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.027	.000	.000	.087
	N	646	646	627	627	627	96	87	76	72	72	72
SAT_W_Fall	Pearson Correlation	.557**	.624**	.424**	.748**	1	.541**	.500**	.159	.555**	.548**	.359**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.181	.000	.000	.003
	N	639	639	619	619	619	88	81	72	86	86	86
RC_Spring	Pearson Correlation	.792**	.594**	.153	.607**	.541**	1	.659**	.302*	.869**	.591**	.395**
	Sig. (2-tailed)	.000	.000	.309	.000	.000	.000	.000	.000	.000	.000	.000
	N	62	62	46	96	88	129	109	99	87	87	87
SS_Spring	Pearson Correlation	.694**	.737**	.318*	.628**	.500**	.659**	1	.480**	.639**	.688**	.339**
	Sig. (2-tailed)	.000	.000	.039	.000	.000	.000	.000	.000	.000	.000	.002
	N	47	47	43	87	81	109	116	93	83	83	83
ESSAY_Spring	Pearson Correlation	.303	.271	.419*	.254*	.159	.392**	.480**	1	.408**	.378**	.342**
	Sig. (2-tailed)	.054	.086	.011	.027	.181	.000	.000	.000	.001	.001	.002
	N	41	41	36	76	72	99	93	107	79	79	79
Reading Comprehension	Pearson Correlation	.821**	.695**	.205	.759**	.555**	.659**	.639**	.408**	1	.631**	.213*
	Sig. (2-tailed)	.000	.000	.199	.000	.000	.000	.000	.000	.000	.000	.037
	N	44	44	41	72	66	87	83	78	97	97	97
Sentence Skills	Pearson Correlation	.783**	.591**	.402**	.555**	.548**	.591**	.688**	.378**	.631**	1	.365**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000
	N	44	44	41	72	66	87	83	78	97	97	97
Default WritePlacer Test	Pearson Correlation	.272	.334**	.265	.203	.359**	.395**	.342**	.342**	.213*	.365**	1
	Sig. (2-tailed)	.074	.027	.094	.087	.003	.000	.002	.002	.037	.000	.000
	N	44	44	41	72	66	87	83	78	97	97	97

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).



- Effort to build an independent (predictor) / dependent (outcome) variable model.
- Historical Relationships: NJBSPT and SAT Verbal
- Innovative Relationships: SAT-V, SAT-W, Accuplacer (Reading Comprehension, Sentence Skills, WritePlacer)
- Preliminary Placement: April 1, 2008
- Analysis: Until approximately 50% of students placed for fall 2008 entering class
- Placement Finalized and Released to Students: End of June 2008
- Further Study and Refinement: Fall 2008

Regression

Variables Entered/Removed ^b			
Model	Variables Entered	Variables Removed	Method
1	Sentence Skills, Reading Comprehension	.	Enter

a. All requested variables entered.
b. Dependent Variable: DefaultWritePlacer Test



Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.386 ^a	.148	.118	1.807

a. Predictors: (Constant), Sentence Skills, Reading Comprehension

ANOVA ^b								
Model	Regression	Residual	Total	Sum of Squares	df	Mean Square	F	Sig.
1	1	94	95	47.634	2	23.767	7.277	.001 ^a
		94	96	307.023	94	3.266		
				354.557	96			

a. Predictors: (Constant), Sentence Skills, Reading Comprehension
b. Dependent Variable: DefaultWritePlacer Test

Accuplacer Validation Team

- John Coakley
- Jerry Paris
- Chuck Brooks
- Elena Alexander
- Theresa Hunt
- Jonathan Curley
- Mike Tress
- Perry Deess
- Oleksandr (Alex) Rudniy
- Margo Gilchrist
- Sharon Morgan

The Spring 2008 Field Test: Participants

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
NJBSPT RC_Spring	129	39	0	39	24.22	8.047
NJBSPT SS_Spring	116	28	7	35	26.22	5.831
NJBSPT ESSAY_Spring	107	8	2	10	6.21	1.653
Accuplacer Reading Comprehension	97	90	27	117	77.20	21.816
Accuplacer Sentence Skills	97	91	29	120	86.57	19.107
Accuplacer Default WritePlacer Test	97	11	0	11	6.74	1.922

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
NJBSPT Spring AND Accuplacer	95	12.8%	649	87.2%	744	100.0%

- Note that 95 students took the NJBSPT and the Accuplacer.
- Background information not available for all students
 - SAT-V for 69 students in the Spring 08 Field Test
 - SAT-W for 66 students

The Spring 2008 Field Test: Ability

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
NJBSPT RC_Spring	129	39	0	39	24.22	8.047
NJBSPT SS_Spring	116	28	7	35	26.22	5.831
NJBSPT ESSAY_Spring	107	8	2	10	6.21	1.653
Accuplacer Reading Comprehension	97	90	27	117	77.20	21.816
Accuplacer Sentence Skills	97	91	29	120	86.57	19.107
Accuplacer Default WritePlacer Test	97	11	0	11	6.74	1.922

- Indicative of Basic Skills
 - NJBSPT RC: 27 or below in Basic Writing
 - NJBSPT SS: 26 or below in Basic Writing
 - NJBSPT Essay: 6 or below in Basic Writing
- Indicative of Basic Skills and Lower Level Traditional Writing
 - Accuplacer Reading Comprehension: About 80 in Traditional Writing
 - Accuplacer Sentence Skills Comprehension: About 86 in Traditional Writing
 - Accuplacer Write Placer: 7 or above in Traditional Writing
- SAT-Verbal for 56 of the students who took the Acuplacer test: 479.64 ($SD = 90.45$). (Average SAT-Verbal Score in fall of 2007 = 536)

Correlations: NJBSPT, Accuplacer, SAT-V, and SAT-W

A series of promising relationships:

- Accuplacer Read Comp with NJBSPT RC: $.669, p = .01$
- Accuplacer Sentence Skills with NJBSPT RS: $.688, p = .01$
- Accuplacer WritePlacer with NJBSPT Essay: $.342, p = .01$
- Accuplacer Read Comp with fall SAT-V: $.759, p = .01$
- Accuplacer Sentence Skills with fall SAT-V: $.555, p = .01$
- Accuplacer Read Comp with fall SAT-W: $.555, p = .01$
- Accuplacer Sentence Skills with fall SAT-W: $.546, p = .01$

Correlations

		RC_Fall	SS_Fall	Essay_Fall	SAT_V_Fall	SAT_W_Fall	RC_Spring	SS_Spring	ESSAY_Spring	Reading Comprehension	Sentence Skills	Default WritePlacer Test
RC_Fall	Pearson Correlation	1	.687**	.386*	.701**	.557**	.792**	.894**	.303	.821**	.703**	.272
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.054	.000	.000	.074
	N	660	660	641	646	638	52	47	41	44	44	44
SS_Fall	Pearson Correlation	.687**	1	.421**	.638**	.624**	.584**	.737**	.271	.695**	.591**	.334*
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.086	.000	.000	.027
	N	660	660	641	646	638	52	47	41	44	44	44
Essay_Fall	Pearson Correlation	.386*	.421**	1	.396**	.424**	.153	.316*	.419*	.205	.402**	.265
	Sig. (2-tailed)	.000	.000		.000	.000	.309	.039	.011	.199	.009	.084
	N	641	641	641	627	619	46	43	36	41	41	41
SAT_V_Fall	Pearson Correlation	.701**	.638**	.389**	1	.746**	.697**	.628**	.254*	.759**	.555**	.203
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.027	.000	.000	.087
	N	646	646	627	695	679	96	87	76	72	72	72
SAT_W_Fall	Pearson Correlation	.557**	.624**	.424**	.746**	1	.541**	.500**	.159	.555**	.546**	.359**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.181	.000	.000	.003
	N	638	638	619	679	679	88	81	72	66	66	66
RC_Spring	Pearson Correlation	.792**	.594**	.153	.697**	.541**	1	.659**	.382**	.889**	.595**	.365**
	Sig. (2-tailed)	.000	.000	.309	.000	.000		.000	.000	.000	.000	.000
	N	52	52	46	96	88	129	109	99	87	87	87
SS_Spring	Pearson Correlation	.894**	.737**	.316*	.628**	.500**	.659**	1	.480**	.839**	.688**	.235**
	Sig. (2-tailed)	.000	.000	.039	.000	.000	.000		.000	.000	.000	.002
	N	47	47	43	87	81	109	116	93	83	83	83
ESSAY_Spring	Pearson Correlation	.303	.271	.419*	.254*	.159	.382**	.480**	1	.408*	.378**	.342**
	Sig. (2-tailed)	.054	.086	.011	.027	.181	.000	.000		.000	.001	.002
	N	41	41	36	76	72	99	93	107	78	78	78
Reading Comprehension	Pearson Correlation	.821**	.695**	.205	.759**	.555**	.669**	.639**	.408*	1	.631**	.213*
	Sig. (2-tailed)	.000	.000	.199	.000	.000	.000	.000	.000		.000	.037
	N	44	44	41	72	66	87	83	78	97	97	97
Sentence Skills	Pearson Correlation	.703**	.591**	.402**	.555**	.546**	.595**	.688**	.378**	.631**	1	.365**
	Sig. (2-tailed)	.000	.000	.009	.000	.000	.000	.000	.001	.000	.000	.000
	N	44	44	41	72	66	87	83	78	97	97	97
Default WritePlacer Test	Pearson Correlation	.272	.334*	.265	.203	.359**	.395**	.335**	.342**	.213*	.365**	1
	Sig. (2-tailed)	.074	.027	.094	.087	.003	.000	.002	.002	.037	.000	.000
	N	44	44	41	72	66	87	83	78	97	97	97

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

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

Regression Model: Accuplacer (Predictor) and Mid-Term Grade (Outcome)

- An unsuccessful model
 - Very low mid-term grade:
 $M = 2.35$ ($SD = .885$)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.168 ^a	.028	-.004	.887

a. Predictors: (Constant), Default WritePlacer Test, Reading Comprehension, Sentence Skills

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.042	3	.681	.865	.462 ^a
	Residual	70.040	89	.787		
	Total	72.082	92			

a. Predictors: (Constant), Default WritePlacer Test, Reading Comprehension, Sentence Skills

b. Dependent Variable: Midterm Grade Number

Regression Model: NJBSPT (Predictor) and Mid-Term Grade (Outcome)

- An equally unsuccessful model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.269 ^a	.072	.039	1.013

a. Predictors: (Constant), ESSAY_Spring, RC_Spring, SS_Spring

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.714	3	2.238	2.182	.096 ^a
	Residual	86.163	84	1.026		
	Total	92.877	87			

a. Predictors: (Constant), ESSAY_Spring, RC_Spring, SS_Spring

b. Dependent Variable: Midterm Grade Number

Regression Models: Accuplacer Reading Comprehension and Sentence Sense (Predictor Variables) and WritePlacer (Outcome Variable)

- An successful model:
 - $R^2 = .134, p = .01$

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.366 ^a	.134	.116	1.807

a. Predictors: (Constant), Sentence Skills, Reading Comprehension

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.534	2	23.767	7.277	.001 ^a
	Residual	307.023	94	3.266		
	Total	354.557	96			

a. Predictors: (Constant), Sentence Skills, Reading Comprehension

b. Dependent Variable: Default WritePlacer Test

Regression Models: NJBSPT Reading Comprehension and Sentence Sense (Predictor Variables) and Essay (Outcome Variable)

- An even more successful model:
 - $R^2 = .251, p = .01$

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.501 ^a	.251	.233	1.416

a. Predictors: (Constant), SS_Spring, RC_Spring

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	57.085	2	28.543	14.229	.000 ^a
	Residual	170.505	85	2.006		
	Total	227.591	87			

a. Predictors: (Constant), SS_Spring, RC_Spring

b. Dependent Variable: ESSAY_Spring

A Potential Model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.379 ^a	.144	.088	1.755

a. Predictors: (Constant), Sentence Skills, SAT W_Fall, Reading Comprehension, SAT V_Fall

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.565	4	7.891	2.562	.047 ^a
	Residual	187.890	61	3.080		
	Total	219.455	65			

a. Predictors: (Constant), Sentence Skills, SAT W_Fall, Reading Comprehension, SAT V_Fall

b. Dependent Variable: Default WritePlacer Test

- SAT-V, SAT-W, Accuplacer Reading Comprehension, Accuplacer Sentence Skills (Predictor Variables) and WritePlacer Essay (Outcome Variable)

Equipercentile Equating: Concept

- “To equate scores on the new form to scores on the reference form in a group of test-takers, transform each score on the new form to the score on the reference form that has the same percentile rank in that group.” Skip Livingston, Equating Test Scores (Princeton: ETS, 2004)

Equipercntile Equating at NJIT: Patterns

- Fall 2005 Students in Basic Composition (HUM 099), Traditional Composition (HUM 101), and Honors (HUM 101H) = 809
 - 388 students (41.77%) in HUM 099
 - 397 students (40.07%) in HUM 101
 - 74 students (9.14%) in HUM 101H
- Fall 2006 Students in Basic Composition (HUM 099), Traditional Composition (HUM 101), and Honors (HUM 101H) = 895
 - 399 students (48.58%) in HUM 099
 - 415 students (46.37%) in HUM 101
 - 81 students (9.05%) in HUM 101H
- Fall 2007 Students in Basic Composition (HUM 099), Traditional Composition (HUM 101), and Honors (HUM 101H) = 854
 - 314 students (36.76%) in HUM 099
 - 452 students (52.92%) in HUM 101
 - 88 students (10.3%) in HUM 101H

Equipercntile Equating at NJIT: Judgment

- Fall 2007 Students in Basic Composition (HUM 099), Traditional Composition (HUM 101), and Honors (HUM 101H) = 854
 - 314 students (36.76%) in HUM 099
 - 452 students (52.92) in HUM 101
 - 88 students (10.3%) in HUM 101H
- Why use fall 2007?
 - The most current
 - The smallest number of students in basic composition
 - The greatest number of students in traditional composition
 - The greatest number of students in honors composition

Accuplacer Placement Score: Reading Comprehension

Reading Comprehension

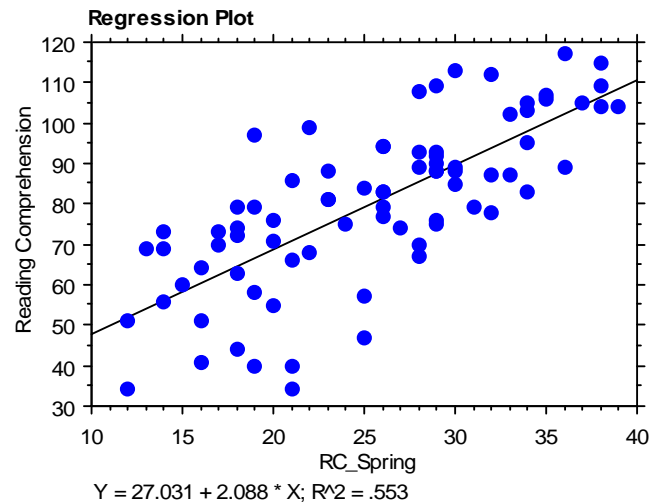
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	27	.3	2.1	2.1
	34	.4	3.1	5.2
	40	.3	2.1	7.2
	41	.3	2.1	9.3
	44	.1	1.0	10.3
	46	.1	1.0	11.3
	47	.1	1.0	12.4
	48	.1	1.0	13.4
	51	.3	2.1	15.5
	53	.1	1.0	16.5
	55	.1	1.0	17.5
	57	.1	1.0	18.6
	58	.1	1.0	19.6
	59	.1	1.0	20.6
	60	.1	1.0	21.6
	62	.3	2.1	23.7
	63	.1	1.0	24.7
	64	.3	2.1	26.8
	66	.1	1.0	27.8
	67	.1	1.0	28.9
	68	.1	1.0	29.9
	69	.3	2.1	32.0
	70	.3	2.1	34.0
	71	.1	1.0	35.1
	72	.1	1.0	36.1
	73	.3	2.1	38.1
	74	.3	2.1	40.2
	75	.3	2.1	42.3
	76	.3	2.1	44.4
	77	.1	1.0	45.4
	78	.1	1.0	47.4
	79	.4	4.1	51.5
	81	.3	2.1	53.6
	82	.3	2.1	55.7
	83	.3	2.1	57.8
	84	.1	1.0	58.8
	85	.3	2.1	60.9
	86	.3	2.1	63.0
	87	.3	2.1	65.0
	88	.4	4.1	70.1
	89	.4	3.1	73.2
	90	.1	1.0	74.2
	91	.1	1.0	75.3
	92	.1	1.0	76.3
	93	.3	2.1	78.4
	94	.3	2.1	80.4
	95	.1	1.0	81.4
	97	.1	1.0	82.5
	99	.1	1.0	83.5
	102	.1	1.0	84.5
	103	.1	1.0	85.6
	104	.3	2.1	87.6
	105	.3	2.1	89.7
	106	.1	1.0	90.7
	107	.1	1.0	91.8
	108	.1	1.0	92.8
	109	.3	2.1	94.8
	112	.1	1.0	95.9
	113	.3	2.1	97.9
	115	.1	1.0	99.0
	117	.1	1.0	100.0
Missing	Total	57	100.0	
	Spoken	647		
Total		744	100.0	

- To place 36% to 37% of the students in basic composition (HUM 099), then placement score = **72 or below**
- To place 10 % to 11% of the students in honors composition (HUM 101H), then placement score = **105 or above**
- (Note that Accuplacer Guide identifies a score of 51 for basic writers, yet the students in the spring 08 field test performed at higher levels ($M = 77.2$, $SD = 21.81$))
- (Note that the Accuplacer Guide identifies a score of 103 for honors students, a score similar to ours.)

Accuplacer Reading Comprehension Correlation Analysis With NJBSPT (outliers removed): Cross Check

Regression Summary
Reading Comprehension vs. RC_Spring

Count	80
Num. Missing	664
R	.743
R Squared	.553
Adjusted R Squared	.547
RMS Residual	13.568



- Placement in Basic Composition: HUM 099
 - $Y = 27.031 + 2.088 * 27$
 - $Y = 83.41$
 - NJBSPT of 27 = Accuplacer 83 (would place 59% of students in HUM 099)
 - ✓ Equipercetile Rating = **72 or below** (to place 36% of students in HUM 099)
- Placement in Advanced Composition: HUM 101H
 - $Y = 27.031 + 2.088 * 31$
 - $Y = 91.76$
 - NJBSPT of 31 = Accuplacer 92 (would place 23.7 % of students in HUM 101H)
 - ✓ Equipercetile Rating = **105 or above** (to place 10% of students in HUM 101H)

Accuplacer Placement Score: Sentence Skills

Sentence Skills

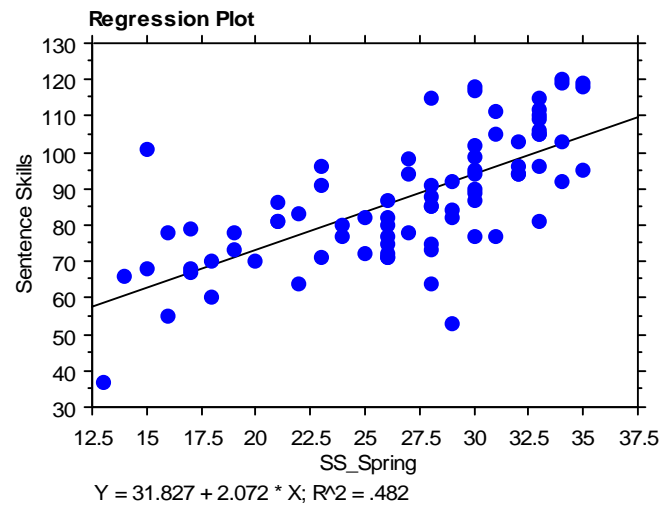
	Frequency	Percent	Valid Percent	Cumulative Percent
valid 29	1	.1	1.0	1.0
37	1	.1	1.0	2.1
43	1	.1	1.0	3.1
46	1	.1	1.0	4.1
53	1	.1	1.0	5.2
55	1	.1	1.0	6.2
57	1	.1	1.0	7.2
60	1	.1	1.0	8.2
64	2	.3	2.1	10.3
66	1	.1	1.0	11.3
67	1	.1	1.0	12.4
68	2	.3	2.1	14.4
70	2	.3	2.1	16.5
71	3	.4	3.1	19.6
72	2	.3	2.1	21.6
73	2	.3	2.1	23.7
75	2	.3	2.1	25.8
77	4	.5	4.1	29.9
78	3	.4	3.1	33.0
79	1	.1	1.0	34.0
80	2	.3	2.1	36.1
81	3	.4	3.1	39.2
82	4	.5	4.1	43.3
83	1	.1	1.0	44.3
84	1	.1	1.0	45.4
85	2	.3	2.1	47.4
86	3	.4	3.1	50.5
87	2	.3	2.1	52.6
88	3	.4	3.1	55.7
89	1	.1	1.0	56.7
90	1	.1	1.0	57.7
91	2	.3	2.1	59.8
92	2	.3	2.1	61.9
94	5	.7	5.2	67.0
95	3	.4	3.1	70.1
96	3	.4	3.1	73.2
98	2	.3	2.1	75.3
99	1	.1	1.0	76.3
101	1	.1	1.0	77.3
102	1	.1	1.0	78.4
103	2	.3	2.1	80.4
105	3	.4	3.1	83.5
106	1	.1	1.0	84.5
109	1	.1	1.0	85.6
110	2	.3	2.1	87.6
111	1	.1	1.0	88.7
112	1	.1	1.0	89.7
115	2	.3	2.1	91.8
116	1	.1	1.0	92.8
117	1	.1	1.0	93.8
118	2	.3	2.1	95.9
119	2	.3	2.1	97.9
120	2	.3	2.1	100.0
Total	97	100.0	100.0	
Missing System	647			
Total	744			

- To place 36% to 37% of the students in basic composition (HUM 099), then placement score = **80 or below**
- To place 10% to 11% of the students in honors composition (HUM 101H), then placement score = **112 or above**
- (Note that Accuplacer Guide identifies a score of 53 for basic writers, yet the students in the spring 08 field test performed at higher levels ($M = 87.36$, $SD = 18.36$)
- (Note that the Accuplacer Guide identifies a score of 110 for honors students, a score similar to ours.)

Accuplacer Sentence Skills Correlation Analysis With NJBSPT (outliers removed): Cross Check

Regression Summary
Sentence Skills vs. SS_Spring

Count	82
Num. Missing	662
R	.694
R Squared	.482
Adjusted R Squared	.475
RMS Residual	12.589



- Placement in Basic Composition: HUM 099
 - $Y=31.827+2.072*25$
 - $Y=83.67$
 - NJBSPT of 25 = Accuplacer 83 (would place 44% of students in HUM 099)
 - ✓ Equipercetile Rating = **80 or below** (to place 36% of students in HUM 099)
- Placement in Advanced Composition: HUM 101H
 - $Y=31.827+2.072*30$
 - $Y=93.99$
 - NJBSPT of 30 = Accuplacer 94 (would place 33% of students in HUM 101H)
 - ✓ Equipercetile Rating = **112 or above** (to place 10% of students in HUM 101H)

WritePlacer (Accuplacer) Placement Score: Essay

- To place 36% to 37% (up to 42%) of the students in basic composition (HUM 099), then placement score = **6 or below**
- To place 10% to 11% (as low as 5%) of the students in honors composition (HUM 101H), then placement score = **9 or above**
- (Note that Accuplacer Guide identifies a score of 6 as a limited writing sample)
- (Note that the Accuplacer Guide identifies a score of 9 as a very good writing sample.)

Statistics		
Default WritePlacer Test		
N	Valid	97
	Missing	647
Mean		6.74
Std. Deviation		1.922
Range		11
Minimum		0
Maximum		11
Percentiles		
	10	4.00
	20	6.00
	25	6.00
	30	6.00
	37	6.00
	40	6.00
	50	7.00
	53	7.00
	60	7.00
	70	7.60
	75	8.00
	80	8.00
	81	8.00
	90	9.00

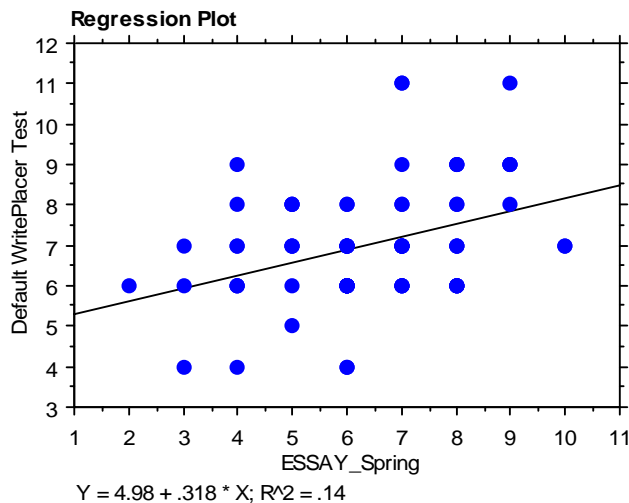
WritePlacer Plus Score Descriptors

Score	Description
2	This writing sample shows little evidence of mastery of organization, development, focus, sentence structure, usage, and conventions.
3	This writing sample is largely unsuccessful at communicating a main idea or point of view, and there is little evidence of an organizational structure. Ideas lack focus and development, and there are many errors in mechanical conventions of usage, sentence structure, grammar, spelling, and punctuation.
4	This writing sample addresses the topic with little success. There is often no clear statement of a main idea or point of view, and there is confusion found in the writer's efforts in presenting supporting detail. Any organization that is present fails to present an effective sequence of ideas. There are many errors in mechanical conventions of usage, sentence structure, grammar, spelling, and punctuation.
5	This writing sample addresses the topic with limited success. There is some evidence of a main idea or point of view, but there is difficulty in articulation. An attempt at organization is made with limited success. There are significant errors in mechanical conventions of usage, sentence structure, grammar, spelling, and punctuation.
6	This is a limited writing sample in which the characteristics of effective written communication are only partially formed. The statement of purpose is not totally clear, and although a main idea or point of view may be stated, continued focus on the main idea is not evident. Development of ideas by the use of specific supporting detail and sequencing of ideas may be present but is incomplete or unclear. The response may exhibit distracting errors or poor precision in the use of grammatical conventions, including poor sentence structure, poor word choice, poor usage, poor spelling, and poor punctuation.
7	This is a restricted writing sample that only partially communicates a message to the specified audience. The purpose may be evident, but it is only partially formed. Focus on the main idea is only partially evident. The main idea is only partially developed, with limited supporting details. While there is some evidence of control in the use of mechanical conventions such as sentence structure, usage, spelling, and punctuation, some distracting errors may be present.
8	This is an adequate writing sample that competently communicates a message to a specified audience. Though the purpose of the writing sample may be clear, the development of supporting details may not be fully realized. The writer's organization of ideas is evident but may lack specificity, be incomplete, or not developed in effective sequence. There is evidence of control in the use of mechanical conventions such as sentence structure, usage, spelling, and punctuation, though minor errors in the use of conventions may be present.
9	This is a very good writing sample that substantially communicates a whole message to a specified audience. A purpose and focus are established but are only partially developed. An organizational pattern is evident but is only partially fulfilled. The writer competently handles mechanical conventions such as sentence structure, usage, spelling, and punctuation, though very minor errors in the use of conventions may be present.
10	This is a strong writing sample that effectively communicates a whole message to a specified audience. The writer establishes a purpose and maintains focus throughout the writing sample. The writer exhibits strong control in the development of ideas and clearly specifies the supporting details. There is evidence of mastery of mechanical conventions such as sentence structure, usage, spelling, and punctuation.
11	This is an excellent writing sample that is very effective at communicating a whole message to a specified audience. The writer establishes a clear purpose, and a focus is effectively maintained throughout the writing sample. Ideas are well developed and well supported. The writer clearly demonstrates mastery of sentence structure, usage, spelling, and punctuation.
12	This is an outstanding writing sample that is very effective at communicating a whole message to a specified audience. The response is well organized and maintains a clear central focus with a clearly stated purpose. The writer exhibits superior control in the development and support of ideas. The writer demonstrates superior facility with mechanical conventions such as sentence structure, usage, spelling, and punctuation.

WritePlacer (Accuplacer) Essay Correlation Analysis With NJBSPT (outliers removed): Cross Check

Regression Summary
Default WritePlacer Test vs. ESSAY_Spring

Count	75
Num. Missing	669
R	.375
R Squared	.140
Adjusted R Squared	.129
RMS Residual	1.355



- Placement in Basic Composition: HUM 099
 - $Y=4.98+.318*6$
 - $Y=6.888$
 - NJBSPT of 6= Writeplacer 7 (would place 70% of students in HUM 099)
 - ✓ Equipercentile Rating = **6 or below** (to place 36% to 37% [up to 42%] of students in HUM 099)
- Placement in Advanced Composition: HUM 101H
 - $Y=4.98+.318*9$
 - $Y=7.84$
 - NJBSPT of 9= Writeplacer 8 (would place 13% of students in HUM 101H)
 - ✓ Equipercentile Rating = **9 or above** (to place 10% [as low as 5%] of students in HUM 101H)

Placement Score: SAT-V

SAT_V_R11

		frequency	Percent	Valid Percent	Cumulative Percent
valid	300	1	.1	.1	.1
	320	1	.1	.1	.3
	340	2	.3	.3	.6
	360	1	.1	.1	.7
	360	1	.1	.1	.9
	370	2	.3	.3	1.2
	380	7	.9	1.0	2.2
	390	8	1.1	1.2	3.3
	400	7	.9	1.0	4.3
	410	9	1.2	1.3	5.6
	420	14	1.9	2.0	7.6
	430	20	2.7	2.9	10.5
	440	31	4.2	4.5	15.0
	450	24	3.2	3.5	18.4
	460	34	4.6	4.9	23.3
	470	18	2.4	2.6	25.9
	480	27	3.6	3.9	29.8
	490	29	3.9	4.2	34.0
	500	30	4.0	4.3	38.3
	510	33	4.4	4.7	43.0
	520	40	5.4	5.6	48.6
	530	36	4.8	5.2	54.0
	540	40	5.4	5.8	59.7
	550	21	2.8	3.0	62.7
	560	32	4.3	4.6	67.3
	570	32	4.3	4.6	71.9
	580	20	2.7	2.9	74.8
	590	12	1.6	1.7	76.5
	600	20	2.7	2.9	79.4
	610	27	3.6	3.9	83.3
	620	11	1.5	1.6	84.9
	630	21	2.8	3.0	87.9
	640	12	1.6	1.7	89.6
	650	15	2.0	2.2	91.8
	660	9	1.2	1.3	93.1
	670	4	.5	.5	93.7
	680	12	1.6	1.7	95.4
	690	7	.9	1.0	96.4
	700	3	.4	.4	96.8
	710	5	.7	.7	97.5
	720	3	.4	.4	98.0
	730	5	.7	.7	98.7
	740	3	.4	.4	99.1
	750	4	.5	.5	99.7
	770	1	.1	.1	99.9
	800	1	.1	.1	100.0
	Total	695	93.4	100.0	
Missing	0	49	6.6		
	Total	744	100.0		

- To place 36% to 37% of the students in basic composition (HUM 099), then placement score = **500 or below**
- To place 10% to 11% of the students in honors composition (HUM 101H), then placement score = **640 or above**
- (Note that the present placement guidelines identify a SAT-V score of 500 for basic writers.)
- (Note that the present placement guidelines identify a SAT-V score of 610 for basic writers, yet that guide dates from 1997.)

Placement Score: SAT-W

SATW_Fall

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 280	1	.1	.1	.1
320	2	.3	.3	.4
340	1	.1	.1	.6
350	6	.5	.5	1.2
360	3	.4	.4	1.6
370	2	.3	.3	1.9
380	13	1.7	1.9	3.8
390	4	.5	.5	4.4
400	9	1.2	1.3	5.7
410	11	1.5	1.6	7.4
420	20	2.7	2.9	10.3
430	14	1.9	2.1	12.4
440	27	3.6	4.0	16.3
450	22	3.0	3.2	19.6
460	28	3.8	4.1	23.7
470	29	3.9	4.3	28.0
480	32	4.3	4.7	32.7
490	30	4.0	4.4	37.1
500	42	5.6	6.2	43.3
510	36	4.8	5.3	48.6
520	30	4.0	4.4	53.0
530	34	4.5	5.0	58.0
540	38	5.1	5.6	63.6
550	29	3.9	4.3	67.9
560	29	3.9	4.3	72.2
570	24	3.2	3.5	75.7
580	15	2.0	2.2	77.9
590	17	2.3	2.5	80.4
600	15	2.0	2.2	82.6
610	20	2.7	2.9	85.5
620	5	.7	.7	86.3
630	13	1.7	1.9	88.2
640	12	1.6	1.8	90.0
650	11	1.5	1.6	91.6
660	15	2.0	2.2	93.8
670	4	.5	.5	94.4
680	10	1.3	1.5	95.9
690	5	.7	.7	96.6
700	7	.9	1.0	97.6
710	3	.4	.4	98.1
720	3	.4	.4	98.5
730	3	.4	.4	99.0
740	2	.3	.3	99.3
770	3	.4	.4	99.7
800	2	.3	.3	100.0
Total	679	91.3	100.0	
Missing System	65	8.7		
Total	744	100.0		

- To place 36% to 37% of the students in basic composition (HUM 099), then placement score = **490 or below**
- To place 10% to 11% of the students in honors composition (HUM 101H), then placement score = **640 or above**

Placement Score: SAT-W

Correlations

		SAT W_Fall
RC_Fall	Pearson Correlation	.557(**)
	Sig. (2-tailed)	.000
	N	638
SS_Fall	Pearson Correlation	.624(**)
	Sig. (2-tailed)	.000
	N	638
Essay_Fall	Pearson Correlation	.424(**)
	Sig. (2-tailed)	.000
	N	619
SAT V_Fall	Pearson Correlation	.746(**)
	Sig. (2-tailed)	.000
	N	679
SAT W_Fall	Pearson Correlation	1
	Sig. (2-tailed)	
	N	679
RC_Spring	Pearson Correlation	.541(**)
	Sig. (2-tailed)	.000
	N	88
SS_Spring	Pearson Correlation	.500(**)
	Sig. (2-tailed)	.000
	N	81
ESSAY_Spring	Pearson Correlation	.159
	Sig. (2-tailed)	.181
	N	72
Reading Comprehension	Pearson Correlation	.555(**)
	Sig. (2-tailed)	.000
	N	66
Sentence Skills	Pearson Correlation	.546(**)
	Sig. (2-tailed)	.000
	N	66
Default Write Placer Test	Pearson Correlation	.359(**)
	Sig. (2-tailed)	.003
	N	66

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

- Although a new measure, the correlations with other measures—especially with limited response measures—are promising.

Concerns and Resolutions

- Test Validation Issues
 - College Board has not provided item difficulty analysis or item bias analysis
 - Problem with validating test itself
 - Potential problem if test challenged by legal means
 - Time constraints to take test at NJIT
- Consequential Validity Issues
 - Alignment of composition curriculum with aims of Accuplacer test in reading comprehension and sentence skills
 - Providing placement information to students and warranting placement decisions for them
 - Continuing monitoring and analysis during fall 2008 semester
- Test Validation Issues
 - Continue to press CB and IntelliMetric for fundamental assurances of test integrity
 - Allow students CB suggested time at local high schools
- Consequential Validity Issues
 - Refresh composition curriculum, including new HUM 099 (one semester of basic writing) and new HUM 102 (researched writing)
 - Revitalize web site, perhaps with digital presentation of how placement scores are set
 - Attach full cost to remaining analyses and reporting
 - Plan to take national leadership role in placement test validation

In Process and Next Steps

- In Process
 - Expert Review
 - Cross-checking information and further archival review
 - Investigation for need (if any) of weights for predictor variables that, taken together, will result in placement score
 - Investigation for reduction (if warranted) of predictor variables
- Next Steps
 - Use final grades of all spring 2008 field test students to investigate regression model.
 - Accumulate new data on approx. 427 students
 - Test placement model—Accuplacer Reading Comprehension, Sentence Skills, WritePlacer, SAT-V, and SAT-W—against actual scores and student background information
 - Validate placement decisions end of June 2008 and release placement decisions to students
 - Use final grades in HUM composition courses in fall 2008 to investigate model.
 - Simplify model (if possible) by reducing predictor variables to employ only the most robust variables
 - Provide exemption for honors students according to best practices

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