

## The relationship of TOEFL scores to first-term GPA among new UCB international freshmen and transfers, summer 2011 through spring 2013

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June 2013

### Summary

- Overall, TOEFL scores were essentially unrelated to first-term GPA among all new international freshmen and transfers entering UCB since summer 2011.
- Taking a writing course in the first term was also unrelated to GPA, either alone or in conjunction with TOEFL score.
- This finding does **not** argue against the requirement of a minimum TOEFL score for admission to UCB.
- Students in the top 25% of UCB TOEFL scores (94 and above) had a notably higher average GPA and lower academic probation rate than those in the bottom 75%. Possible implications are discussed below.

### Details

- We looked at all new international freshmen and transfers from summer 2011 through spring 2013, a total of 389 freshmen and 214 transfers. Of these, 239 freshmen and 131 transfers had both valid TOEFL scores and first-term GPAs.
- The TOEFL consists of four subtests: Writing, Speaking, Reading, and Listening. The Total score is the sum of the four subtest scores. Each subtest is scored 0-30, and the Total is 0-120.
- Summaries of TOEFL Total scores and 1<sup>st</sup>-term GPA are in the table below:

Level	Min TOEFL	Max TOEFL	Avg. TOEFL	Median TOEFL	Avg. GPA	Median GPA	% below 2.0
Freshman	55	118	85	85	2.6	2.8	22%
Transfer	49	116	83	80	2.7	2.9	24%
All	49	118	84	83	2.7	2.8	22%
New domestic non-residents					2.7	2.9	16%

Level	Program	N	Avg. TOEFL	Avg. GPA	% below 2.0 GPA	Domestic NR Avg. GPA	Domestic NR % below 2.0 GPA
Freshman	ARPLU	2	80	2.3	0%	2.9	13%
	ARSCU	118	84	2.6	25%	2.7	18%
	BUSNU	59	83	2.5	25%	2.8	12%
	ENGRU	60	91	2.9	12%	3.0	10%
Transfer	ARPLU	3	75	3.5	0%	2.9	13%
	ARSCU	71	79	2.7	24%	2.6	19%
	BUSNU	28	81	2.2	39%	2.7	20%
	ENGRU	29	94	2.9	10%	2.9	13%
All	ARPLU	5	77	3.0	0%	2.9	13%
	ARSCU	189	82	2.6	25%	2.7	18%
	BUSNU	87	82	2.4	30%	2.8	13%
	ENGRU	89	92	2.9	11%	3.0	10%

- We did general linear models analyses, testing whether TOEFL scores (either Total or any subtest or combination of subtests) predicted 1<sup>st</sup>-term GPA. Whether or not the student took a writing course in the first term was also tested as a predictor. (Students who took a writing course had almost identical TOEFL scores to those who did not, averaging 83 and 85 respectively.)
- Analyses were done for freshmen and transfers separately, and for all combined. Results were similar for each analysis. Unless noted all results reported below refer to all students combined.
- **TOEFL scores had little or no relationship with 1<sup>st</sup>-term GPAs. The relationships of Writing and Total scores to GPA were statistically significant, but accounted for only 2% and 1% of the variance in GPAs, respectively, and so have no practical educational significance (see figures 1 and 2 below). Whether or not the student took a writing course also had no relationship to GPA, either alone or in conjunction with the TOEFL score.**
- When the analysis was restricted to freshmen only, the Writing subtest had a statistically significant relationship to GPA, but again only accounted for a tiny proportion of variance (5%). There was no relationship among transfers between any subtest and GPA, nor between the Total score and GPA.
- Analyses were done separately for arts & sciences, business, and engineering. Again, no overall relationship was found between TOEFL scores (either Total or subscores) and 1<sup>st</sup>-term GPA. The one exception was in business, where the Speaking score met the statistical criterion for entry into the model, but again the proportion of variance accounted for was very small (7%).

- There is some evidence that TOEFL scores are slightly predictive of GPA at the top of the observed range. **Students in the top 25% of UCB TOEFL scores had noticeably higher GPAs and a lower percentage of GPAs below 2.0 (below which a student is placed on probation) than those in the bottom 75%.** However, there was little differentiation within the bottom 75%. For context, during the same terms covered in this study, the average first term GPA for new domestic non-resident students was 2.7, with 16% below 2.0. Among internationals, only those in the top 25% of TOEFL scores performed at this level.

Group	TOEFL Total Range	Avg. GPA	% below 2.0
Bottom 25%	49-75	2.6	26%
Middle 50%	76-93	2.5	26%
Top 25%	94-118	<b>2.9</b>	<b>12%</b>
All new domestic NR students	NA	2.7	16%

Group	TOEFL Writing Range	Avg. GPA	% below 2.0
Bottom 25%	10-18	2.5	28%
Middle 50%	20-22	2.6	24%
Top 25%	24-30	<b>2.9</b>	<b>15%</b>
All new domestic NR students	NA	2.7	16%

- The differences described above did not differ according to whether or not the student took a writing course in the first term. The average GPA in non-WRTG courses was the same for students who took WRTG courses as those who did not, in each TOEFL group. **However, for students in the bottom 75% of TOEFL scores, the percentage with overall GPAs below 2.0 was considerably lower for students who took a WRTG course.** This appears to be due to scores in the WRTG courses themselves, which were considerably higher than scores in other courses. **So taking a WRTG course may help students avoid academic probation, even if not related to GPA in other courses.**

TOEFL Group	Took WRTG Course			No WRTG Course	
	Avg. GPA non-WRTG	Avg. GPA WRTG	% below 2.0	Avg. GPA	% below 2.0
Bottom 25%	2.6	2.9	19%	2.6	28%
Middle 50%	2.6	2.8	21%	2.5	29%
Top 25%	2.9	3.2	14%	2.9	11%
All	2.7	2.9	19%	2.6	24%

### Conclusions/Implications

- Nothing in the results above argues against using minimum TOEFL scores as a condition of admission. The observed (lack of) relationship between TOEFL scores and GPA applies only to students who were admitted and enrolled, almost all of whom met the established minimum TOEFL requirement already in place. We don't know how students with lower scores – who were not admitted -- would have done, but presumably some minimum facility in English is required to succeed in college work.
- However, it is possible the minimum required score could be set lower than the current cutoff with no less student success, since students in the 49-75 range in our study did just as well academically in their first term as students in the 76-93 range. Alternatively, if a 25% rate of academic probation (GPA below 2.0) is deemed unacceptable, this finding could argue for a higher cutoff. Or perhaps students scoring in the bottom 75% of UCB students on the TOEFL (corresponding to a score below 94 in this study), who would seem to be at higher risk for academic difficulty, could be targeted for extra academic support to help them succeed.
- **Figure 1. Relationship of TOEFL Total score to first-term GPA.**

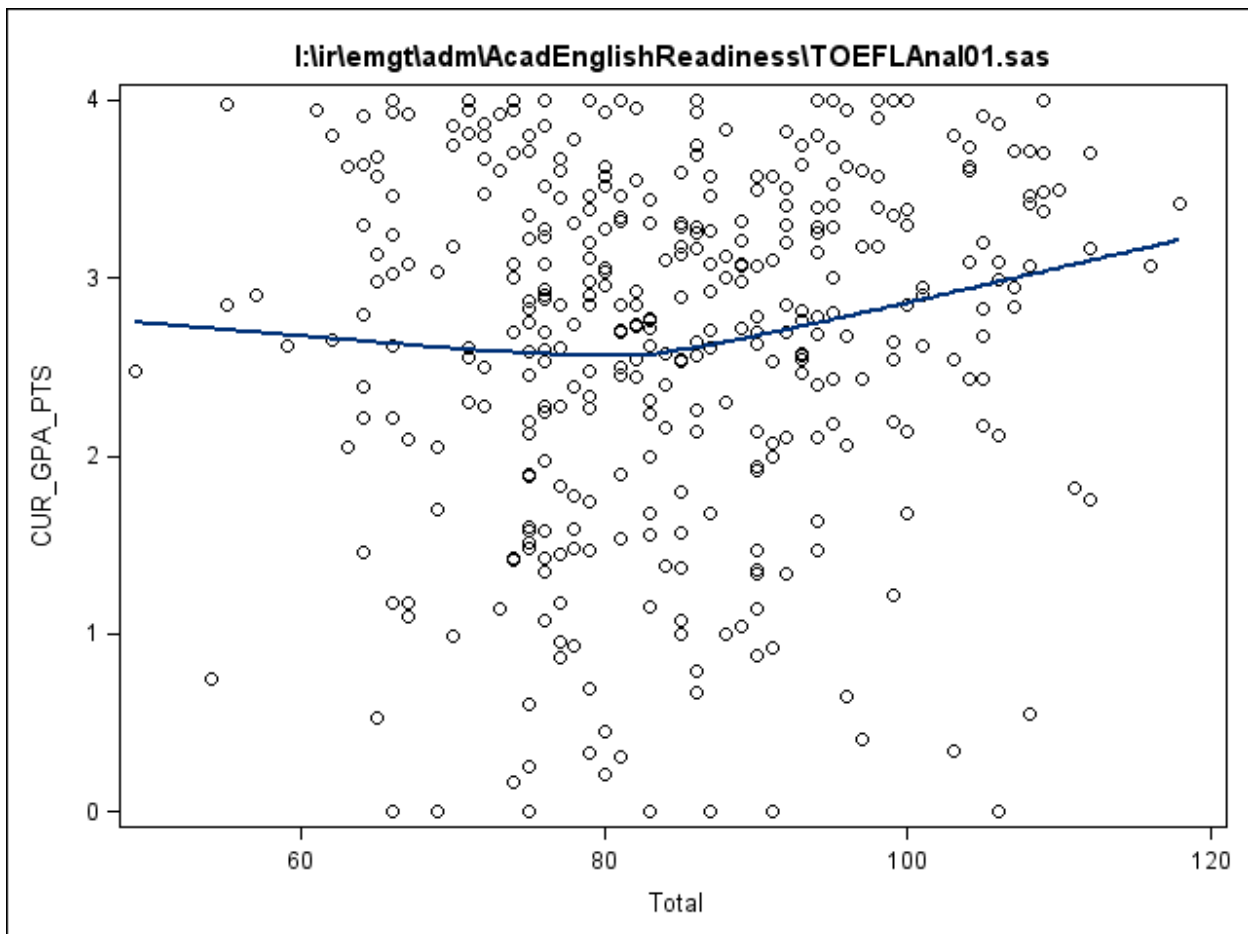


Figure 2. Relationship of TOEFL Writing score to first-term GPA

