

# Institutional Research Report

ESL COMPASS Correlation Analysis  
Fall 2002 – Winter 2003

Final Report



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Fall 2002 – Winter 2003**

*Final Report*

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**TABLE OF CONTENTS**

	Page
Executive Summary.....	2
Correlation Analysis Among All Students Who Took Both MTELP and ESL COMPASS Within a 4-Month Timeframe .....	4
Correlation Analysis Among First-Time OCC Students Who Took Both MTELP and ESL COMPASS Within a 4-Month Timeframe.....	5
Correlation Analysis Among All Students Who Took Both MTELP and ESL COMPASS.....	6
Appendix: Descriptive Statistics by Course Level.....	7

## **Executive Summary**

### **Background/Methodology**

To determine which Writing/Reading courses are most appropriate for new students, OCC administers a placement examination to entering students for whom English is not their primary language. Currently, OCC utilizes the MTELP (Michigan Test of English Language Proficiency) exam to place ESL students into one of four courses based upon their test scores – ESL 1510, ESL 1520, ESL 2510, or ESL 2520.

The ESL department at OCC is in the process of determining if the ESL COMPASS (Computerized Adaptive Placement Assessment and Support System) examination is an adequate replacement for the MTELP. Therefore, the ESL department administered the COMPASS exam and a writing sample to a group of entering and continuing students during the Fall 2002 and Winter 2003 semesters. The writing sample was used to verify that the students were indeed assigned to the correct courses. The COMPASS exam was administered to students solely for purposes of evaluating the instrument. Additionally, some students were given TOEFL (Test of English as a Foreign Language) exams.

It was determined that in order to best answer the research question, "*Is the COMPASS exam an adequate replacement for the MTELP exam*" we must determine if the MTELP and COMPASS measure the same skill sets. Therefore, it was decided that a correlation analysis between MTELP scores and COMPASS scores was an appropriate test.

Although several correlations were run, the final analysis compares all First-Time OCC students who took *both* the MTELP exam and the COMPASS exam within the same time frame (i.e., no more than four months between test dates for the COMPASS and MTELP). Correlations were also run for all students who took both exams within a four-month timeframe; however, that sample largely consisted of First-Time OCC students.

Additionally, descriptive statistics were reviewed, including mean scores by course, ranges, and standard deviations. Ancillary correlations were also run, comparing TOEFL scores to MTELP and COMPASS scores.

### **Limitations**

Some limitations of the study are as follows:

- The correlation analysis will only show that the MTELP and COMPASS ESL exams measure similar skill sets. However, it will not show which is a better predictor of success in the courses into which students are placed. While the correlation analysis provides one indication of validity, to determine the predictive validity of the two placement exams, a more accurate approach would entail two regression analyses – one with the MTELP scores and course outcomes (i.e., grades) and another with the COMPASS ESL scores and grades. After completing each of these individual analyses, the results of each regression analysis could be compared to determine

which best predicts success in the course for this particular sample. Furthermore, to verify the results, such a test should be repeated over more than one term.

- Students who did not take all three components of the COMPASS ESL exam – Grammar, Listening, and Reading – were excluded from the study. Of the original 477 students who took a COMPASS exam, 467 had scores for all three sections of the exam.
- Since most of the students in the original sample had not taken both the ESL COMPASS and MTELP exams within the same timeframe, the sample size was reduced from 467 who took the entire COMPASS exam to 116 who actually took both the MTELP and COMPASS ESL exams within four months of each other. Students for whom there was more than a four-month difference between test dates were excluded. Incidentally, the majority of the students included in the analysis (109 out of 116 students) were First-Time OCC students (i.e., no previous sessions at OCC), which is the best sample for the study.
- To obtain a true correlation between the MTELP and COMPASS scores, both tests would have had to be administered under the same conditions, with similar instructions and given the same emphasis. For example, if students were aware that the MTELP was used to actually place them into the appropriate courses, and that the COMPASS ESL was given to determine the adequacy of the test itself, students may not have exerted the same amount of effort when taking the exams. Additionally, under ideal conditions, the order in which the tests were administered would have varied, so that approximately half of the sample would have taken the MTELP first, and the other half would have taken the COMPASS first.

### Key Findings

- There is a moderate, positive correlation (0.644) between the scores on the MTELP exam and scores on the ESL COMPASS exam. This result was based upon the correlation analysis for First-Time OCC students who took both exams within a 4-month timeframe. This indicates that the MTELP and ESL COMPASS do perform similarly, but there is not an extremely strong correlation between the two exams.
- It is interesting to note that the correlations between the TOEFL and the other placement exams were higher than the MTELP-COMPASS correlation. The correlation between the TOEFL and MTELP was 0.766, and the correlation between the TOEFL and ESL COMPASS was 0.770.

**Correlation Analysis – All Students Who Took COMPASS ESL and MTELP Within a 4-Month Timeframe**

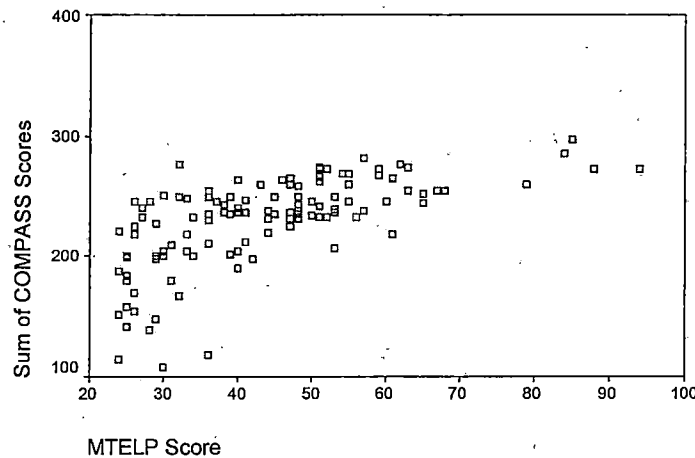
A correlation analysis was conducted among all students who took the COMPASS ESL exam and the MTELP exam during the same time frame. Correlations were run for each part of the COMPASS Exam (Grammar, Listening, and Reading), as well as the composite COMPASS score, which is the sum of the Grammar, Listening, and Reading scores. Additionally, the TOEFL exam was compared to the other tests, for informational purposes only.

	N	Correlation	Significance
MTELP compared to COMPASS ESL Grammar	119	0.565	0.000
MTELP compared to COMPASS ESL Listening	116	0.551	0.000
MTELP compared to COMPASS ESL Reading	119	0.526	0.000
MTELP compared to COMPASS ESL - Sum of all Three Scores	116	0.645	0.000
MTELP compared to TOEFL	41	0.768	0.000
Sum COMPASS ESL compared to TOEFL	40	0.777	0.000

\* Note: All of the above correlations were statistically significant at the 99% level of confidence.

- There was a moderate correlation (0.645) between the MTELP scores and the COMPASS scores.<sup>1</sup> This indicates that the two exams measure similar skill sets, but are not perfectly correlated.
- Interestingly, the TOEFL exam had a higher correlation with the MTELP (0.768) and the COMPASS (0.777).

MTELP vs. COMPASS ESL Scores  
 Both Tests Within 4-Month Timeframe



<sup>1</sup> Correlation coefficients range between 0 and 1, where 0 means that there is no linear relationship between the variables, and 1 means that there is perfect correlation between the variables. In general, variables with correlations of 0.8 or greater are considered to be highly-correlated.

## Correlation Analysis – First-Time OCC Students

There is a possibility that the test scores for continuing students could have been impacted by the fact that they have already taken an ESL course, and by the fact that they had taken an ESL placement test at OCC in the past. Therefore, a second correlation analysis was run for students who were first time students at OCC during Winter 2003, and who took both the MTELP and the ESL COMPASS exams. First-Time OCC students were defined as those with no previous session at OCC listed on the Student Information System. It was discovered that the majority of the sample that appeared in the previous correlation consisted of First-Time OCC Students. Of the 116 students included in the analysis on the previous page, 109 were First-Time OCC students.

	N	Correlation	Significance
MTELP compared to COMPASS ESL Grammar	112*	0.574	0.000
MTELP compared to COMPASS ESL Listening	109	0.547	0.000
MTELP compared to COMPASS ESL Reading	112*	0.527	0.000
MTELP compared to COMPASS ESL - Sum of All Three Scores	109	0.644	0.000
MTELP compared to TOEFL	40	0.766	0.000
Sum COMPASS ESL compared to TOEFL	39	0.770	0.000

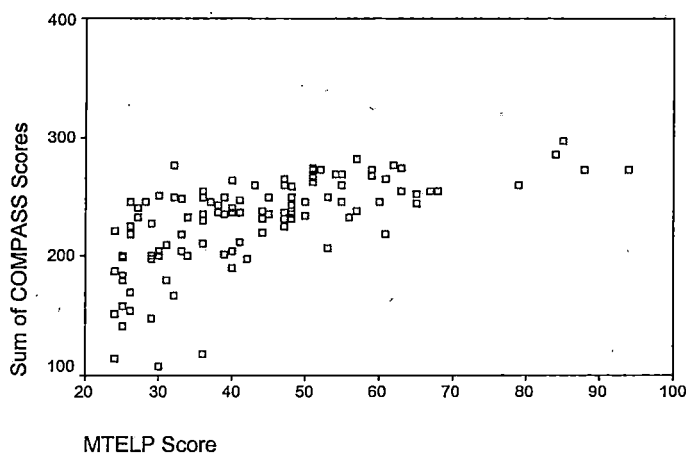
Note: All of the above correlations were statistically significant at the 99% level of confidence.

\* Three students took the COMPASS ESL Grammar and Reading tests, but did not have a score for the Listening portion. These three students appear in the correlation for individual COMPASS Grammar and Reading exams, but not in the correlation for the sum of COMPASS ESL Scores."

- Because this is nearly the same sample of students analyzed in the previous correlation, the results were very similar to those listed on the previous page.

### MTELP vs. COMPASS ESL Scores

#### First-Time OCC Students Only



**Correlation Analysis – All Students Who Took COMPASS ESL and MTELP Regardless of Timeframe**

A correlation analysis was conducted among *all* students who took the COMPASS ESL exam and the MTELP exam. The results were as follows:

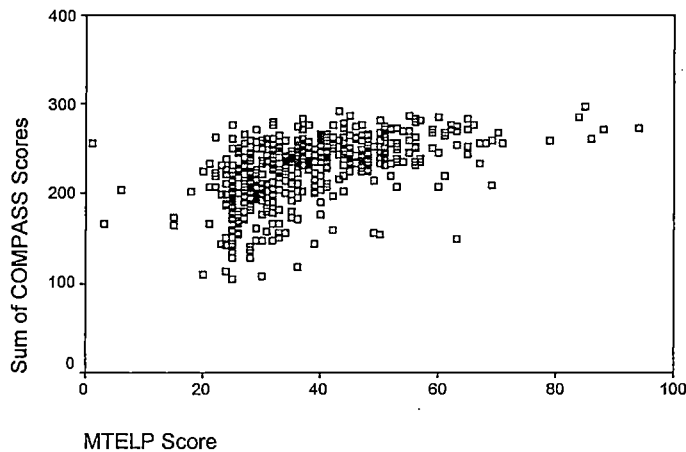
	N	Pearson Correlation	Significance
MTELP compared to COMPASS ESL Grammar	469	0.484	0.000
MTELP compared to COMPASS ESL Listening	461	0.428	0.000
MTELP compared to COMPASS ESL Reading	470	0.400	0.000
MTELP compared to COMPASS ESL - Sum of all Three Scores	460	0.516	0.000
MTELP compared to TOEFL	226	0.705	0.000
Sum COMPASS ESL compared to TOEFL	225	0.777	0.000

\* Note: All of the above correlations were statistically significant at the 99% level of confidence.

- As expected, the correlation between MTELP scores and COMPASS scores for the entire sample was lower than the correlation for the tests when the timeframes of the exams were taken into consideration.

MTELP vs. COMPASS ESL Scores

All Students In Study





**APPENDIX: Descriptive Statistics by Course Level**

**Appendix 1: Sample Sizes by Course**

Sample Sizes By Course				
Test	ESL 1510	ESL 1520	ESL 2510	ESL 2520
MTELP	40	20	28	26
TOEFL	23	8	10	8
COMPASS - SUM of Scores	38	20	28	27
COMPASS Grammar	40	21	28	27
COMPASS Listening	38	20	28	27
COMPASS Reading	40	21	28	27

**Appendix 2: Mean Scores by Course**

Mean Scores By Course				
Test	ESL 1510	ESL 1520	ESL 2510	ESL 2520
MTELP	29.2	38.5	47.4	62.9
TOEFL	399.8	452.4	486.9	527.8
COMPASS - SUM of Scores	200.0	220.4	246.8	256.7
COMPASS Grammar	63.1	70.7	77.2	82.9
COMPASS Listening	71.0	76.2	86.9	86.6
COMPASS Reading	67.0	74.5	82.8	87.2

**Appendix 3: Standard Deviations by Course**

Standard Deviations By Course				
Test	ESL 1510	ESL 1520	ESL 2510	ESL 2520
MTELP	6.3	2.4	3.6	11.3
TOEFL	53.5	22.7	41.1	24.6
COMPASS - SUM of Scores	41.8	30.8	15.2	17.3
COMPASS Grammar	16.4	9.6	9.7	8.1
COMPASS Listening	14.0	12.5	9.0	8.4
COMPASS Reading	18.4	15.1	8.0	10.1

**Appendix 4: Standard Errors by Course**

Test	Standard Error By Course			
	ESL 1510	ESL 1520	ESL 2510	ESL 2520
MTELP	1.0	0.5	0.7	2.2
TOEFL	11.2	8.0	13.0	8.7
COMPASS - SUM of Scores	6.8	6.9	2.9	3.3
COMPASS Grammar	2.6	2.1	1.8	1.6
COMPASS Listening	2.3	2.8	1.7	1.6
COMPASS Reading	2.9	3.3	1.5	1.9

**Appendix 5: Median Scores by Course**

Test	Median Scores By Course			
	ESL 1510	ESL 1520	ESL 2510	ESL 2520
MTELP	28.5	39.0	48.0	59.0
TOEFL	397.0	458.0	471.5	523.0
COMPASS - SUM of Scores	201.0	232.5	244.5	260.0
COMPASS Grammar	63.5	75.0	78.5	81.0
COMPASS Listening	74.5	78.0	89.0	85.0
COMPASS Reading	70.0	75.0	83.5	90.0

**Appendix 6: Minimum and Maximum Scores by Course**

Test	Minimum Scores By Course				Maximum Scores By Course			
	ESL 1510	ESL 1520	ESL 2510	ESL 2520	ESL 1510	ESL 1520	ESL 2510	ESL 2520
MTELP	24.0	34.0	37.0	53.0	62.0	42.0	52.0	94.0
TOEFL	310.0	403.0	440.0	493.0	497.0	470.0	560.0	563.0
COMPASS - SUM of Scores	108.0	118.0	220.0	207.0	277.0	254.0	274.0	285.0
COMPASS Grammar	25.0	49.0	48.0	65.0	99.0	82.0	92.0	99.0
COMPASS Listening	37.0	42.0	59.0	68.0	96.0	97.0	97.0	99.0
COMPASS Reading	25.0	25.0	60.0	57.0	92.0	92.0	94.0	99.0