

Reading Plus and PARCC ELA

School District

Orange Public Schools

State

New Jersey

Number of Students in Study

Part 1: 2,121

Part 2: 2,287

Study Inclusion Requirements

PARCC-InSight

Relationship: Students in grades 3-11 in 2017-18 with:

1. Valid spring 2018 (April) PARCC ELA overall scale score, and
2. Valid spring 2018 (March – May) Reading Plus InSight overall Proficiency score.

Impact of Reading Plus:

Students in grades 4-11 in 2017-18 with valid PARCC ELA scores from spring 2017 and spring 2018.

Study Statistics:

Pearson's Correlation

Coefficient (r): A measure of the linear relationship between two variables that ranges from -1 to 1. A value of 0 indicates no correlation while a value of .70 or higher is typically classified as a strong, positive correlation. This is also considered strong evidence of validity by the National Center for Intensive Intervention (NCII).

Area Under the Curve

(AUC): AUC is an indicator of overall classification accuracy. AUC values range from 0.50 to 1.0 with a value of 0.50 indicating a prediction that is no better than chance while 0.80 (lower bound of the AUC confidence interval) or higher is considered strong classification accuracy by the NCII.

Purpose of Report

This report focuses on: (1) a comparison between the Reading Plus InSight assessment and the Partnership for Assessment of Readiness for College and Careers English Language Arts/Literacy assessment (PARCC ELA), and (2) the impact of the Reading Plus instructional intervention on student performance as measured by the PARCC ELA assessment in Orange Public Schools (OPS).

Summary of Findings

1. InSight and PARCC ELA are strongly correlated and have equivalent expectations for proficiency, which makes InSight a strong predictor of PARCC ELA performance.
 - There is a strong, statistically significant correlation between InSight proficiency and overall PARCC ELA scale scores in grades 4-11, as well as between InSight and the PARCC ELA Reading sub-score in grades 3-11 ($r \geq .70$, $p < .001$).
 - Overall, 81% of students who were classified as above or below grade level on InSight were also classified as above or below expectations on the PARCC ELA assessment.
 - In relation to PARCC, InSight meets Area Under the Curve (AUC) classification accuracy standards established by the National Center for Intensive Intervention (NCII) across grades 3-11.
2. Students who completed at least 80 Reading Plus lessons achieved greater gains on the PARCC ELA in spring 2018 than students who completed 40-79 lessons or used the program minimally (0-39 lessons). Students who completed at least 80 lessons had the highest rate of advancement to a higher PARCC ELA performance level ($\chi^2 = 60.27$, $p < .001$).

Results Part 1: Correlations and Classification Accuracy

Figure 1.1 shows that the overall PARCC ELA scale score and overall InSight reading proficiency are strongly correlated in grades 4-11 ($r > .70$, $p < .001$). The results of this study are based on 2,121 students within Orange Public Schools who were administered both the PARCC ELA and InSight assessments between March and May 2018. Figure 1.2 shows that there are also strong correlations between the PARCC ELA Reading sub-score and overall InSight reading proficiency across grades 3-11 ($r \geq .70$, $p < .001$).

Figure 2.1 demonstrates that InSight and PARCC ELA have similar expectations for proficiency as more than 75% of students who were classified as above or below grade level on InSight were correctly classified as above or below expectations on the PARCC ELA assessment in each grade 3 through 11. Figure 2.2 further supports the finding that InSight performance can accurately classify PARCC ELA performance. Area Under the Curve (AUC) analyses show that InSight's ability to classify students as meeting or not meeting overall PARCC ELA performance level expectations surpasses a criterion established by the National Center for Intensive Intervention (Figure 2.2).

Correlations

1.1: PARCC ELA & InSight Reading Proficiency

1.2: PARCC Reading Sub-Score & InSight Reading Proficiency

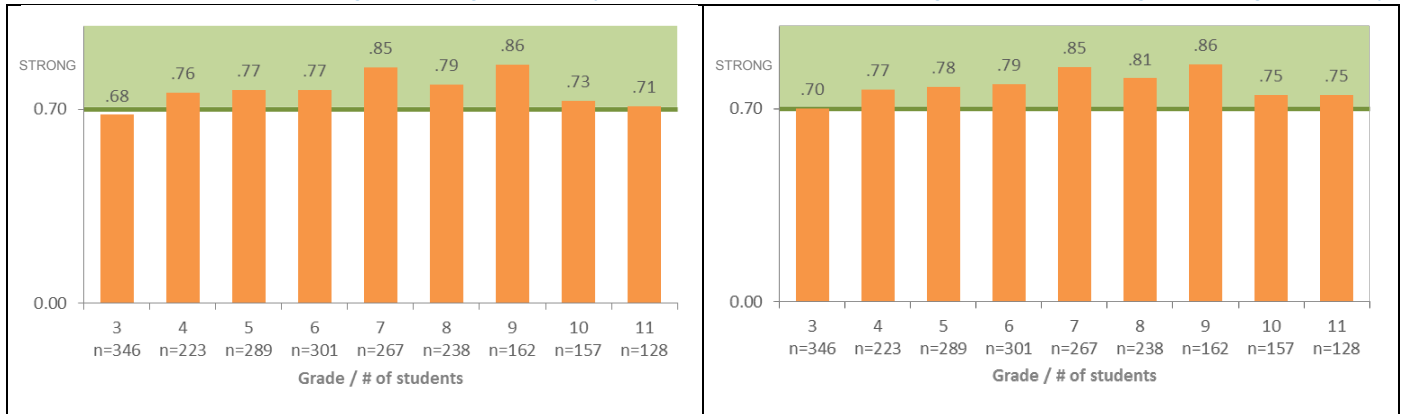


Figure 1. The correlation between the overall PARCC ELA scale score and the InSight Reading Proficiency Index (1.1) and the correlation between the PARCC ELA Reading sub-score and the InSight Reading Proficiency Index (1.2) are shown at each grade level. All correlation values meet NCII Technical Standard 3: Lower Bound of the Confidence Interval ≥ 0.60 , and the previous Center for Response to Intervention (CRTI) Technical Standard 4 = 0.70. All Pearson correlation coefficients are statistically significant at $p < .001$.

Classification Accuracy

2.1: Overall Classification Accuracy of InSight for PARCC ELA

2.2: Area Under the Curve (AUC) InSight for PARCC ELA

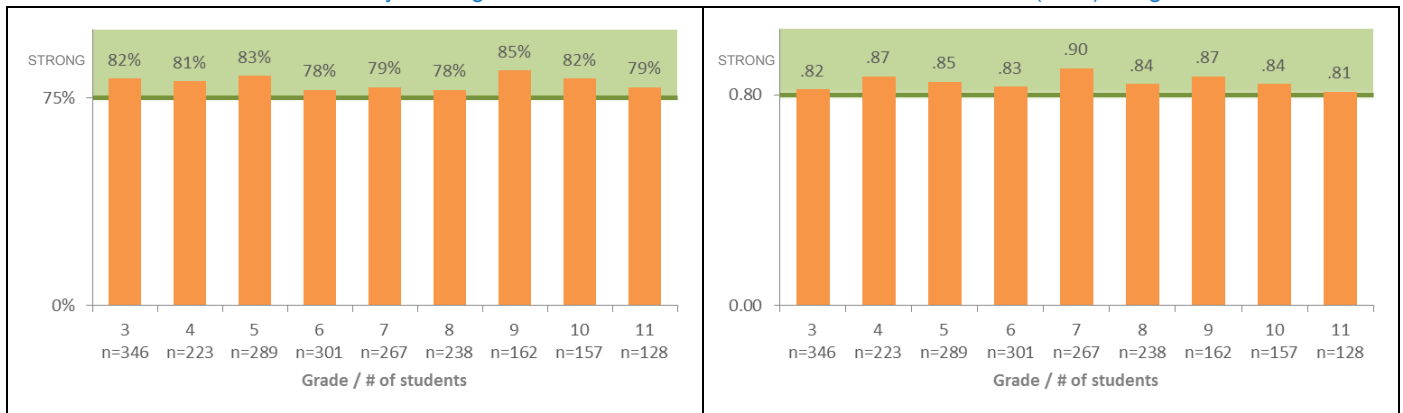


Figure 2. The percentage of students classified as above or below grade level on InSight who were also classified as above or below expectations on PARCC ELA (2.1) and the Area Under the Curve (AUC) classification accuracy of InSight for PARCC ELA (2.2) are shown at each grade level. All AUC values are statistically significant at $p < .001$ and meet NCII Technical Standard 1: Lower Bound of the AUC Confidence Interval ≥ 0.80 . Although the NCII requires submission of classification accuracy percentages for its evaluation process, it does not set a threshold criterion.

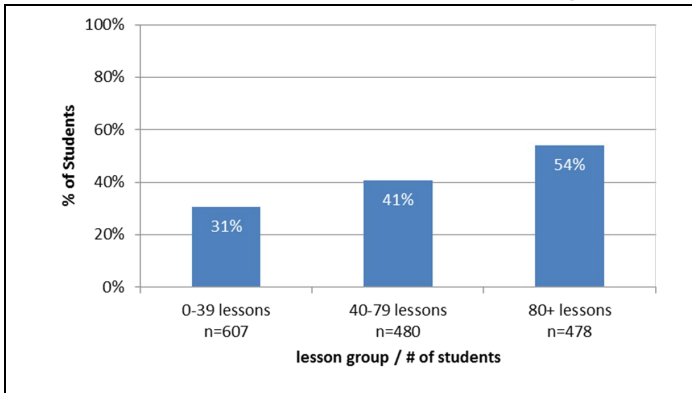
Results Part 2: Impact of Reading Plus on PARCC ELA Results

Figure 3 demonstrates how increased Reading Plus use is associated with larger performance level gains on PARCC ELA. Reading Plus use is divided into three groups: 0-39 lessons, 40-79 lessons, and 80 or more lessons. Figures 3.1 – 3.4 show that students who completed 80 or more lessons consistently had the highest percentage rate of advancement to a higher ELA performance level on the next PARCC assessment (spring 2018). Overall, 54% of students who were in PARCC ELA performance level 1, 2, or 3 advanced to a higher level if they completed 80 or more lessons. These students significantly exceeded the rate of advancement seen in the two lower use groups, where 41% and 31% of students, respectively, advanced to a higher PARCC ELA level (Figure 3.1). Figure

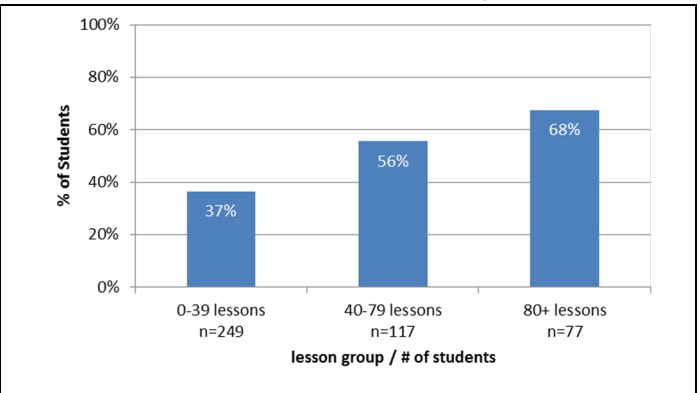
3.2 shows that 68% of the students in the lowest PARCC ELA performance level advanced to a higher level if they completed 80 or more lessons. The percentage of students who advanced to a higher level was significantly lower among those who completed 40-79 lessons (56%) and among those who completed 0-39 lessons (37%). Figures 3.3 and 3.4 show the same pattern for students whose initial PARCC ELA performance level in spring 2017 was Level 2 or Level 3, respectively.

Percentage of Students Who Advanced to a Higher PARCC ELA Level in Spring 2018 by Reading Plus Lesson Completion

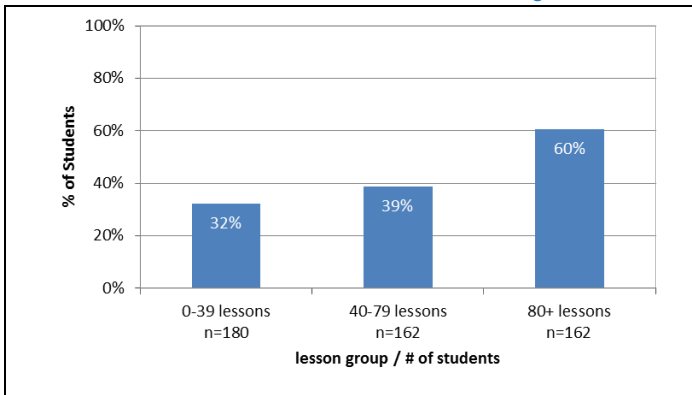
3.1: Advanced from Level 1, 2, or 3 to a Higher Level



3.2: Advanced from Level 1 to a Higher Level



3.3: Advanced from Level 2 to a Higher Level



3.4: Advanced from Level 3 to a Higher Level

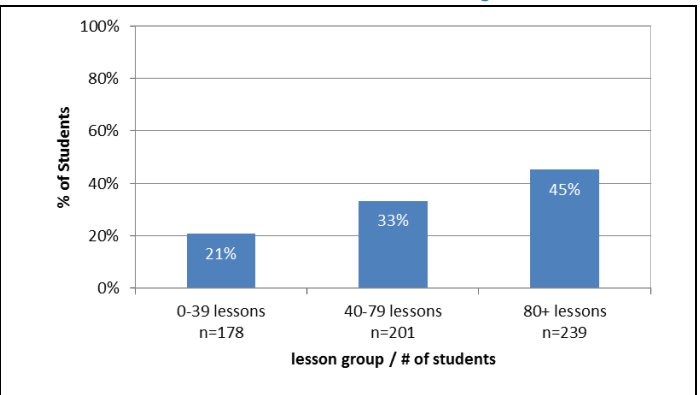


Figure 3. The percentage of students who advanced to a higher PARCC ELA performance level in spring 2018, presented by Reading Plus lesson completion. Figure 3.1 represents the overall percentage of students who were in PARCC ELA level 1, 2, or 3 in spring 2017 and advanced to a higher level in spring 2018. Figures 3.2 – 3.4 represent the percentage of students who were in PARCC ELA level 1, 2, or 3, respectively, in spring 2017 and advanced to a higher level in spring 2018. Students are grouped by Reading Plus use: 0-39 lessons, 40-79 lessons, and 80+ lessons. There are statistically significant differences ($p < .001$) between lesson groups in all figures: 3.1 ($\chi^2 = 60.27$), 3.2 ($\chi^2 = 27.40$), 3.3 ($\chi^2 = 29.76$), 3.4 ($\chi^2 = 27.08$).