ELA Score Gains and Istation Usage

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This study examined Istation testing and usage as predictors of student achievement in a small, rural school district in the southwestern United States. Istation provides formative assessment, supplementary curriculum, and reporting to help teachers monitor student growth and provide targeted intervention and individualized instruction.

The school district first implemented Istation in the 2016-2017 school year and used the entire system for two years. In the 2018-2019 school year, the school district did not implement the supplementary curriculum.

Correlation and multiple regression analyses examining the Istation's Indicators of Progress-Early Reading (ISIP ER) scores, Istation usage, and PARCC ELA scores in the 2018-19 school year, which was the second year of implementation in the school district, were conducted. ISIP ER is Istation's formative assessment used for benchmarking and progress monitoring, and the PARCC is a summative assessment used by states and school districts at the end of the year.

We conducted analyses on all students who had non-missing fall 2018 ISIP ER scores and spring 2019 PARCC ELA scores. We examined the predictive utility of fall 2018 ISIP ER scores on spring 2019 PARCC ELA scores, controlling for demographic variables. These analyses were conducted only for third grade students, as this is the only grade in which students took both the ISIP ER and PARCC assessments. We also conducted similar analyses with Istation usage quartiles, instead of ISIP ER scores.

Results showed that fall 2018 ISIP ER scores for students in third grade were significantly positively associated with Spring 2019 PARCC ELA scores, after controlling for demographic variables, including race/ethnicity and gender (r = .706). Associations between Istation usage and PARCC ELA scores showed that 3rd quartile usage was associated with larger PARCC ELA score gains, but the 4th quartile of usage, indicative of the highest level of Istation usage, was not.

Importantly, these results show that ISIP ER scores are highly predictive of PARCC ELA scores, even after controlling for demographic variables. Istation usage variables, however, were predictive of PARCC ELA scores when Istation usage recommendations were implemented and followed. It is important to note that mid quartile usage met Istation's recommended weekly usage guidelines, so usage close to or above these levels was associated with the highest PARCC ELA scores.
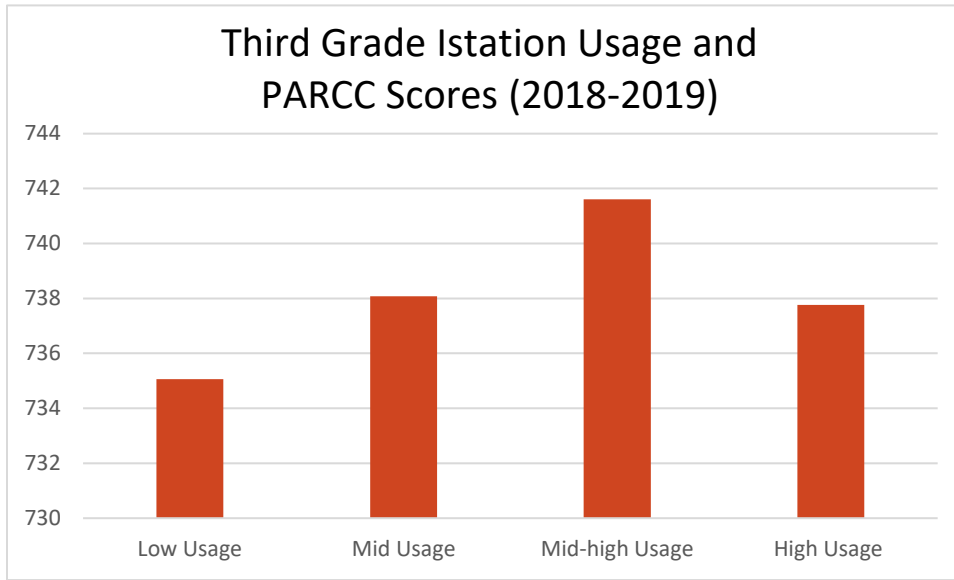
Figure 1. Average PARCC ELA scores, by Istation usage quartile.

Table 1

Associations between 2017- 2018 ISIP usage and Spring 2019 PARCC ELA scores

Spring 2018 ISIP Usage	Estimate	Standard error	P-value
Mid	3.016	2.703	.265
Mid-high	6.549	2.669	.015*
High	2.703	2.693	.316
N (for all analyses)	465		
Model R^2	.594		