2015 WYOMING SCHOOL ACCOUNTABILITY
RELATIONSHIP AMONG INDICATORS AND PERFORMANCE LEVELS

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(December 1, 2015)

Introduction

This report documents correlation coefficients for school level scores on the 2015 Wyoming school accountability indicators and performance levels. Indicator scores are continuous. Cut-points on the indicator scores were identified by a professional judgment panel (PJP) process. Using these cut-points, scores on each indicator are placed into one of three categories that are referred to as target levels: (a) exceeds target, (b) meets target or (c) below target. Indicator target levels are entered into decision table matrices that identify the school's overall performance level. There are four performance levels: (a) exceeding expectations, (b) meeting expectations, (c) partially meeting expectations and (d) not meeting expectations.

Pearson product-moment correlation coefficients were computed when the two scores being compared were both on continuous scales. This was the case when comparing indicator scores prior to the application of cut-points. Spearman's rho correlation coefficients were used whenever at least one of the two variables being compared was a categorical variable. The Indicator target levels and school performance levels were the categorical variables.

Conceptually, the construct being measured is school quality as determined by student performance outcomes. As such, we expect indicators to be positively related to one another but not identical. Correlation coefficients for indicators and/or performance levels that approach $r = 1.00$ suggest that the variables are so nearly identical that little information about a school would be lost if one or the other were to be dropped from the model. Correlation coefficients for indicators and/or performance levels that approach $r = 0.00$ suggest that the variables are so different that they are likely measuring different constructs. So again, we expect indicators to be positively related to one another but not identical. Finally, we would expect that school size as measured by student enrollment would be unrelated to school scores. This would indicate that the school scores were not biased in favor of or against small or large schools.

Grades 3 through 8 Model

The school performance rating model for schools with grades 3 through 8 has three indicators: achievement, growth and equity. The achievement score was the percent of proficient scores for all content areas combined on the state test. The growth score was the median student growth percentile (MGP) at the school for reading and math combined. The equity score was the MGP for reading and math combined for all students at the school that had low scores on the prior year's state test in one or both of those content areas. Cut-points for the prior year reading and math tests were used to identify the low performing students. This group of students is referred to as a consolidated subgroup for the school. About 23% of students in the tested grades scored below the consolidated subgroup cut-points during a baseline year.

Table 1 presents the correlation coefficients for the continuous scores on the indicators and Table 2 presents the correlation coefficients for the target level categories on the indicators. All of the

correlation coefficients in both tables for the indicators with one another and with the performance levels were positive and suggested the variables were related but not identical. All of the correlation coefficients for the indicators and performance levels with enrollment in both tables were close to $r = 0.00$, suggesting the model is not biased for or against small or large schools.

Table 1. Correlation Coefficients[a] for 2015 for Grade Three through Eight School Performance Rating Indicator *Scores*, Performance Levels and School Enrollment.

Variable		Growth	Equity	Performance Level	Enrollment
Achievement	*r*	0.50	0.42	0.81	-0.06
	n	264	241	262	270
Growth	*r*		0.69	0.74	-0.03
	n		241	262	264
Equity	*r*			0.64	-0.06
	n			240	241
Performance Level	*r*				0.02
	n				262

[a]All coefficients in this table are Pearson except for those involving the school performance level, which were Spearman rho.

Table 2. Correlation Coefficients[a] for 2015 School Performance Rating Indicator *Target Levels*, Performance Levels and School Enrollment.

Variable		Growth	Equity	Performance Level	Enrollment
Achievement	*r*	0.43	0.38	0.85	-0.07
	n	262	240	262	268
Growth	*r*		0.57	0.74	0.01
	n		240	262	262
Equity	*r*			0.62	-0.04
	n			240	240
Performance Level	*r*				0.02
	n				262

[a]All coefficients in this table are Spearman rho.

High School Model

The school performance rating model for high schools has two components: (a) academic performance and (b) overall readiness. The academic performance component is similar to the grade three through eight model in that it includes indicators for achievement, growth and equity. The achievement score was the percent of proficient scores for all subject area tests of the grade 11 ACT. The growth score was the MGP at the school for reading and math combined in grades ten and eleven. The equity score was the MGP for reading and math combined for all grade eleven students at the school that had low scores on the grade ten PLAN test in one or both of those content areas.

The overall readiness component had two indicators. One indicator was the extended graduation rate at the school. The cohort for the extended graduation rate included the four year on time cohort plus all five, six and seven year graduates. The second indicator was additional readiness, which had three sub-indicators. First, there was a school mean tested readiness index based upon composite scores on the grade nine EXPLORE, grade ten PLAN and grade eleven ACT. The second sub-indicator was the percent of grade nine students who earned one fourth of the credits needed to graduate from their high school. The third sub-indicator was the school mean Hathaway scholarship index at the school. Hathaway scholarship eligibility for each student is determined by the lowest level of three eligibility criteria. The three student level eligibility criteria are the unweighted grade point average (GPA), the best ACT score of a WorkKeys score and the success curriculum level earned by the student.

Table 3. Correlation Coefficients[a] for 2015 for High School Performance Rating Indicator *Scores*, Performance Levels and School Enrollment.

Variable		Growth	Equity	Extended Graduation Rate	Additional Readiness (Type 1)	School Performance Level	Enrollment
Achievement	*r*	0.40	0.50	0.60	0.57	0.65	0.02
	n	66	47	67	62	66	68
Growth	*r*		0.64	0.12	0.38	0.34	0.00
	n		47	65	62	66	66
Equity	*r*			0.20	0.36	0.52	-0.05
	n			46	46	47	47
Extended Graduation Rate	*r*				0.63	0.64	0.05
	n				62	65	68
Additional Readiness	*r*					0.68	-0.10
	n					62	62
School Performance Level	*r*						0.04
	n						66

[a]All coefficients in this table are Pearson except for those involving the school performance level, which were Spearman rho.

Table 4. Correlation Coefficients[a] for 2015 for High School Performance Rating Indicator *Target Levels*, Performance Levels and School Enrollment.

Variable		Growth	Equity	Extended Graduation Rate	Additional Readiness (Type 1)	School Performance Level	Enrollment
Achievement	*r*	0.40	0.44	0.35	0.49	0.67	0.16
	n	66	47	67	68	66	68
Growth	*r*		0.55	0.07	0.16	0.32	0.16
	n		47	65	66	66	66
Equity	*r*			0.07	0.20	0.51	0.05
	n			46	47	47	47
Extended Graduation Rate	*r*				0.51	0.65	-0.07
	n				68	65	68
Additional Readiness	*r*					0.61	-0.07
	n					66	69
School Performance Level	*r*						0.04
	n						66

[a]All coefficients in this table are Spearman rho.

Table 5. Correlation Coefficients[a] for 2015 for High Additional Readiness Sub-Indicator Scores with One Another and with Additional Readiness *Target Levels* and School Enrollment.

Variable		Hathaway Index	Grade 9 Credits	Additional Readiness Target Level	Enrollment
Tested Readiness Index	*r*	0.42	0.50	0.55	0.07
	n	62	66	69	69
Hathaway Index	*r*		0.30	0.75	-0.09
	n		62	62	62
Grade 9 Credits	*r*			0.56	0.01
	n			66	66
Additional Readiness Target Level	*r*				-0.05
	n				69

[a]All coefficients in this table are Pearson except for those involving the additional readiness target level, which were Spearman rho.

Table 6. Correlation Coefficients[a] for *Student* Level Hathaway Eligibility Criteria with One Another and with the Hathaway Index Score.

Variable		Best ACT/WorkKeys Score	Success Curriculum Level	Hathaway Index Score
Unweighted Grade Point Avg.	*r*	0.63	0.70	0.75
	n	5518	5611	5611
Best ACT/WorkKeys Score	*r*		0.70	0.78
	n		5518	5518
Success Curriculum Level	*r*			0.93
	n			5611

[a]All coefficients in this table are Pearson except for those involving the Hathaway Index Score, which were Spearman rho.

In general, the correlation coefficients presented in Tables 3 through 6 were within expectations. As such, the indicator and performance level correlation coefficients with enrollment were all near zero. In addition the indicators and performance level scores and target levels were all positively related to one another. The smallest correlation coefficients among indicators were those for growth and equity with extended graduation, and to a lesser extent, with additional readiness. All four of these indicators were positively related to the school performance levels, however. These four indicators have some important differences as well. Growth and equity are both progress/improvement measures while graduation rate is a cumulative status outcome. In summary, the correlation coefficients presented in this technical report generally support the conclusion that the school performance rating model is functioning as expected.