Study Profile: STAAR Algebra II – ACT Mathematics (★★★⯪☆)

The STAAR Algebra II – ACT mathematics external validity study is designed to establish empirical links between performance on the STAAR Algebra II assessment and performance on the ACT mathematics test.

Motivation (★★★☆☆)

This analysis was based on a single group of students who took both the STAAR Algebra II and the ACT mathematics assessments in 2010 or 2011. Data from STAAR derive from a stand-alone field test administered in 2010 and a low-stakes operational administration in 2011 and are linked to motivated ACT mathematics scores in corresponding years.

Representativeness (★★★★☆) and Sample Size (★★★★★)

Grade Levels

All Algebra II Examinees Versus Those Linked to ACT Scores

Group	*Grade 8*		*Grade 9*		*Grade 10*		*Grade 11*		*Grade 12*		*Missing*		***Total***
All Algebra II	32	0%	2,781	3%	32,956	31%	53,140	50%	16,414	16%	8	0%	**105,331**
Linked	0	0%	20	0%	1,500	12%	8,284	65%	2,964	23%	1	0%	**12,769**

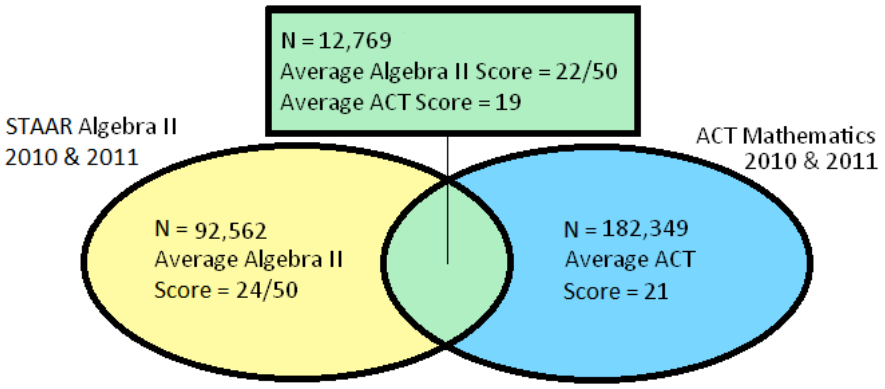
Demographic Characteristics

All Algebra II Examinees Versus Those Linked to ACT Scores

Group	*Female*		*Economically Disadvantaged*		*African American*		*Hispanic*		*White*		*Other*	
All Algebra II	53,491	51%	45,660	43%	11,881	11%	45,667	43%	39,123	37%	8,660	8%
Linked	7,147	56%	5377	42%	1,895	15%	4557	36%	5,506	43%	811	6%

Summary of STAAR Algebra II and ACT Achievement

Linked and Unlinked Groups



Average ACT Scores Based on Students' STAAR Performance

Satisfactory Academic Performance	*Advanced Academic Performance*
23	26

Correlation (★★★☆☆)

Correlation between STAAR Algebra II and ACT mathematics = **0.63**

Content Overlap (★★☆☆☆)

There is minimal (approximately 20%) content/skills overlap between the STAAR Algebra II assessment and the ACT mathematics test.

Assessment Characteristics

Assessment Characteristic	STAAR Algebra II	ACT Mathematics
Purpose	Created to determine mastery of the Algebra II Texas Essential Knowledge and Skills (TEKS), the state-mandated curriculum	Designed to help college admissions officials identify students likely to be successful at their academic institutions.
Assessment Type	A criterion-referenced assessment	A norm-referenced test that assesses student performance against the performance of other students nationally.
Content	Measures properties and attributes of functions, representational tools to solve problems, properties of quadratic functions, representations of quadratic relations, properties of square root functions, properties of rational functions, and properties of exponential and logarithmic functions	Measures pre-algebra, elementary algebra, intermediate algebra, coordinate geometry, plane geometry, and trigonometry There is minimal (approximately 20%) content/skills overlap between the STAAR Algebra II assessment and the ACT mathematics test.
Item Format	50 items total: 45 multiple-choice items and 5 gridded-response items	60 multiple choice items
Administration	• Administered in May, July, and December • Administered online and on paper • Administered by trained school personnel • 4 hour time limit	• Administered in February, April, June, September, October and December • Administered on paper • Administered by approved supervisors and proctors • 60 minute time limit
Performance Standards	Performance standards will be established and implemented in spring 2012	The ACT Mathematics college readiness benchmark is a scale score of 22 (on a scale score from 1-36). It indicates a 50 percent chance of earning a B or better and approximately a 75 percent chance of earning a C or better in college algebra or its equivalent.