

Reliability of the North Carolina End-of-Grade and End-of-Course Assessments

Reliability refers to the consistency of a measure when the testing procedure is repeated on a population of individuals or groups. Three broad categories of reliability coefficients are recognized as appropriate indices for establishing reliability in tests: (a) coefficients derived from the administration of parallel forms in independent testing sessions (alternate-form coefficients); (b) coefficients obtained by administration of the same instrument on separate occasions (test-retest coefficients); and (c) coefficients based on the relationships among scores derived from individual items or subsets of the items within a test, all data accruing from a single administration of the test (internal consistency coefficients). The internal consistency coefficient is the statistic used to quantify reliability for the End-of-Grade (EOG) English Language Arts/Reading, Mathematics and Science Assessments and the End-of-Course (EOC) Assessments of English II, Math I and Biology. These assessments were administered operationally for the first time during the 2012-13 school year.

Internal-consistency reliability estimates examine the extent to which items on a test are related. One procedure for determining the internal consistency of a test is coefficient alpha (α). Coefficient alpha estimates reliability of test scores constructed in terms of the domain sampling model. Test scores must be reliable if any valid inferences are to be made on examinees' performances. The North Carolina Statewide Testing Program meets or exceeds industry norms for reliability. The indices below are measures of internal consistency as calculated by Cronbach Coefficient Alpha.

EOG English Language Arts/Reading Reliabilities (Edition 4)

Grade	Form		
	A	B	C
3	0.91	0.92	0.91
4	0.89	0.90	0.88
5	0.90	0.88	0.89
6	0.89	0.91	0.89
7	0.89	0.90	0.89
8	0.88	0.88	0.88

EOC English II Reliabilities (Edition 1)

EOC	Form					
	A	B	C	M	N	O
English II	0.89	0.89	0.89	0.89	0.90	0.89

EOG Mathematics Reliabilities (Edition 4)

	Form		
Grade	A	B	C
3	0.91	0.92	0.91
4	0.92	0.92	0.92
5	0.91	0.92	0.91
6	0.93	0.93	0.93
7	0.93	0.93	0.93
8	0.92	0.92	0.92

EOC Math I Reliabilities (Edition 2)

	Form			
EOC	A	B	M	N
Math I	0.91	0.91	0.90	0.90

EOG Science Reliabilities (Edition 2)

	Form					
Grade	A	B	C	M	N	O
5	0.90	0.90	0.90	0.91	0.90	0.90
8	0.91	0.91	0.91	0.92	0.92	0.92

EOC Biology Reliabilities (Edition 2)

	Form					
EOC	A	B	C	M	N	O
Biology	0.92	0.92	0.92	0.92	0.92	0.92