



**Review of**  
*Criterion Validity of*  
**A+nyWhere Learning System<sup>®</sup>**  
*Mathematical Assessment*

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**Review of**  
**Criterion Validity of *A+nyWhere Learning System*<sup>®</sup>**  
**Mathematical Assessment**

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**Abstract**

This report summarizes a study of the concurrent/criterion validity of the seventh-grade *A+nyWhere Learning System (A+LS)* assessment in mathematics. Fifty-nine seventh-grade students in one middle school took the *A+LS* Mathematical Assessment VII Form A and the mathematics portion of the Iowa Test of Basic Skills (ITBS). Pearson correlation coefficients were computed between the *A+LS* assessment and the (a) ITBS Total (Math) Score normal curve equivalent (NCE), (b) ITBS Concepts and Estimation subtest NCE, (c) ITBS Computation subtest NCE, and (d) Problem Solving and Data Interpretation subtest NCE. The results indicate validity coefficients greater than  $r > .84$  between the *A+LS* assessment and the ITBS Total (Math) Score, Concepts and Estimation subtest, and Problem Solving and Data Interpretation subtest. Although still significant, the validity coefficient between the *A+LS* assessment and the Computation subtest was lower ( $r = .50$ ). The authors conclude that the strong concurrent validity between the *A+LS* assessment and a commonly used standardized achievement test will enable educators to take proactive steps to raise student achievement on standardized tests and thereby increase the probability of a school making adequate yearly progress.

**Reviewer Comments**

**Relevance**

***Does the evidence provided by the authors address a question that is relevant?***

The authors present a convincing argument for why the study was needed. Specifically, the *A+LS* computer-based program delivers core curriculum instruction and includes assessments of the material presented. The issue of whether students' scores on these assessments correlate with standardized achievement scores is important because achievement scores are tied to adequate yearly progress.

## **Rigor**

***Does the research design follow established procedures in the educational research field for addressing the type of question or issue posed?***

The validation study presented used standard methods for assessing the relationship between the predictor (*A+LS* assessment) and the criterion measures (ITBS math test and subtests). Both the validity coefficients (i.e., correlation coefficients) and the coefficients of determination (i.e., percentages of variance accounted for by the predictor in the criterion measures) are provided.

***Is sufficient information provided to determine whether the instruments and/or procedures are appropriate for answering the research questions posed by the authors?***

The report offers detailed information on the measures, sample, and procedures. The study was conducted in a manner that provides high quality initial evidence of the criterion validity of the *A+LS* assessment for seventh-grade students.

## **Systematic Approach**

***Was the study conducted using carefully planned, logical steps?***

The study was conducted using well described, logical steps to establish initial criterion validity of the seventh-grade version of the *A+LS* assessment with a commonly used standardized achievement test.

***Were the instruments and/or procedures applied with consistency and accuracy?***

The procedures were consistently followed for each test of the criterion validity of the *A+LS* assessment with the four math portions of the ITBS.

## **Objectivity**

***Did someone other than the publisher or developer conduct the research attesting to the product's or program's effectiveness?***

The study's first author was not an employee of the company that developed and distributes the *A+LS* system. There is no reason to assume that the first author had a vested interest in the outcome of the study or was biased in any way. Although the second author was affiliated with the company distributing the *A+LS* system, the procedures described are transparent and there is no evidence that the objectivity of the study was in any way compromised by this author's participation in the research.

## **Replicability**

***With the information provided, could the same or different researchers likely repeat the study and obtain the same or highly similar results?***

Given the information provided in the report, another researcher would be highly likely to achieve the same results if he or she followed the described procedures.

## **Data Analyses and Interpretation**

***Are the analyses appropriate given the type of methodology used and the research questions posed?***

The authors computed both the correlation coefficient (i.e., validity coefficient) and the amount of variance accounted (i.e., coefficient of determination) for in the ITBS math scores (criterion measures) by the *A+LS* assessment (predictor variable). This is an appropriate methodology to use to establish the concurrent, or criterion, validity of the *A+LS* assessment.

***Are data or data summaries included?***

The report includes the validity coefficients and coefficients of determination along with graphical displays of the regression lines and scatter plots to allow the reader to see the relationship between the predictor and criterion measures.

***Are the conclusions drawn by the researchers/developers clearly supported by the data?***

The authors conclude that the seventh-grade form of the *A+LS* assessment has good criterion validity based on the strong validity coefficients with the ITBS but that criterion validation studies will need to occur using other levels of the *A+LS* assessments and individual state-mandated assessments. The authors also mention the need for cross-validation studies with participants with different demographic profiles from those in this initial study.