

CONTENT VALIDITY AND ITEM RELIABILITY ANALYSIS: FROG STREET ASSESSMENT

(ENGLISH/SPANISH)

FOR
PRE-KINDERGARTEN
STUDENTS



A REPORT DEVELOPED
FOR
FROG STREET PRESS



Prepared by
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**ANALYSIS OF FROG STREET ASSESSMENT
FOR PRE-KINDERGARTEN**

RESEARCH TEAM

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Executive Summary



The Frog Street Assessment (FSA) is a curriculum-based assessment (CBA) scale which has as its purpose to assess children individually at the pre-kindergarten (Pre-K) level. FSA, created in 2010, is based on the curriculum from Frog Street Pre-K, a comprehensive, research-based program that integrates instruction across developmental domains and early learning disciplines. Though the FSA is a CBA, it can be used independently of the Frog Street Pre-K. It is fully automated with a web-based application. FSA includes 30 Pre-K Skill Domains with a Beginning-of-Year (**BOY**), Middle-of-Year (**MOY**), and End-of-Year (**EOY**) assessment for most skills in English and in Spanish.

The Charge for the Research Team

The Frog Street Press Chief Executive Officer, Ron Chase, requested that the Center for Research and Development in Dual Language and Literacy Acquisition (CRDLLA), in the Department of Educational Psychology at Texas A&M University, and the Educational Leadership Research Center (ELRC) in the Department of Educational Administration and Human Resource Development at Texas A&M University complete a content validity study and an item reliability study of the Frog Street Assessment (FSA). The first specific charge was that the content analysis would include a detailed review of the English and a comparative review of the Spanish versions of the FSA. Additionally, the content analysis would determine the alignment to the text materials in the Frog Street Pre-K Curriculum and the Texas Pre-K Guidelines. Further, the charge was to conduct a reliability analysis from a psychometric perspective to statistically identify item consistency within each sub-assessment in the English and Spanish FSA, respectively.

The Research Team then focused on meeting the charge and offering a report that is thoughtful and meaningful related to the FSA. To accomplish the charge, the Research Team agreed on the following frameworks for carrying out the work.

Framework 1

1. *Develop theory of action for the **content analysis**.*
2. Review the components of the Frog Street Assessment that is online.
3. Review the User Guide.
4. Analyze each sub-assessment domain question in English and Spanish for:
 - a. Relevance
 - b. Rigor
 - c. Language compatibility
 - d. Bias
 - e. Equity.
5. Compare the domains to the curriculum in Frog Street Pre-K.
6. Compare the domains to the Texas Pre-K Guidelines.

Framework 2

1. *Develop theory of action for the **reliability analysis**.*
2. Review item-level student data on FSA (provided by the Press) for a total of 2,000 student records at each time of administration.
3. Divide the section of analysis according to the type of program and language of test into: a. Head Start: English and Spanish, 500 student records per language of test and b. PreK: English and Spanish, 500 student records per language of test
4. Statistically analyze each sub-assessment domain question by the time of administration (i.e., BOY, MOY, and EOY) in each of the sections listed above for item consistency using Cronbach's alpha.
5. Review the reliability coefficients by each sub-assessment in each section of analysis.
6. Compare the recommendation provided in Report 1 with the results identified through reliability analysis in Report 2.

Theory of Action for the Content Validity and Item Reliability Analysis

The theory of action developed by the Research Team for the descriptive content analysis is found in Figure 1.

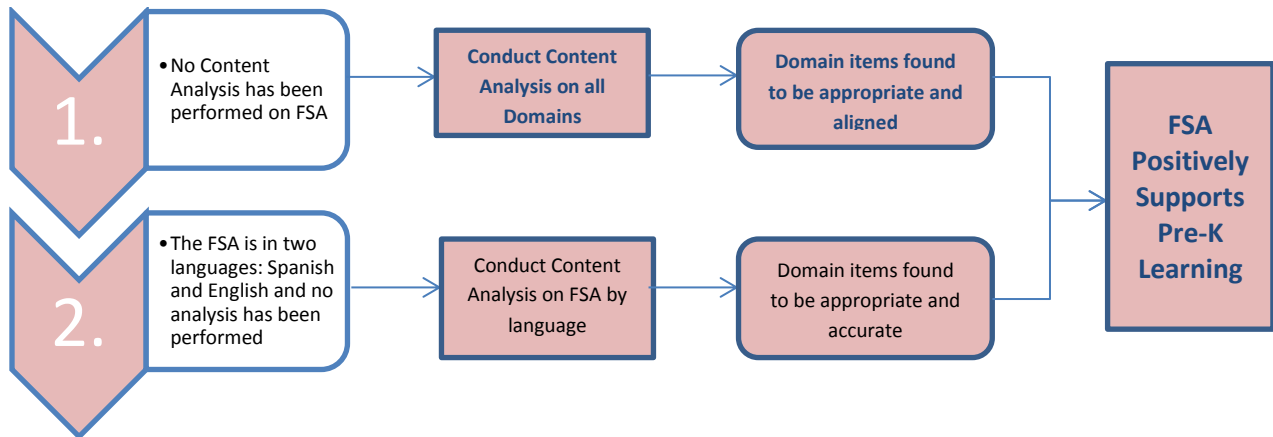


Figure 1. Theory of action for the content analysis of the FSA.

The theory of action developed by the Research Team for the reliability analysis is found in Figure 2.

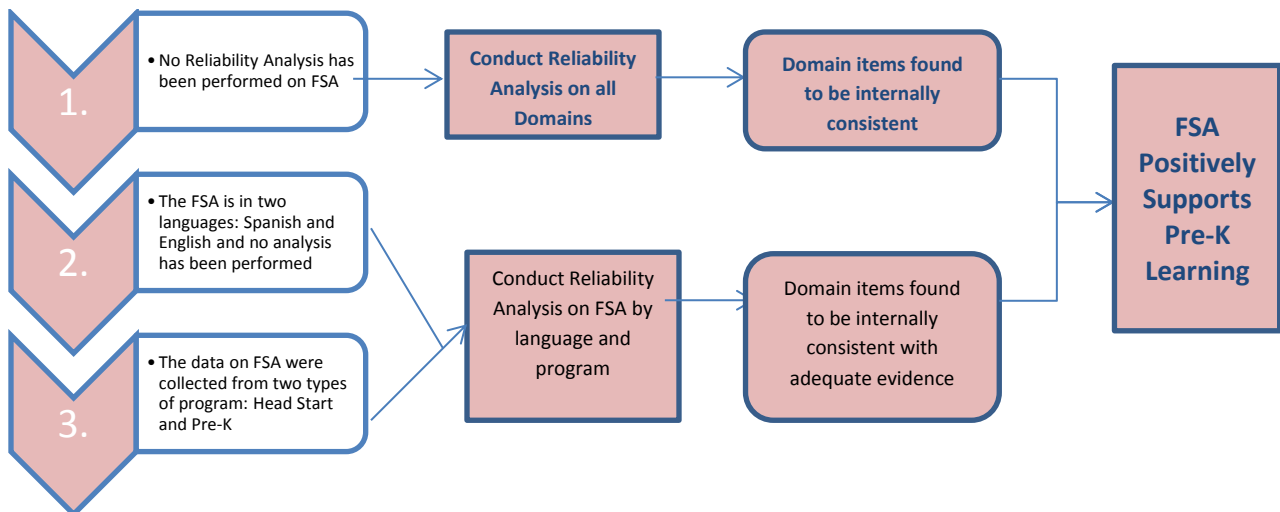


Figure 2. Theory of action for the reliability analysis of the FSA.

Conclusions

Following the Theory of Action noted in Figure 1, the Texas A&M University Research Team concludes that the Frog Street Assessment is aligned with the Frog Street Pre-K Curriculum as a sound curriculum-based assessment and that it is generally aligned to the Texas Pre-K Guidelines. Following the Theory of Action noted in Figure 2, the Texas A&M University Research Team concludes that the Frog Street Assessment provides overall item reliability based on the results of the assessment of children attending both Pre-K and Head Start programs in both English and Spanish measures. Therefore, the Team concludes that the FSA could be used with the FS Curriculum to aid in benchmarking students as they move through the curriculum and could serve as a positive instrument for teachers as they reflect on their work in order to improve their instruction based on data.

Note: Specific analyses are accessible through Report 1 and Report 2.

