

# **Effective STEM Achievement Assessment for English Language Learners: Measurement Considerations**

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High-Quality STEM Education for English Learners:  
Current Challenges and Effective Practices

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# Language and the Measurement of English Proficiency Among ELLs

- Language is a social phenomenon, rather than simply a skill that resides in the individual
- Functional aspects of language (i.e., student interactions in social contexts) are more difficult to measure than formal aspects of language (e.g., pronunciation, grammatical correctness)
- Being an English language learner in the U.S. is not the same as being a learner of English as a foreign language
- Language is vast due to the multiple contexts in which it occurs
- Language skills are expressed in several language modes: listening, speaking, reading, and writing
- Students vary tremendously as to their proficiency in English across these language modes

# Limitations of Measures of English Proficiency

- Measures of English proficiency are not sensitive enough to the social contexts of language and the variations of language use across communities
- Teachers are not always provided with detailed information on the English proficiency of their ELLs
- Inaccurate measures of language proficiency result in student misclassifications:

Test of English Proficiency

	ELL	Non-ELL
ELL	a	b
Non-ELL	c	d

Ideal Measure

**b=false negative classification**  
**c=false positive classification**

# Limitations of Academic Assessment of ELLs

- Assuming population homogeneity
- Estimating the quality of measures of academic achievement without disaggregating ELLs and non-ELLs
- Including ELLs in large-scale assessment but excluding them from the process of test development (e.g., during interviews conducted to determine how the wording of test items should be refined)
- Addressing language issues at the end of the process of test development

# Limitations of Testing Accommodations

- Testing accommodations are modifications in the ways in which tests are given to ELLs with the purpose of making up for limited English proficiency
- Many testing accommodations are not defensible, are not properly implemented, or have limited effectiveness
- Testing accommodations may alter what tests measure
- Ideally, testing accommodations should be customized to the specific language support needs of each ELL

Examples of commonly used testing accommodations:

- Give the test orally
- Allow use of a dictionary or bilingual dictionary
- Seat at front of class during testing
- Modify the language of items to simplify their language
- Give the test in the student's native language

# **Effective ELL Assessment Practice**

- Facts that need to be recognized and addressed:
  - ELL populations are tremendously heterogeneous
  - As with any test, English proficiency and academic achievement tests should not be assumed to be exact instruments
  - Fidelity of implementation is an important factor in serving ELL populations
- Test development and testing policy:
  - Include ELLs in all stages in the process of test development (sampling, pilot stages)
  - Use multiple assessment forms (multiple-choice, open-ended, hands-on)
  - Determine number of items in tests based on examining test technical quality for ELLs
  - Estimate language of testing as a source of measurement error
- Needed Research:
  - Innovative forms of testing accommodations and their effectiveness
  - Evaluation of assessment systems
  - Evaluation of fidelity of implementation of assessment practice
  - Development of testing models that reflect what we know about bilingual development
  - Effective professional development on test use and the interpretation of test scores