Agenda

• Smarter Balanced, Overview

• Accessibility and Accommodations, Overview

• Translations
  – Translations background
  – Gathering information for decisions
  – Selecting the best translation option
  – Selecting languages

• Examples
Smarter Balanced Overview
A State-led Assessment Consortium

- 21 Governing States, 4 Advisory States, 1 Affiliate Member
- Washington state is fiscal agent
- WestEd provides project management services
Assessment System - Structure

DIGITAL LIBRARY of formative tools, processes and exemplars; released items and tasks; model curriculum units; educator training; professional development tools and resources; scorer training modules; and teacher collaboration tools.

INTERIM ASSESSMENTS
- Computer Adaptive Assessment and Performance Tasks

PERFORMANCE TASKS
- ELA/literacy
- Math

INTERIM ASSESSMENTS
- Computer Adaptive Assessment and Performance Tasks

END-OF-YEAR ADAPTIVE ASSESSMENT
- ELA/literacy
- Math

Scope, sequence, number, and timing of interim assessments locally determined

Optional interim assessment system — no stakes

Summative assessment for accountability

Re-take option available

*Summative assessments for grades 3 – 8 and 11; Interim assessments available for grades 3 – 12.

**Time windows may be adjusted based on results from the research agenda and final implementation decisions.
Accessibility and Accommodations Overview
Accessibility tools available to all students as per principles of universal design (e.g., writing tools, zoom, mark for review, breaks, customized English glossaries).

Accessibility tools available to students but must be arranged or activated prior to assessment through an Individual Student Assessment Accessibility Profile (e.g., color contrast, color overlay).

Accommodations documented (e.g., braille, ASL, translation option).

Local schools & teachers provide accommodations, supports, assistive technologies & physical arrangements designed to preserve intended constructs.

Smarter Balanced’s digital delivery system includes an array of embedded accessibility features designed to preserve intended constructs.

A very small percentage of students participate in alternate assessments aligned to the Common Core State Standards.
Research: Pilot Test

- **Cognitive labs**
  - Oversampled under-represented populations
  - Research questions directed at SWD

- **Small-scale trials**
  - Examine AI Scoring for ELLs and SWDs

- **Item development**
  - Linguistic complexity evaluation
  - Construct-irrelevant language identification
  - Psychometric studies on special forms
    - Read aloud, Braille
    - Translations, glossaries
Research: Pilot Test Student Results

• Gather information about the process of providing accommodations and results of offering them
• Provide feedback to states, work groups, experts
• Incorporate what we learn into field test development work
# Language Complexity-example

<table>
<thead>
<tr>
<th>TEXT COMPLEXITY</th>
<th>Descriptors</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Density</td>
<td>An average of one to three verbs, nouns or adjectives per sentence</td>
<td>An average of four to six verbs, nouns or adjectives per sentence</td>
<td>An average of seven to ten verbs, nouns or adjectives per sentence</td>
<td>An average of greater than 10 verbs, nouns or adjectives per sentence</td>
<td></td>
</tr>
<tr>
<td>Passage Length</td>
<td>One to three paragraphs</td>
<td>Four to six paragraphs</td>
<td>Six to ten paragraphs</td>
<td>More than ten paragraphs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LANGUAGE FORM AND STRUCTURE</th>
<th>Language Forms</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mostly simple sentences and/or grammatical forms</td>
<td>A few more sophisticated sentences and/or grammatical forms (e.g., compound S, prepositional phrases)</td>
<td>A mix of sophisticated and simple sentences or grammatical forms</td>
<td>A substantial number of more complex sentences and/or grammatical forms (e.g., relative clauses, adverbials, passive voice, reported speech)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VOCABULARY</th>
<th>Vocabulary</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>All high frequency, commonly used vocabulary</td>
<td>Few content-specific, technical, metaphoric, uncommon meaning, or idiomatic words</td>
<td>A number of content-specific, technical, metaphoric, uncommon meaning and/or idiomatic words or expressions</td>
<td>A large number of content-specific, technical, metaphoric, uncommon meaning and idiomatic words or expressions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Translations Overview
Translations Background

• Need for linguistic supports
• Smarter Balanced to offer a translation option
• Five languages
  – Spanish
  – American Sign Language
  – Three other languages
Key Questions

• Gathering information
  – State information: Survey and Pilot
  – Experts: Framework and ELL Advisory Committee

• Translation option
  – Address dialects
  – Customized for grade, context
  – Construct-irrelevant terms

• Languages
  – Top 4 consortium-wide (plus ASL)?
  – Common among several states?
  – Individual state languages?
Experts

- Jamal Abedi
- Edward Bosso
- Donna Christian
- Richard Duran
- Kathy Escamilla
- James Green
- Kenji Hakuta
- Okhee Lee
- Robert Linquanti
- Maria Santos
- Guadalupe Valdes
- Guillermo Solano-Flores
- Judit Moschkovich
- Judith Scott
## Translation Options

### Translation Accommodations and Their Likely Ability to Meet Validity and Fairness Dimensions

<table>
<thead>
<tr>
<th>Translation Accommodation</th>
<th>Acceptable to Untargeted Test Takers</th>
<th>Sensitivity to Individual Test Takers’ Needs</th>
<th>Fidelity of implementation</th>
<th>Usability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test version in the native language</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Side-by-side bilingual version of the test</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Directions translated into native language</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Bilingual glossary</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Test taker responses in native language</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Directions read in the student’s native language</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accommodations For ELLs</th>
<th>Research</th>
<th>Validity Decision</th>
<th>Effectiveness Decision</th>
<th>Overall Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Language Translation of Test</td>
<td>Only slightly effective when administered with extra time. Lacked validity evidence for non-ELLs under restricted time (Pennock-Roman &amp; Rivera, 2011). The increased length of a dual language translation necessitates generous time limits. Effectiveness was unobserved for this Grade 8 assessment perhaps because of the test length and because the accommodation were offered to students who were neither fluent in Spanish (the language of the accommodation) nor who recently received math instruction in Spanish (Abedi, Courtney, Leon, Kao, &amp; Azzam, 2006). Effective on a grade 8 math assessment in English and Spanish (Duncan et al., 2005). A dual-language test booklet doesn't appear to provide significant improvement in assessment results for students using this accommodation (Sireci et al., 2003).</td>
<td>Unsure / Moderate Evidence</td>
<td>Unsure/ Moderate Evidence</td>
<td>Use/Moderate Risk</td>
</tr>
</tbody>
</table>
# Validity and Effectiveness

<table>
<thead>
<tr>
<th>Accommodations For ELLs</th>
<th>Research</th>
<th>Validity Decision</th>
<th>Effectiveness Decision</th>
<th>Overall Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pop-up Glossary (CBT) (content related terms excluded)</td>
<td>A meta-analysis indicated effectiveness when ELL students were not disaggregated by proficiency levels (Pennock-Roman &amp; Rivera, 2011). Effective when selected for students according to language proficiency, time in US school, native country schooling, testing experience, and US school needs, and classroom experiences. Also effective when combined with read aloud of test items when selected for students according to characteristics described above (Kopriva et al., 2007). Accommodations should be selected according to the unique needs of English language students (Shafter Wilner, Rivera, Acosta, 2007). Effective and valid for grade 4 and 8 students on a math assessment (Abedi et al., 2003b).</td>
<td>Use</td>
<td>Use</td>
<td>Access (only for English-English)</td>
</tr>
</tbody>
</table>

# Validity and Effectiveness

<table>
<thead>
<tr>
<th>Tool</th>
<th>Validity</th>
<th>Effectiveness</th>
<th>Overall Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Language Translation</td>
<td>Unsure</td>
<td>Unsure</td>
<td>Use/Moderate Risk</td>
</tr>
<tr>
<td>Pop-up glossary (CBT)</td>
<td>Use</td>
<td>Use</td>
<td>Use</td>
</tr>
</tbody>
</table>
Translation Model 2

Translation Preparation Activities
- Translator Reviewer
- Bilingual Teacher
- Test Developer
- Social Scientist

Format Design
- Translator Reviewer
- Bilingual Teacher
- Mathematics Teacher
- Content Specialist
- Test Developer
- Social Scientist

Initial Translation
Independent Translator 1

Initial Translation
Independent Translator 2

Translation Reconciliation
Translator Reconciler

Translation Review/Revision
- Translator Reviewer
- Bilingual Teacher
- Mathematics Teacher
- Content Specialist
- Test Developer
- Social Scientist

Cognitive Interviews
- Bilingual Teacher
- Mathematics Teacher

Follow-Up Activities
- Translator Reviewer
- Bilingual Teacher
- Test Developer

Final Version of the Translation

Figure 5. Translation model for the Side-by-Side Bilingual Version of the Test translation accommodations: Process components and professionals involved.

Smarter Balanced State Language Survey

• Number of LEPs
  – By language
  – By grade

• Recently arrived LEPs
  – By language
  – By grade

• Current supports
  – Assessment used for accountability
  – By content area
  – For appropriate grades
Languages for Translation

• High Frequency*
  – Spanish (79%)
  – Vietnamese (2.3%)
  – Arabic (2.0%)
  – Tagalog (1.3%)
  – Cantonese (1.1%)
  – Mandarin (0.9%)
  – Korean (0.8%)
  – Russian (0.8%)

• More than one state
  – Somali (Maine and North Dakota)

* Consortium is committed to providing ASL and Spanish
Languages for Translation

- Low Frequency/Highly Concentrated
  - Hawaiian (Hawaii)
  - Ilokano (Hawaii)
  - Dakota (North Dakota)
  - Hutterite (South Dakota)
  - Karen (South Dakota)
  - Lakota (South Dakota)
  - Ojibwa (North Dakota)
  - Yup’ik (Alaska)
Translations: Scope

• Provide qualified experts

• Math translation option for specified languages
  – Items
  – Reporting
  – Supporting materials in formative assessment

• Full human video translation in American Sign Language
  – Math items
  – ELA listening items
Examples
Examples

• Sign in
• Grade 3, 7, or 11
• Word List: ‘Spanish Glossary’
• Select
Matching

**Interview with a Zookeeper**

Listen to the presentation. Then, answer the questions.

Match the types of zoos on the right to the phrases on the left that describe them. More than one type of zoo may match with each phrase.

- are mainly for entertainment
- keep animals and people safe
- are used for breeding rare animals
- have small cages that are easy to clean
- make animals’ environments look like nature

New zoos
Old zoos
**Interview with a Zookeeper**

Listen to the presentation. Then, answer the questions.

**Complete the chart by clicking in the boxes next to the statements that describe new zoos or old zoos.**

A statement may be used for both types of zoos.

<table>
<thead>
<tr>
<th>Statement</th>
<th>New Zoos</th>
<th>Old Zoos</th>
</tr>
</thead>
<tbody>
<tr>
<td>are mainly for entertainment</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>keep animals and people safe</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>are used for breeding rare animals</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>have small cages that are easy to clean</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>make animals’ environments look like nature</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
New Homes for Hermit Crabs
by Bart King

Hermit crabs are nature’s recyclers. Like many other crabs, the hermit crab eats waste. By living on sea scraps, hermit crabs help keep oceans and shores clean. Some hermit crabs hide in reefs or live in shallow waters, while others scuttle on the ocean floor. There are also hermit crabs that spend most of their lives ashore.

Unlike other crabs, the hermit crab has a thin outer shell over its soft tail. This makes the hermit crab easy prey for hungry predators. Hermit crabs stay safe by living in old seashells. A hermit crab is picky; it tries on many shells until it finds one that fits just right. The hermit crab backs into its new home and uses its tail and rear legs to grab onto the shell and carry it. If a predator shows up, the crab retreats into its shell and blocks the entrance with its strong claws.

During a lifetime, one hermit crab will inhabit many different seashells. As a hermit crab grows, the crab leaves its home, upgrading to a larger shell. In recent years, however, many hermit crabs have had trouble finding their perfect homes. What is the problem? There are not enough shells to go around!

One reason for the seashell shortage is that ocean water is not as clean as it once was. This has caused chemical changes to seawater. Some sea animals, like snails, are affected by these changes. Now there are fewer snails making shells. People visiting the beach often take shells home as souvenirs. This is another problem. Other people even take shells for their own

The chart shows causes and effects from the text.
Complete the chart by clicking in the boxes to connect the causes with the effects.

<table>
<thead>
<tr>
<th>Causes</th>
<th>Project Shelter made artificial hermit crab shells.</th>
<th>Hermit crabs moved into small bottles and plastic cups.</th>
<th>More hermit crabs could find better homes.</th>
<th>Fewer snails made shells.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seawater changed due to pollution.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People realized hermit crabs needed new homes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There were not enough seashells in the ocean.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Shelter put artificial shells in the wild.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Drag each expression into the correct column.

<table>
<thead>
<tr>
<th>Equal to 5.42</th>
<th>Not Equal to 5.42</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.36 + 3.06</td>
<td>2.16 + 3.36</td>
</tr>
<tr>
<td>1.80 × 3</td>
<td>9.53 - 4.11</td>
</tr>
<tr>
<td>2.71 × 2</td>
<td>8.01 - 2.69</td>
</tr>
</tbody>
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<tr>
<td>2.36 + 3.06</td>
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<td>1.80 x 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.16 + 3.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.53 − 4.11</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>2.71 x 2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>8.01 − 2.69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A car rental company charges customers an initial charge plus a daily charge to rent cars. The initial charge is $30 and the daily charge is $25.

The rental company charged Jacob $180.

Create an equation that can be used to find the number of days, $x$, Jacob rented the car.

Click the buttons to create your answer.
A car rental company charges customers an initial charge and the daily charge is $25.

The rental company charged Jacob $180.

Create an equation that can be used to find the number of
A car rental company charges customers and the daily charge is $25.

The rental company charged Jacob.

Create an equation that can be used.
A car rental company charges customers an initial charge and a daily charge to rent cars. The initial charge is $30 and the daily charge is $25.

The rental company charged Jacob $180.

Create an equation that can be used to find the number of days, \( x \), Jacob rented the car.

Click the buttons to create your answer.
An equation is shown.

\[ y = \frac{3}{\sqrt{x}} \]

Use the Add Point tool to plot three solutions to this function on the coordinate grid.
The functions \( f(x) = 500(1.015)^x \) and \( g(x) = 500(1.021)^x \) give the total amounts in two different savings accounts after \( x \) years.

How do the graphs of \( f(x) \) and \( g(x) \) compare?

- They have the same \( y \)-intercept, but the graph of \( f(x) \) rises more quickly over time.
- They have the same \( y \)-intercept, but the graph of \( g(x) \) rises more quickly over time.
- The function \( f(x) \) has a greater \( y \)-intercept and rises more quickly over time.
- The function \( g(x) \) has a greater \( y \)-intercept and rises more quickly over time.

How do the graphs of \( f(x) \) and \( g(x) \) compare?

- They have the same \( y \)-intercept, but the graph of \( f(x) \) rises more quickly over time.
- They have the same \( y \)-intercept, but the graph of \( g(x) \) rises more quickly over time.
- The function \( f(x) \) has a greater \( y \)-intercept and rises more quickly over time.
THANK YOU