Basic Score Interpretation
*TerraNova 3*

**Goals**
- Basic Score Interpretation
- Understanding the types of information provided by the TerraNova assessment
- Review and Understanding of the Hardcopy Reports
  - Individual Profile Report w/GE
  - Group List Report
  - Parent Home Report
  - Assessment Data Online Report Samples

**Key Areas of Evaluation**
- Comparison
  - Percentile Rank or National Percentile (NP) or (RP or Mean NCE)
  - Normal Curve Equivalent (NCE)
  - Stanine (S)
- Growth
  - Normal Curve Equivalent (NCE)
  - Grade Equivalent (GE)
  - Index
  - Scale Scores (SS)
- Performance
  - Objective Performance Index (OPI)
  - Performance Levels
Scale Scores

Standardized Test Scores

Norm-referenced
- Compares student performance to a group
- National, Association, Regional, District, Classes, etc.

Criterion-referenced
- Examines student performance on objectives and skills within a content area
- Identifies areas of stronger or weaker achievement

Comparison Scores

Percentile Rank, Normal Curve Equivalent, Stanine
### Comparison Scores: Percentile Rank

The relative standing of a student compared to other students. Useful for evaluating student performance on a particular test.

<table>
<thead>
<tr>
<th>Achievement Level</th>
<th>Total Raw Score</th>
<th>Percentile Rank</th>
<th>Normal Curve Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Achiever</td>
<td>70-84</td>
<td>80+</td>
<td>100</td>
</tr>
<tr>
<td>Average Achiever</td>
<td>60-79</td>
<td>70-79</td>
<td>90-99</td>
</tr>
<tr>
<td>Low Achiever</td>
<td>40-59</td>
<td>60-69</td>
<td>80-89</td>
</tr>
</tbody>
</table>

### Comparison Scores: Normal Curve Equivalent (NCE)

Conversion from Percentile Rank:
- 99 equal units of the normal curve
- Created to allow scores to be averaged due to the equal intervals
- Can also be used to measure growth

- Andrew scored 2 NCEs higher in Math than Reading
- Grade 4 scored 6 NCEs higher this year in Reading

### Comparison Scores: Stanine (NS or S)

Represents 9 equal units of achievement:
- Below Average (1-3), Average (4-6), Above Average (7-9)
- Excellent score to quickly place a student

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### Cognitive Skills Assessment Scores

#### Cognitive Skills Index (CSI)
- Indicates overall cognitive ability
- Age dependent
- Mean score of 100
- Average range is from 84 to 116

#### Anticipated Achievement Score
- Statistical estimate of the achievement expected for a student or group of students of similar age, grade, and cognitive abilities
- Reported as percentiles (AANP) and Normal Curve Equivalents (AANCE)
- In combination with CSI scores, can help identify students who may benefit from more support and enrichment

#### Diff Score
- Comparison between student’s actual achievement score (obtained score) and Anticipated Achievement score
- Can help determine if student is achieving below, at, or above ability levels.
Growth Score: Lexile Range

- Measures a student’s reading ability or the difficulty of text.
- Helps a reader find books and articles at an appropriate level of difficulty and determine how well that reader will likely comprehend a text.
- Use to monitor a reader’s growth in reading ability over time.
Scale Scores

Growth Scores
Grade Equivalent (GE)

- Helpful in measuring individual growth from one year to next
- Helpful in estimating a student’s developmental status in terms of grade level
- Best used in the elementary grades
- Not a prescription for grade placement
- Not diagnostic

How would you explain a second grade student taking a second grade reading test scored a GE of 4.8 on a reading test?

Performance Scores
Performance Levels

- Starting Out
- Progressing
- Near Proficiency
- Proficient
- Advanced
Performance Scores (Guide to Test Interpretation)

Low Mastery
• Starting Out

Moderate Mastery
• Progressing
• Nearing Proficiency

High Mastery
• Proficient
• Advanced

Criterion-reference Scores

• Strength = 75% or more of students at Mastery
  • The great majority of students grasp this objective
  • Last year’s instruction effective for most students
  • A good base for this year’s curriculum

• Challenge = 50%-74% of students at Mastery
  • Good news: majority of students grasp this objective
  • Bad news: it may not be a strong base for new curriculum

• Critical Need = < 50% of students at Mastery
  • Majority of students not at grade level in this area
  • Review last year’s curriculum-instruction in this area

Understanding Objective Performance Index (OPI) Scores

• Position on the Moderate Mastery Range

• Farther to the right = approaching Mastery
  • Curriculum and instruction are supporting near grade level performance (on average)
  • Polish/refine curriculum and instruction

• Left or middle = needs more work and support
  • Curriculum and/or instruction needs review and possibly revision
Individual Profile Report-Objective Scores

OPI (Objectives Performance Index) is an estimate of the number of items that a student could be expected to answer correctly if there had been 100 items for that objective.

Objectives Report-Student Data

Assessment Data Online OPI Reports
Key Areas of Evaluation

- Comparison
  - Percentile Rank
  - Stanine
  - Normal Curve Equivalent

- Growth
  - Normal Curve Equivalent
  - Scale Scores
  - Lexile
  - GE

- Performance
  - Objective Performance Index
  - Performance Levels

Assessment Data Online ONLY: Home Report (Parent Portal)

- NRT Data
- Anticipated Achievement Scores

Home Activities related to performance available in Assessment Data Online

Objective data

Lexile Range

NRT Scores
What data do we get from *TerraNova* 3 and *InView*?

<table>
<thead>
<tr>
<th>Type</th>
<th>Measure Growth</th>
<th>Rank</th>
<th>Mastery</th>
<th>Anticipate Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td>Scale Score (SS)</td>
<td>Natural Percentile Rank (NPR)</td>
<td>Objective Performance Index (OPI)</td>
<td>Anticipated Scale Score</td>
</tr>
<tr>
<td></td>
<td>Norm Curve Equivalent (NCE)</td>
<td>Grade/Grade Equivalent (GGE)</td>
<td>Mastery Category</td>
<td>Anticipated NCE</td>
</tr>
<tr>
<td></td>
<td>National Stanine (NS)</td>
<td>Quartiles</td>
<td></td>
<td>Anticipated NS</td>
</tr>
<tr>
<td>Summary</td>
<td>Mean Scale Score (MSS)</td>
<td>Median National Percentile (MDNP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade/Class</td>
<td>Mean NCE (MNC)</td>
<td>NP of the Mean Norm Curve Equivalent (NP of the Mean NCE)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Measuring Growth**

<table>
<thead>
<tr>
<th>Score Type</th>
<th>Definition</th>
<th>Purpose</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>Scale Score</td>
<td>Measure Growth over time</td>
<td>Equal Interval 0-999</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Used as basis for all Norm Referenced scores (NCE, NPR, GGE)</td>
<td>All students have one</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All Growth can be averaged</td>
<td></td>
</tr>
<tr>
<td>NCE</td>
<td>Norm Curve Equivalent</td>
<td>Measure Growth over time</td>
<td>Equal Interval 1-99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Compare performance between students on same test</td>
<td>All Growth can be averaged</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Comparing growth between tests from different publishers</td>
<td></td>
</tr>
<tr>
<td>Stanine</td>
<td>National Stanine</td>
<td>Measure growth</td>
<td>Equal Interval 1-9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Same precision as SS or NCE</td>
<td>Convert to NCE for more precise growth</td>
</tr>
</tbody>
</table>
### Ranking Students

<table>
<thead>
<tr>
<th>Score Type</th>
<th>Definition</th>
<th>Purpose</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP</td>
<td>National Percentile Rank</td>
<td>- Ranks student performance against the national norm (nation).</td>
<td>- Scale is bell curve – not equal interval. Cannot compare NP across subject areas. It is not % correct.</td>
</tr>
<tr>
<td>All of the HNCS</td>
<td>National Percentile of the Mean Norm Curve Equivalent</td>
<td>- Shows where the average student is ranked.</td>
<td></td>
</tr>
<tr>
<td>MDNP</td>
<td>Median National Percentile</td>
<td>- Shows where my middle student is.</td>
<td></td>
</tr>
<tr>
<td>Quartile</td>
<td>National Quartile</td>
<td>- Shows where students are ranked as national distribution of 25% in each Quartile.</td>
<td>- Q1 = NP 1-25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Q2 = NP 26-50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Q3 = NP 51-75</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Q4 = NP 76-99</td>
</tr>
</tbody>
</table>

### How are we going to get there?

- Ask these questions as you work through the exercise...
  - Where is this content taught/found in the textbooks?
  - To what depth and duration is it taught?
  - Are there ancillaries...
    - Being used? Could be used? Need to get?
- How can the instructional strategies be modified?
  - Modify, implement, pull in ancillary materials, pacing
  - Poll/share, questioning techniques, Thinking Maps, LQs, DEAR
  - Small group, pull-out, tutoring, afterschool, online resources
- Enrichment strategies are used to extend learning for above average students
  - Extension activities, outside projects, special activities with key pullout group
- What are the instructional strategies that may have led to the success? How can they be modified to improve other areas of need?

### Assessment Resources

- Practice Materials, sample items (i.e. Classroom Connections; Grades 2-9)
- Teacher’s Guide to Terra Nova 3 (Objectives, Critical Thinking Skills, Depth of Knowledge, compendium of information for TN3)
- Grade Level Competencies (Grades 1-8)
- Blue Prints and Subskills Charts (Grades K-12)
- Objective(s) e.
- Assessment Data Online
- Assessment Accommodations Supplement
- Performance Levels (Scale Scores)
- Academic Vocabulary: Building Foundational Skills for Success
  - Recall and recognition
    - Examples: basic computations, stated information
  - Interpret and apply skills
    - Examples: 1-step word problems, prediction
  - Explain and support with evidence
    - Examples: explicit reasoning, make inferences & support with evidence
  - Evaluate and extend
    - Examples: synthesize information, critique
Assessment Resources cont.

- Bloom’s, or Modified Bloom’s, Taxonomy Levels
- Test Taking Strategies
- Reading and Writing Programs
- Lexile Scores Suggested Use:
  - Teachers: customize their instruction to their students.
  - Parents: help their children with homework and school reading, and to guide their children in picking grade level reading.
- Professional Development:
  - Thinking Maps, Questioning Technique, Test Administration, Workshop to Analyze, Plan, and Implement Instructional Improvements to Increase Student Achievement
  - Helpful resources available through Purposeful Design (www.purposefuldesign.com), select Assessment Support

Assessment Support

Thank you!

Questions

For additional information, please visit www.purposefuldesign.com, call Member Care at 1.800.367.0798, or email Member_Care@acsi.org.