

# Overview of Type I Assessments

September 2016

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*Materials for the Illinois Center for School Improvement, a partnership between the Illinois State Board of Education and American Institutes for Research, are federally funded unless otherwise noted.*



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## Purposes and Definitions

Amid the federal and state testing requirements and performance evaluation laws, the emphasis placed on student assessment has become more prominent.

Three types of assessments are outlined in the Illinois Administrative Code:

<b>Type I</b>	<b>Type II</b>	<b>Type III</b>
A reliable assessment that measures a certain group or subset of students in the same manner with the same potential assessment items, is scored by a nondistrict entity, and is administered either statewide or beyond Illinois.	Any assessment developed or adopted and approved for use by the district and intended to be used on a districtwide basis by all teachers in a given grade, course, or subject area.	Any assessment that is rigorous, that is aligned to the course's curriculum, and that the qualified evaluator and teacher determine measures student learning in that course.

*Source.* Illinois Administrative Code, Part 50, Sub. A, Sec. 50.30

Type I assessments play an essential role in the larger assessment picture, yet they are often misinterpreted and deemed unapproachable by those unfamiliar with their purposes, vocabulary, and data reports. This guide will explain many of these concepts in an attempt to make them more understandable to educators.

The purpose of this document is to provide more detailed information about student assessments in general and Type I assessments in particular. Specifically, this document will (1) describe Type I, II, and III assessments; (2) provide a glossary of assessment terms; (3) provide illustrations of various assessment data graphs; (4) explain typical assessment score reports; (5) offer an overview of common assessments; and (6) provide relevant research for further study.

## Glossary of Terms

**Aggregate Data**—Data derived from combining several measurements (e.g., information on whether individual students met or exceeded the target is aggregated into a single “meets and exceeds” percentage)

**Baseline**—An initial measure of performance; a reference point for future measures

**Benchmark**—A point of reference; a benchmark assessment would be one specific assessment within a series; is used for comparison purposes

**Computer-Adaptive**—Computerized assessment where test items are adjusted so that, depending on the student’s responses, different items will be delivered based on the student’s demonstrated level of achievement

**Correlation**—A relationship between two variables

**Criterion-Referenced**—Test where a student’s performance is measured against a set of standards; scores are reported in comparison to standards (see Norm-Referenced)

**Disaggregate Data**—Aggregate data that have been broken down into smaller units of data (e.g., a compiled “meets and exceeds” percentage is disaggregated to show male and female percentages, White and non-White percentages, and so on)

**Formative Assessment**—Assessment occurring *during* the learning process to gather data and modify instruction to improve student achievement; often informal

**Growth Measure**—A method for determining the amount of academic progress by measuring growth between two points in time

**Horizontal Scale**—A method for comparing different groups at the same level. This allows for comparing two tests of equal difficulty but with different test items (see Vertical Scale).

**Interim Assessment**—Assessment occurring *during* the learning process to track learning progress; more formal in documenting learning than formative assessments; data aggregation and timing of administration is likely to be controlled by the school or district

**Learning Progression**—A sequenced set of skills students must master on their way to a curricular target

**Mean**—The average number of a data set (e.g., data set: 2, 3, 5, 6, 6; mean = 4.4)

**Median**—The middle number in a data set (e.g., data set: 2, 3, 5, 6, 6; median = 5)

**Mode**—The most frequently appearing number in a data set (e.g., data set: 2, 3, 5, 6, 6; median = 6)

**Norm Group**—A group of similar students (same grade, same state, and so on) to which an individual student’s performance is compared

**Norm-Referenced**—Test where a student’s performance is measured against his or her peers; scores are reported in comparison to other students, often as a percentile (see Criterion-Referenced)

**Percentiles**—A score based on the percentage of students in the norm group who are outperformed by the student being discussed (e.g., a student whose raw score exceeded the performance of 95 percent of students in the norm group would be in the 95th percentile)

**Performance Levels**—Ranges of scale scores that are used to report a student’s mastery of the content; most tests contain three to five performance levels with designations such as “does not meet,” “meets,” or “exceeds.”

**Psychometrics**—Field of study concerning psychological measurement; focused on assessment construction and measurement theory

**Quartiles**—Three points that divide the data into four equal groups; the first quartile (also called the 25th percentile) is the middle number between the smallest number and the median of a data set; the second quartile (also called the 50th percentile) is the median of the data set; the third quartile (also called the 75th percentile) is the middle number between the highest number and the median of a data set; they are often abbreviated as  $Q_1$ ,  $Q_2$ , and  $Q_3$ .

**Raw Score**—The number of items answered correctly by a student

**Reporting Categories**—The test categories (skills, subskills, and so on) that are included in the score reports

**Scale Scores**—Converted raw scores that are placed on a chosen scale to represent a student’s performance, which allows for scores within each test to be compared, even if students answered a different set of test items; each test will use its own scale and are usually not comparable across tests.

**Standard Error of Measurement**—A measure of consistency of a student’s test performance estimating how likely it is that another test performance would yield a similar score

**Summative Assessment**—Assessment occurring *after* the learning process to measure student achievement; often formal and used for student evaluative purposes

**Value-Added Model (VAM)**—A method for measuring a teacher’s or an institution’s contribution to student learning by isolating their contribution and comparing it to that of other teachers or institutions

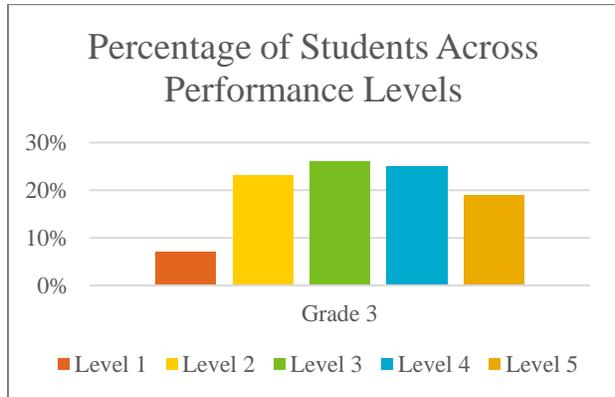
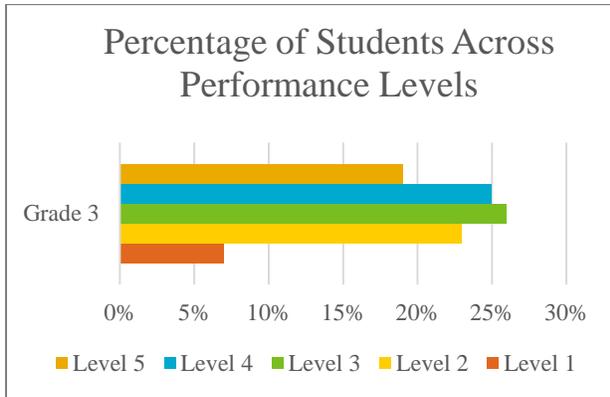
**Vertical Scale**—A method for comparing groups of systematically different abilities. This allows for measuring growth as students advance to the next level and take more challenging tests (see Horizontal Scale).

**Zone of Proximal Development (ZPD)**—Psychology term for the distance between a student’s actual developmental level and his or her potential developmental level. This zone is where instruction is most beneficial because it is just beyond the student’s current level but not too far to be out of reach.

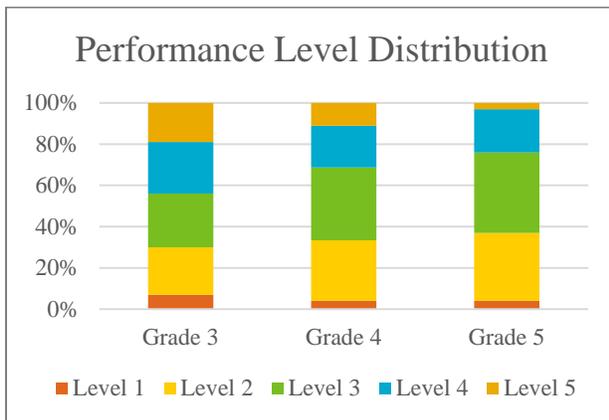
## Visual Representations of Data

There are many graphs that can be used in data display and many variations of each kind. The following are some of the most commonly used visual representations of data on assessment score reports.

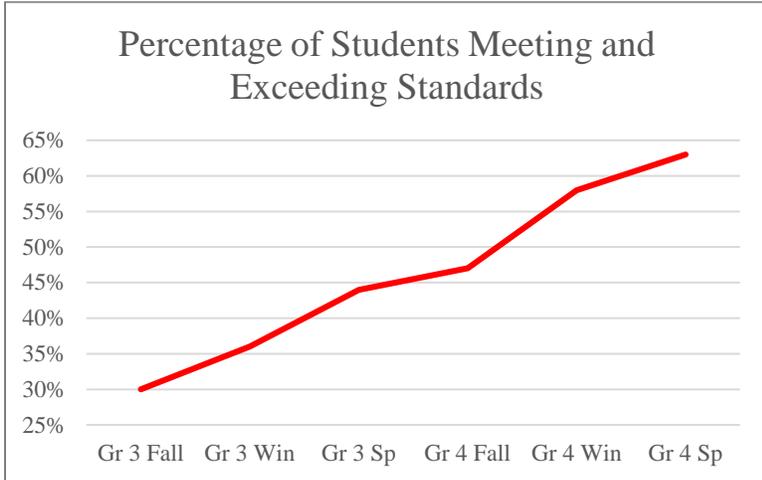
**Histogram**—Depicts the distribution of data through number bars; also can be displayed horizontally; often used in visualizing the “curve” of data



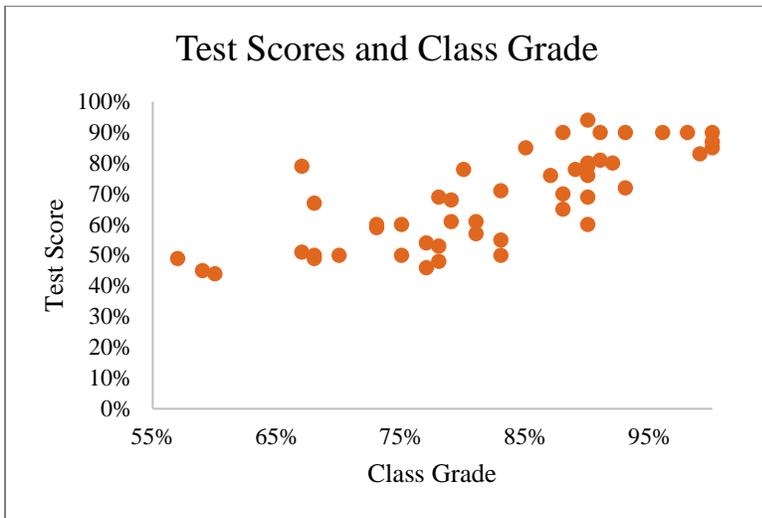
**Stacked Graph**—Depicts data stacked on top of each other, usually represented by different colors; also can be displayed horizontally; often used to visually display the parts of a whole (100 percent) and a comparison of these parts across groups or test administrations



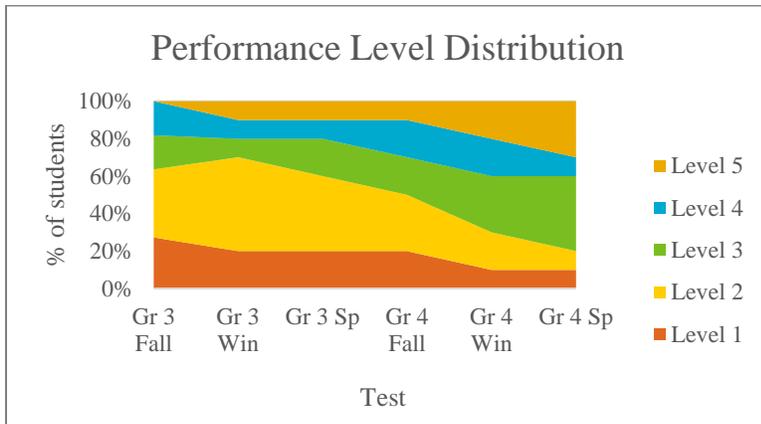
**Line Graph**—Depicts the change in data over time; often used to measure growth during multiple test administrations



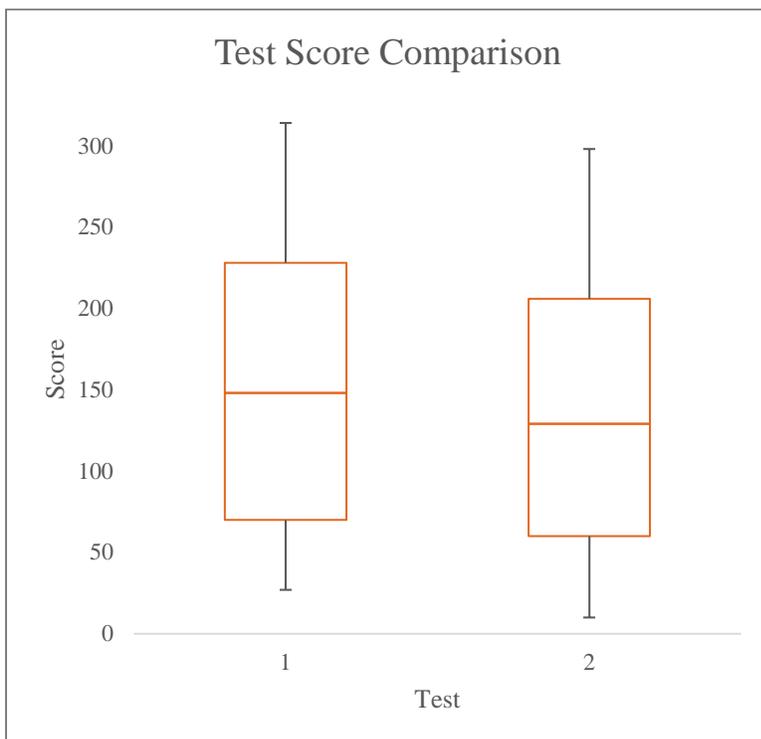
**Scatterplot**—Depicts the scattering of data on an *x-y* axis; often used to identify correlations between two data sets



**Area Chart**—A variation of a line graph that visually depicts the area between data points as it changes over time; often used to visualize performance level distribution during multiple test administrations



**Box-and-Whisker Plot**—Depicts data by summarizing five numbers: the median (middle line), the first and third quartiles (bottom and top lines of the box), and the highest and lowest values (top point and bottom point); often used to show changes in a data set over time



## Typical Score Reports

Although they differ in style and specific detail, the following reports are commonly generated by the various assessment platforms. These reports often contain a mixture of spreadsheet data, charts, and graphs.

**Class Summary Report**—Summarizes the performance of an entire class without identifying individual performance; might include performance for the entire subject (i.e., mathematics, language arts) or for the specific skills (i.e., reading for information, speaking and listening); useful for looking at summary data for the entire group

**School/District Summary Report**—Similar to the Class Summary Report but on a larger scale; useful for looking at summary data for the entire organization

**Individual Student Report**—Displays performance for one individual student; is usually the report that is sent home with the student; often displays details such as scale scores, performance levels, and percentiles

**Student Skill Report**—Contains each individual student and their performance within the various skill categories; useful for viewing each individual student within one report

**School Comparison Report**—Displays test results from each school within the district in comparison to one another; usually focuses on percentage of students in each performance level; occasionally broken down by skills

**Item Summary Report**—Displays information about every question on an assessment; information might include correct answer, percentage of students who answered it correctly, skills that are assessed, and difficulty level; usually in spreadsheet format; useful for viewing specifics on every question within one single report

**Item Analysis Report**—Contains performance information on each item of the test; information often includes correct answer, percentage of students who answered item correctly, and percentage of students who chose each answer choice; useful for examining which items are most frequently missed

**Answers Report**—Displays individual student answers to each test item; details which items were answered correctly and incorrectly by each student; usually in spreadsheet format; useful for collecting all student responses within one report

## Overview of Commonly Used K–12 Assessments

Assessment	Description	Vendor/Provider	Subjects/Skills	Grades/Courses	Website
<b>ACT</b>	Commercially available college entrance exam; summative	ACT	English, reading, mathematics, science reasoning, writing	All grades (intended for 11)	<a href="http://www.act.org/">http://www.act.org/</a>
<b>ACT Aspire</b>	Commercially available interim and summative assessment; computer-based	ACT	English, mathematics, reading, science, writing	3–10	<a href="http://www.discoveractaspire.org/">http://www.discoveractaspire.org/</a>
<b>Acuity</b>	Commercially available interim assessment; computer-based	McGraw-Hill Education	Mathematics, reading, language arts, science	K–12	<a href="http://www.mheducation.com/prek-12/platforms/acuity.html">http://www.mheducation.com/prek-12/platforms/acuity.html</a>
<b>Advanced Placement (AP) Exams</b>	Culmination of AP courses; accepted by colleges for credit; summative	College Board	Various	High school (recommended); younger grades eligible	<a href="https://apstudent.collegeboard.org/home">https://apstudent.collegeboard.org/home</a>
<b>AIMSweb Benchmarks</b>	Commercially available interim assessment; computer-based	Pearson	English, mathematics	K–8	<a href="http://www.aimsweb.com/">http://www.aimsweb.com/</a>
<b>Assessing Comprehension and Communication in English State-to-State for English Language Learners (ACCESS for ELLs)</b>	State-required English language proficiency test for students with limited English-speaking abilities (in accordance with federal mandates); summative	WIDA Consortium	English language proficiency	K–12	<a href="https://www.wida.us/">https://www.wida.us/</a>

Assessment	Description	Vendor/Provider	Subjects/Skills	Grades/Courses	Website
<b>Children’s Progress Academic Assessment (CPAA)</b>	Commercially available diagnostic assessment; computer-based	Northwest Evaluation Association (NWEA)	Literacy, mathematics	PK–3	<a href="https://www.nwea.org/assessments/cpaa/">https://www.nwea.org/assessments/cpaa/</a>
<b>Discovery Education Assessment</b>	Commercially available interim assessment; computer-based	Discovery Communications	Reading, mathematics, science	K–11	<a href="http://www.discoveryeducation.com/">http://www.discoveryeducation.com/</a>
<b>Dynamic Indicators of Basic Early Literacy Skills (DIBELS)</b>	Commercially available benchmark assessment and screening tool; scored by teacher	Dynamic Measurement Group	Literacy	K–6	<a href="https://dibels.org/">https://dibels.org/</a>
<b>Dynamic Learning Maps (DLM)</b>	State-required alternate accountability test for students with most significant cognitive disabilities (in accordance with federal mandates); summative	DLM Consortium, University of Kansas	Language arts, mathematics, science	3–8, 11	<a href="http://dynamiclearningmaps.org/">http://dynamiclearningmaps.org/</a>
<b>English Proficiency Assessment for Secondary Schools (EPASS)</b>	Commercially available English language proficiency assessment; computer-based	EPASS, LLC	English language proficiency	8–12	<a href="https://epassusa.com/">https://epassusa.com/</a>
<b>FastBridge</b>	Commercially available benchmark assessment and screening tool; computer-based	FastBridge Learning, LLC	Reading, mathematics	K–12	<a href="http://www.fastbridge.org/">http://www.fastbridge.org/</a>

Assessment	Description	Vendor/Provider	Subjects/Skills	Grades/Courses	Website
<b>Illinois Science Assessment (ISA)</b>	State-required accountability test (in accordance with federal mandates); summative	WestEd, in collaboration with the District of Columbia Office of the State Superintendent of Education	Science	5, 8, high school biology	<a href="http://www.isbe.net/assessment/isa.htm">http://www.isbe.net/assessment/isa.htm</a>
<b>Iowa Test of Basic Skills (ITBS)</b>	Commercially available diagnostic assessment; paper-based	Seton Testing Services	English, mathematics, social studies, science	K–8	<a href="http://www.setontesting.com/iowa-tests/">http://www.setontesting.com/iowa-tests/</a>
<b>i-Ready</b>	Commercially available diagnostic assessment; computer-based	Curriculum Associates	Reading, mathematics	K–12	<a href="http://www.curriculumassociates.com/products/iready/diagnostic-instruction.aspx">http://www.curriculumassociates.com/products/iready/diagnostic-instruction.aspx</a>
<b>Kindergarten Individual Development Survey (KIDS)</b>	Illinois instrument to assess kindergarten readiness; based on observations; state-required beginning in 2017–18	Illinois State Board of Education, in collaboration with WestEd	English, mathematics	Kindergarten	<a href="https://www.illinoiskids.org/">https://www.illinoiskids.org/</a>
<b>LAS Links</b>	Commercially available interim English language proficiency assessment; paper-based	Data Recognition Corporation (DRC)/CTB	English language proficiency	K–12	<a href="http://www.ctb.com/ctb.com/control/productFamilyViewAction?productFamilyId=454&amp;p=products">http://www.ctb.com/ctb.com/control/productFamilyViewAction?productFamilyId=454&amp;p=products</a>
<b>mCLASS</b>	Commercially available interim assessment; computer-based	Amplify	Reading, literacy, mathematics	PK–12	<a href="http://www.amplify.com/assessment">http://www.amplify.com/assessment</a>

Assessment	Description	Vendor/Provider	Subjects/Skills	Grades/Courses	Website
<b>Measures of Academic Progress (MAP)</b>	Commercially available interim assessment; computer-based	Northwest Evaluation Association (NWEA)	Reading, language usage, mathematics, science	2–12	<a href="https://www.nwea.org/assessments/map/">https://www.nwea.org/assessments/map/</a>
<b>MobyMax Diagnostic Testing</b>	Commercially available diagnostic assessment; computer-based	MobyMax	Reading, writing, mathematics, science, social studies	K–8	<a href="http://www.mobymax.com/">http://www.mobymax.com/</a>
<b>National Assessment of Educational Progress (NAEP)</b>	National assessment given to sample schools; summative	National Center for Education Statistics (NCES), in collaboration with various contractors	Reading and mathematics (required for sample schools); various others	4, 8, 12	<a href="http://nces.ed.gov/nationsreportcard/">http://nces.ed.gov/nationsreportcard/</a>
<b>Partnership for Assessment of Readiness for College and Careers (PARCC)</b>	State-required accountability test for Grades 3–8 (in accordance with federal mandates); summative	PARCC Consortium, Pearson	Language arts, mathematics	3–8	<a href="http://parcconline.org/">http://parcconline.org/</a>
<b>Preliminary SAT (PSAT)</b>	Commercially available SAT practice test; summative	College Board	Reading, writing, mathematics	8–11 (recommended); younger grades eligible	<a href="https://collegereadiness.collegeboard.org/psat-nmsqt-psat-10?navId=gh-pn">https://collegereadiness.collegeboard.org/psat-nmsqt-psat-10?navId=gh-pn</a>
<b>Program for International Student Assessment (PISA)</b>	International assessment given every 3 years to sample schools	NCES	Reading, mathematics, science	15-year-olds	<a href="https://nces.ed.gov/surveys/pisa/">https://nces.ed.gov/surveys/pisa/</a>

Assessment	Description	Vendor/Provider	Subjects/Skills	Grades/Courses	Website
<b>Progress in International Reading Literacy Study (PIRLS)</b>	International assessment given every 5 years to sample schools	International Association for the Evaluation of Educational Achievement (IEA)	Reading, literacy	4	<a href="http://timssandpirls.bc.edu/">http://timssandpirls.bc.edu/</a>
<b>SAT</b>	State-required college entrance exam and accountability test for Grade 11 (in accordance with federal mandates); also commercially available for purchase; summative	College Board	Reading, writing, mathematics	11 (required), all grades (commercial; intended for 11)	<a href="https://collegereadiness.collegeboard.org/sat">https://collegereadiness.collegeboard.org/sat</a>
<b>Smarter Balanced</b>	Accountability test used in several states (not including Illinois); computer-based; summative	Smarter Balanced Assessment Consortium	Language arts, mathematics	3–11	<a href="http://www.smarterbalanced.org/">http://www.smarterbalanced.org/</a>
<b>Star 360</b>	Commercially available interim assessment; computer-based	Renaissance Learning	Reading, early literacy, mathematics, reading Spanish	PK–12	<a href="http://www.renaissance.com/products/star-assessments">http://www.renaissance.com/products/star-assessments</a>
<b>Study Island Benchmarks</b>	Commercially available interim assessment; computer-based	Edmentum	Mathematics, reading, science, social studies	3–8	<a href="http://www.studyisland.com/">http://www.studyisland.com/</a>

Assessment	Description	Vendor/Provider	Subjects/Skills	Grades/Courses	Website
<b>TerraNova</b>	Commercially available diagnostic assessment	DRC/CTB	Reading, language arts, mathematics, science, social studies	K–12	<a href="http://www.ctb.com/ctb.com/control/productFamilyViewAction?productFamilyId=449&amp;p=products">http://www.ctb.com/ctb.com/control/productFamilyViewAction?productFamilyId=449&amp;p=products</a>
<b>Trends in International Mathematics and Science Study (TIMSS)</b>	International assessment given every 4 years to sample schools	IEA	Mathematics, science	4, 8	<a href="http://timssandpirls.bc.edu/">http://timssandpirls.bc.edu/</a>

## Relevant Research

Briggs, D. C., & Peck, F. A. (2015). Using learning progressions to design vertical scales that support coherent inferences about student growth. *Measurement: Interdisciplinary Research and Perspectives*, 13(2), 75–99. Retrieved from [http://www.colorado.edu/education/sites/default/files/attached-files/Briggs\\_Peck\\_MIRP\\_06052015.pdf](http://www.colorado.edu/education/sites/default/files/attached-files/Briggs_Peck_MIRP_06052015.pdf)

[This paper](#) focuses on the way growth is often measured and how it is used in teacher evaluation systems. The authors promote the use of learning progressions in designing vertical scales that would more accurately capture student growth.

Doorey, N., & Polikoff, M. (2016). *Evaluating the content and quality of Next Generation Assessments*. Washington, DC: Thomas Fordham Institute. Retrieved from <https://edexcellence.net/publications/evaluating-the-content-and-quality-of-next-generation-assessments>

[This report](#), conducted by the Thomas Fordham Institute, evaluates four major assessments on their alignment to the Common Core State Standards. The four assessments are PARCC, Smarter Balanced, ACT Aspire, and the Massachusetts Comprehensive Assessment System (MCAS).

Lazer, S., Mazzeo, J., Way, W. D., Twing, J. S., Camara, W., & Sweeney, K. (2010). *Thoughts on linking and comparing assessments of Common Core Standards*. Retrieved from [http://images.pearsonassessments.com/images/tmrs/tmrs\\_rg/LinkingandComparingCCAsessments.pdf](http://images.pearsonassessments.com/images/tmrs/tmrs_rg/LinkingandComparingCCAsessments.pdf)

[This paper](#), collaboratively written by representatives from Pearson, ETS, and the College Board, discusses the realities of comparing test results across assessments, and if this is even possible. The report was written in 2010, just as testing consortiums such as PARCC and Smarter Balanced were being developed.

Patz, R. J. (2007). *Vertical scaling in standards-based educational assessment and accountability systems*. Washington, DC: The Council of Chief State School Officers. Retrieved from [http://www.ccsso.org/Documents/2007/Vertical\\_Scaling\\_in\\_standards\\_2007.pdf](http://www.ccsso.org/Documents/2007/Vertical_Scaling_in_standards_2007.pdf)

[This paper](#) describes the concept of and methods behind vertical scaling. It was prepared to inform state policymakers and assessment specialists about the advantages and limitations of vertical scales.

Perie, M., Marion, S., Gong, B., & Wurtzel, J. (2007). *The role of interim assessments in a comprehensive assessment system*. Retrieved from <http://www.achieve.org/files/TheRoleofInterimAssessments.pdf>

[This policy brief](#) describes the purposes of interim assessments and examines their role in a comprehensive assessment system. The authors discuss the characteristics of a good interim assessment and the value of the data that are collected.

## Core Functions and Indicators

The Illinois Center for School Improvement organizes its services based around the Core Functions and Indicators (CFIs). These research-based practices form the structure of our belief system and guide our work with Illinois districts. If the indicators are implemented fully across the system, it is likely that student and adult performance will increase.

This assessment guide aligns with the following indicators:

- Indicator B4. A data system for collecting, storing, accessing, analyzing, and disseminating school- and student-level data to make informed decisions to improve student learning and adult performance.
- Indicator B5. Consistent administration and use of districtwide and school-level formative and summative assessments aligned to the curriculum.

To read the full CFIs, visit <https://www.illinoiscsi.org/researchandresources>.