pro core
Focused Diagnostics

Measuring Student Growth and Teacher Effectiveness Using NCEs

Pro-Core+ On-Track School Reports

How does Pro-Core Measure Growth?

- Pro-Core Form A diagnostic/formative pre-assessments are administered prior to instruction. Student scores are converted to NCEs.
- Pro-Core Form B interim or Form C summative/end of course post-assessments are administered later to the same students. Those scores are also converted to NCEs.
- Student growth is determined by the difference between a student's NCE position in the distribution in a grade/subject at the *beginning* of instruction and the student's NCE position in that distribution at the *end* of a period of instruction.
- The Normal Student Growth Standard is 0.0, also called the "Expected Student Growth Target."

An Example NCE Calculation

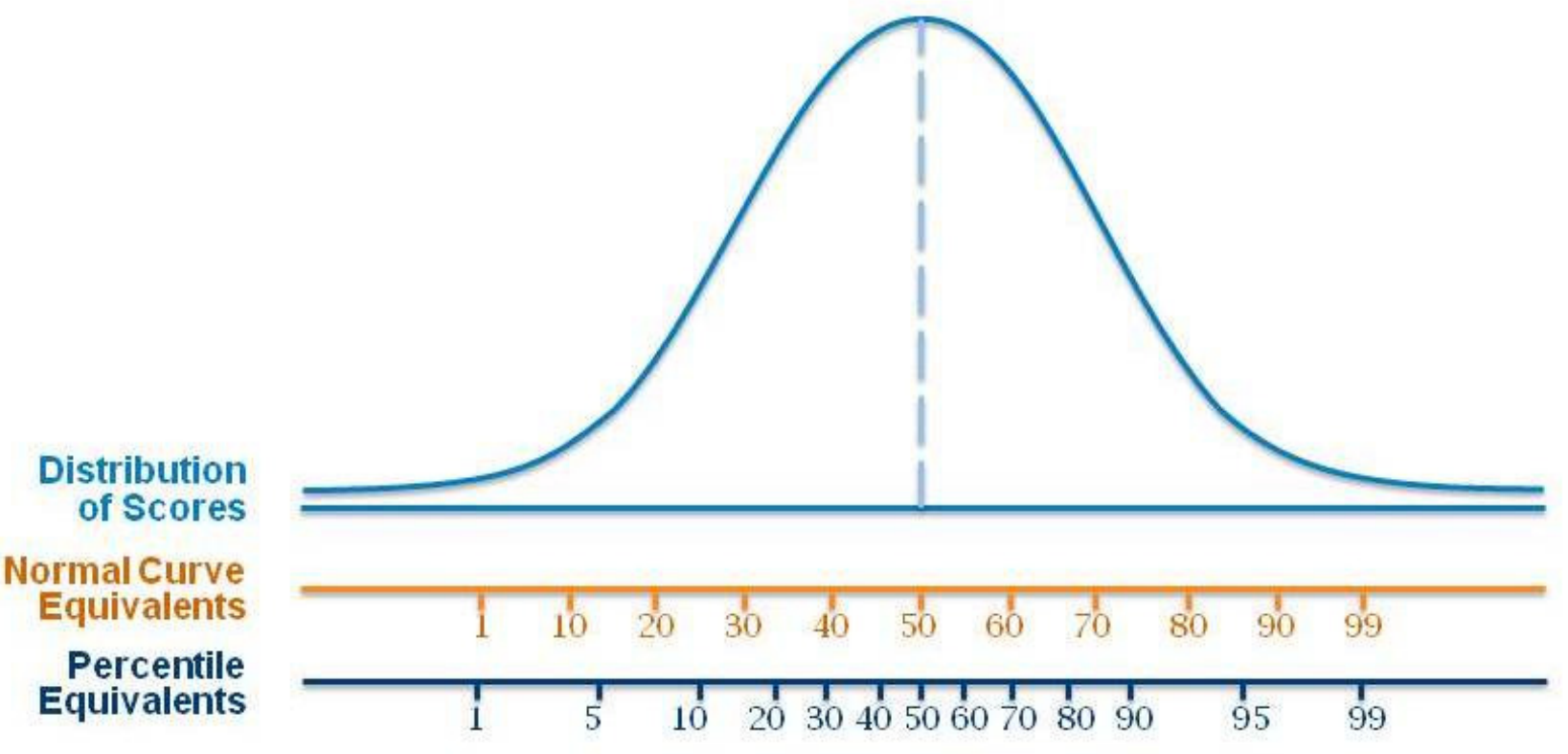
Suppose the average score on a science test for all 5th graders in a district is 50% and the standard deviation is 10.

Suppose Joe scored 65.

What's Joe's NCE?

1. **Z = (65 - 50) / 10 = 1.5**
2. **NCE = 50 + 21.063 * Z = 81.6**

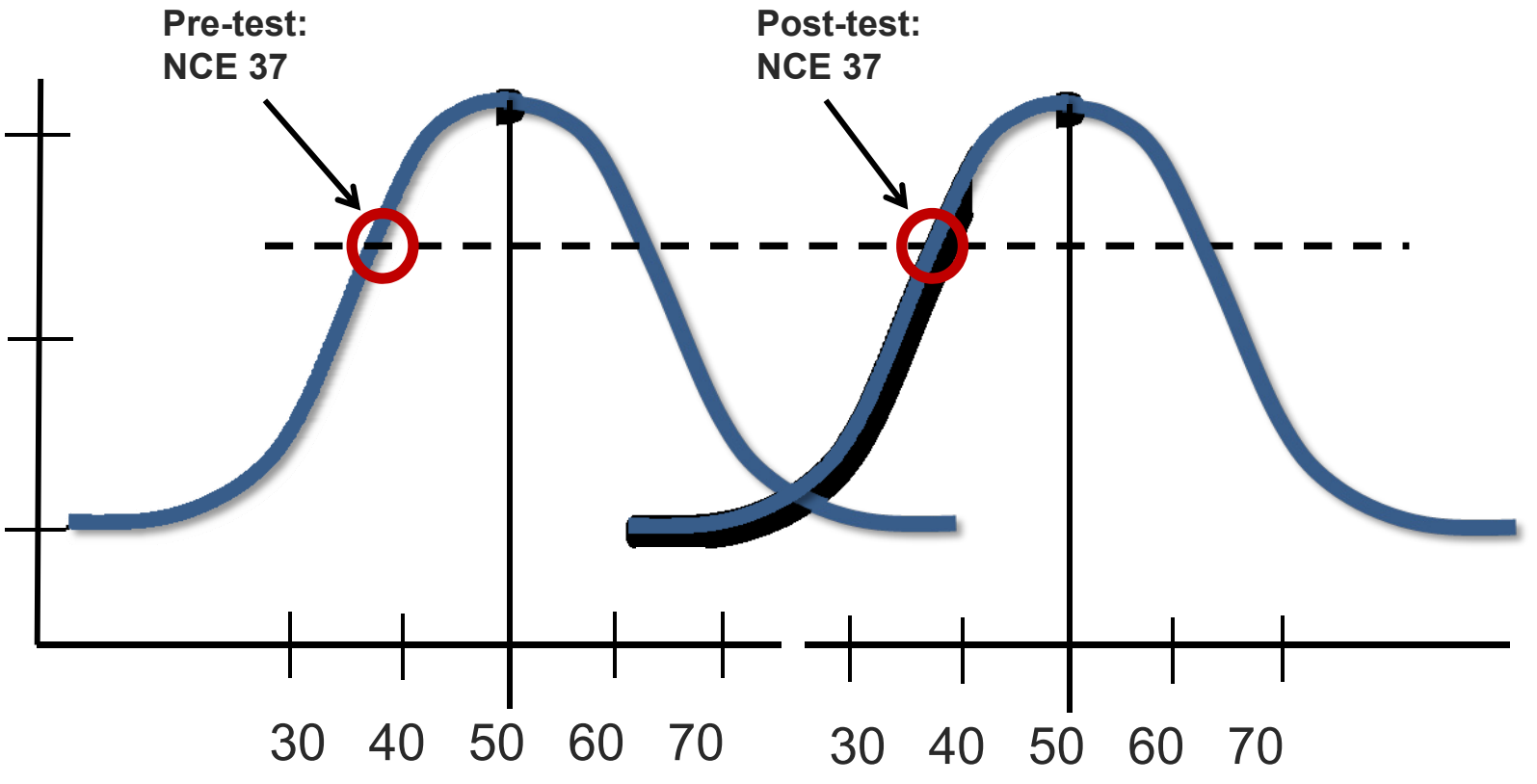
Normal Curve Equivalents (NCEs) are a way of measuring where a student falls along the normal bell curve.



Normal Curve Equivalent (NCE) Growth Standard Model

- Normal Curve Equivalent (NCE) scores are norm-referenced scores ranging from 1 to 99 and have an average score of 50. An NCE of 50 represents the national average score for any given grade level.
- Growth is measured relative to the student NCE progress in a grade/subject on two tests between two points in time.
- The Expected Average Progress/Growth Standard is 0.0.

NCEs and the Growth Standard

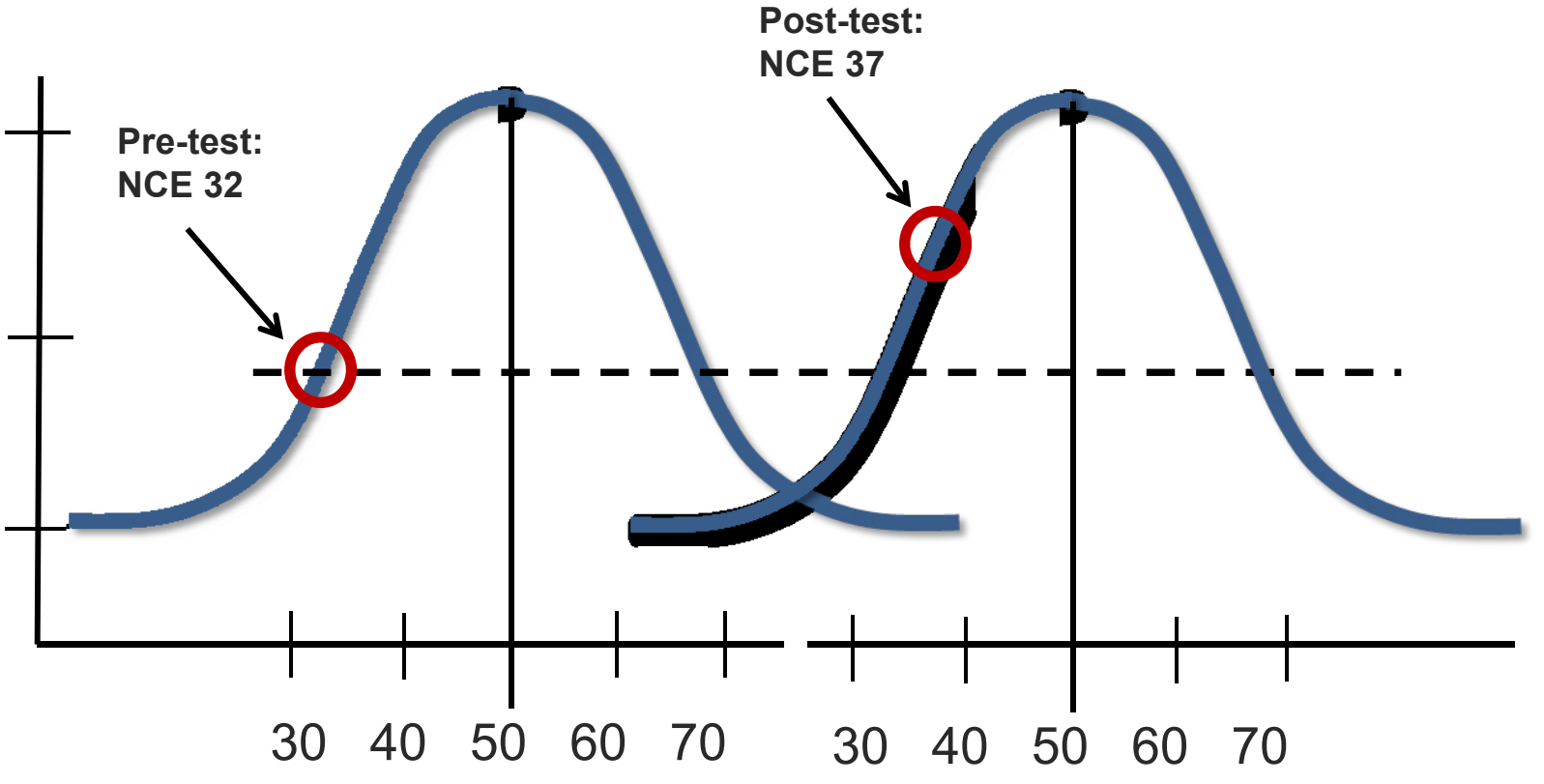


Post-test NCE 37 - Pre-test NCE 37 = 0 = Met Expected Growth Target

The student Growth Standard (0.0) is achieved when a student does not lose ground between two points in time, relative to other students who take the same test.

This procedure is applied to each student in each teacher's class in a school district.

NCEs and the Growth Standard

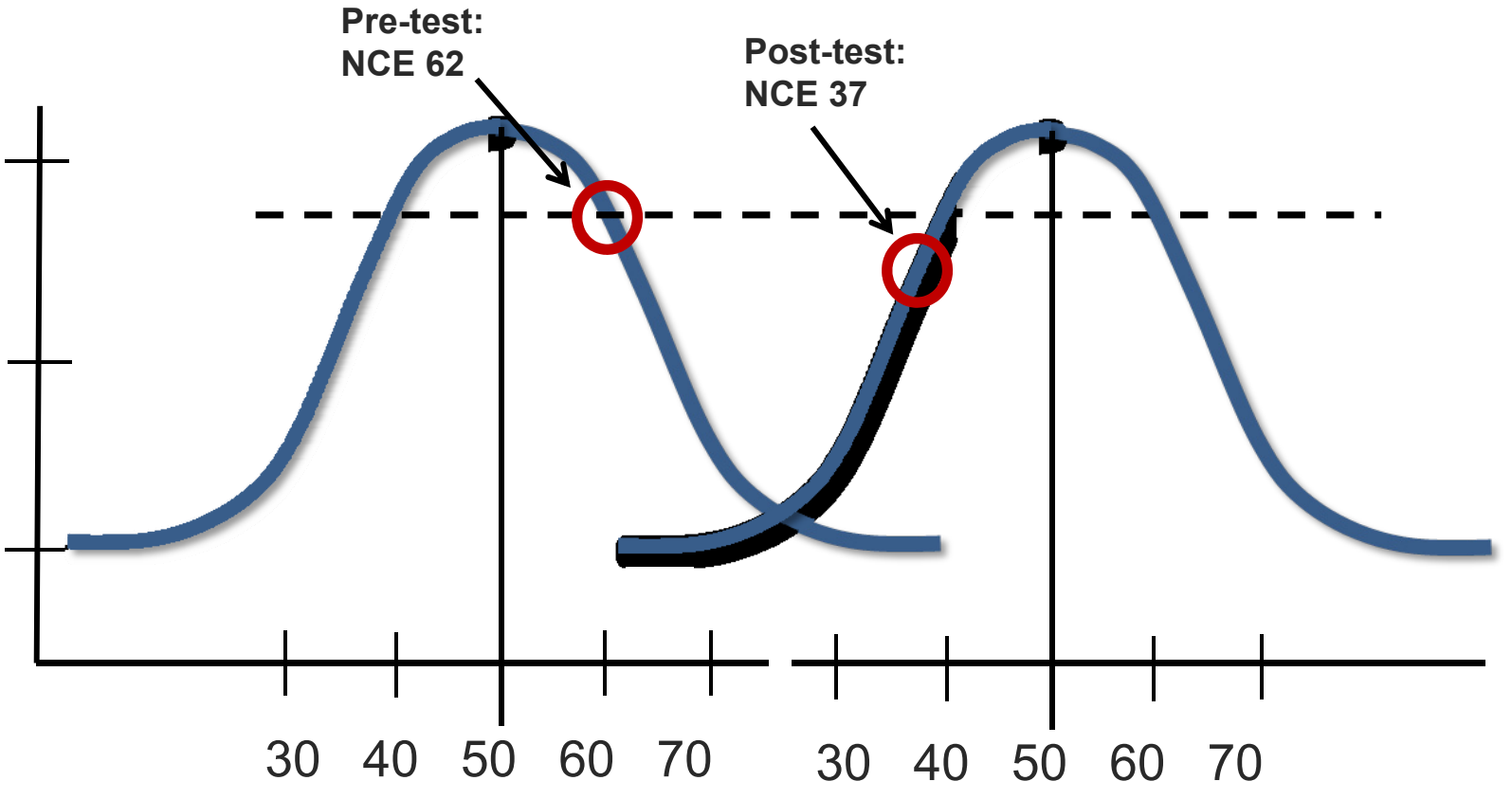


Post-test NCE 37 - Pre-test NCE 32 = +5 = Above Expected Growth Target

This student gained ground between two points in time, relative to other students who took the same test.

This student has exceeded the growth standard.

NCEs and the Growth Standard



Post-test NCE 37 - Pre-test NCE 62 = -25 = Below Expected Growth Target

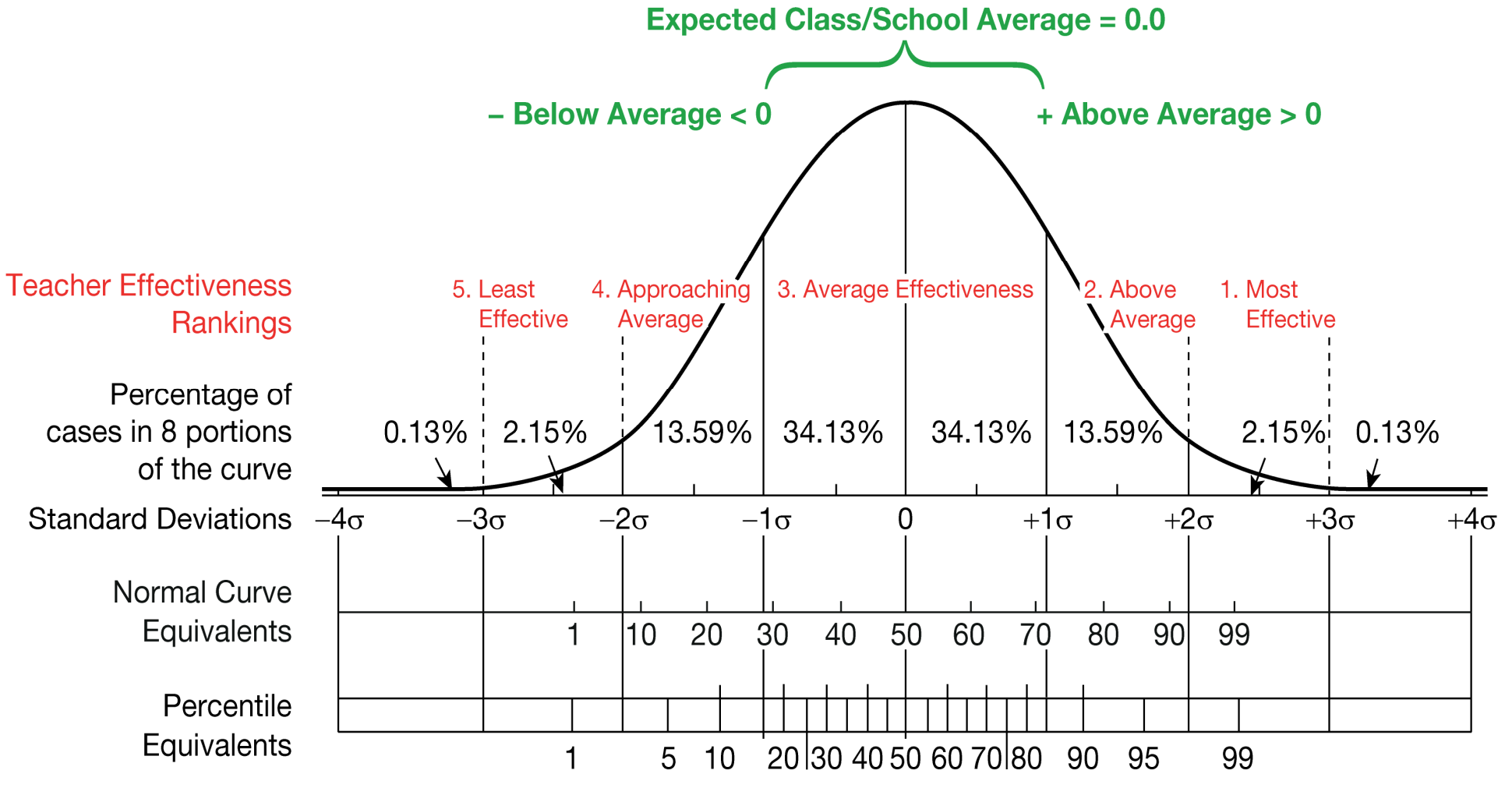
This student lost ground between two points in time, relative to other students who took the same test.

This student has not exceeded the growth standard.

How does Pro-Core Measure Teacher Effectiveness?

- **Students' NCE Growth Scores (NCE difference) in each grade/subject are standardized and averaged in each teacher's class and school in a district at the end of a period of instruction.**
- **The Teacher Effectiveness Rating is determined by the class Average Growth Score (AGS).**
- **The *expected* NCE growth target for students attaining normal growth is 0 NCEs. Therefore, teacher class averages are expected to be 0 *(i.e. between ± 1 Standard Deviations).***
- **Teacher Effectiveness Rating Scale:**
  - *** 5. Most Effective =>+2SD of AGS**
  - *** 4. Above Average Effectiveness +2SD to +1SD of AGS**
  - *** 3. Average Effectiveness +1SD to -1SD of AGS**
  - *** 2. Approaching Average Effectiveness -1SD to -2SD of AGS**
  - *** 1. Least Effective =<-2 of AGS**

Normal Curve Equivalent (NCE) averages are a way of measuring where a group of students in a school district class falls along the normal bell curve.



Teacher Effectiveness Class Detail Report

Pro-Core+ Student Learning Objectives Report

Student Growth Averages (NCEs)

Student NCE Growth

Met Target

SCHOOL NAME+ H

+ Andrew + Ma

Teacher - Class - As

Expected Student Growth *Target* >= 0 NCEs

+ Above
- Below

SGS	Student Name	Student ID #	Effectiveness Rating Gr	Gen	SpecCode	Pre-Test % Score = NCE	Post-Test % Score Code =	NCE	Pre-Post % NCE Difference	NCE diff Growth	Met Growth Target?
+2	HOLLY ELEMENTARY	43 students									
+2	ANDREW 105 Mathematics 4	23 students	5 Most Effective			32.5 av.%	46.6 av.%		14.8 av.%	+ 6 av. NCE	
	ACOSTA, HANNAH	202543	4	F	60000	26.0	36	38.0 P	39	12.0	+ 3	Yes
	BURNS, CARLTON	205027	4	M	20000	22.0	29	44.0 P	47	22.0	+ 17	Yes
	CALLAHAN, AIZIA	202593	4	F	20000	32.0	45	52.0 P	58	20.0	+ 13	Yes
	CARTWRIGHT, JAMAR	202625	4	M	20000	20.0	26	38.0 P	39	18.0	+ 12	Yes
	Clark, Lela	202671	4	F	20000	30.0	42	52.0 P	58	22.0	+ 16	Yes
	DILLARD, IAN	208084	4	M	60000	34.0	48	46.0 P	50	12.0	+ 1	Yes
	Gilbert, Jahnal	202672	4	M	00000	36.0	51	26.0 B	22	-10.0	- 29	No
	GREEN, XAVIER	205036	4	M	60000	38.0	54	38.0 P	39	0.0	- 16	No
	GUICE, JORDAN	202512	4	M	20000	28.0	39	36.0 B	36	8.0	- 3	No
	HATCHER, AUSTIN	202664	4	M	10000	56.0	83	76.0 A	91	20.0	+ 9	Yes
	LITTLE, MAHKAIL	205012	4	M	60000	28.0	39	40.0 P	41	12.0	+ 3	Yes
	LONG, AUSTIN	202620	4	M	10000	46.0	67	78.0 A	94	32.0	+ 27	Yes
	LYONS, KIMBERLY	198035	4	F	00000	38.0	54	58.0 A	66	20.0	+ 12	Yes
	MADLOCK, HEAVEN	202570	4	F	00000							

Teacher Effectiveness Class Summary

Pro-Core+ - Student Learning Objectives Summary

Met Target

Teacher Effectiveness Ratings = Average NCEs: class Student Growth (progress)

SCHOOL NAME +Holly Elementary

SGS	TEACHER - Class #	Subject-Grade	Effectiveness Rating	nt	Pre-Test av.%	Post-Test av.%	Pre-Post %Av.Dif.	NCE Av. Growth	Met Growth Target?
+ 2	HOLLY ELEMENTARY			s					
2	ANDREW 100	Math4	5 Most Effective	s	32.3	46.6	14.3	5	17 of 23
+2	ANDREW 105	Mathematics 4	5 Most Effective	23 students	32.3	46.6	14.3	+ 5	17 of 23
0	ANDREW 100	Read4	3 Average Effectiveness	23 students	45.3	43.2	-1.2	0	10 of 22
+0	ANDREW 106	Reading 4	3 Average	23 students	45.3	43.2	-1.2	+ 0	10 of 22
2	BARN 140	Math4	5 Most Effective	23 students	34.1	48.3	14.3	5	14 of 23
+2	BARN 145	Mathematics 4	5 Most Effective	23 students	34.1	48.3	14.3	+ 5	14 of 23
-0	BARN 140	Read4	3 Average Effectiveness	22 students	47.7	44.0	-2.3	-1	7 of 18
-0	BARN 146	Reading 4	3 Average	22 students	47.7	44.0	-2.3	- 1	7 of 18
-2	MARSH 200	Math4	1 Least Effective	10 students	21.8	28.8	7.0	-3	5 of 10
-2	MARSH 207	Mathematics 4	1 Least Effective	10 students	21.8	28.8	7.0	- 3	5 of 10
2	MARSH 200	Read4	5 Most Effective	10 students	31.2	36.4	5.2	7	8 of 10
+2	MARSH 208	Reading 4	5 Most Effective	10 students	31.2	36.4	5.2	+ 7	8 of 10
-0	MORR 220	Math4	3 Average Effectiveness	16 students	35.6	46.9	11.1	-0	8 of 15
-0	MORR 225	Mathematics 4	3 Average	16 students	35.6	46.9	11.1	+ 0	8 of 15
1	MORR 220	Read4	4 Above Average	16 students	47.7	48.8	0.7	2	9 of 15
+1	MORR 226	Reading 4	4 Above Average	16 students	47.7	48.8	0.7	+ 2	9 of 15

SGS=Standardized Growth Score

Report C-4

Levels: 5.Most Effective >+3; 4.Above Average +2 to +3; 3.Average +1, 0, -1; 2.Approaching Average -2 to -3; 1.Least Effective <-3

3/30/2014

Using Pro-Core Ohio Standards Assessments

- **Pre-Test (Form A) – *August-September***
  - Diagnostic Data on each student and class
  - Individual student/class strengths & weaknesses

- **Short-Cycle Assessments – *throughout the year***
  - Student/Class Progress reports on each Ohio Standard

- **Interim/FormativeTest (Form B) – *December-January***
  - Diagnostic Data on each student and class progress
  - Mid-term or Semester course assessment

- **Post-Test/Summative (Form C) – *March-April***
  - End-of-Course assessment
  - Student and Class Growth Ratings

3 Expected Growth = +.09 AGS (±1 SD)

Name	Form A%	A NCEs	Form B%	B NCEs	NCE diff	Met Target?
Student1	66.7	72	75.0	71	-1	no
Student2	41.7	40	58.3	49	9	yes
Student3	58.3	61	75.0	71	10	yes
Student4	41.7	40	69.4	63	23	yes
Student5	38.9	37	61.1	53	16	yes
Student6	33.3	30	55.6	46	16	yes
Student7	47.2	47	66.7	60	13	yes
Student8	41.7	40	63.9	56	16	yes
Student9	72.2	79	55.6	46	-33	no
Student10	61.1	65	55.6	46	-19	no
Student11	41.7	40	55.6	46	6	yes
Student12	27.8	23	58.3	49	26	yes
Student13	55.6	58	52.8	42	-16	no
Student14	55.6	58	63.9	56	-2	no
Student15	33.3	30	47.2	35	5	yes
Student16	41.7	40	55.6	46	6	yes
Student17	47.2	47	58.3	49	2	yes
Student18	36.1	33	27.8	10	-23	no
Student19	36.1	33	47.2	35	2	yes
Student20	36.1	33	52.8	42	9	yes
Student21	61.1	65	63.9	56	-9	no
Student22	61.1	65	72.2	67	2	yes

CLASS AVERAGE NCEs = +2.6

15 of 22met the growth target

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Focused Diagnostics

QUESTIONS?

Form More Information, Contact:

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