

Improving Achievement (and hopefully ITBS scores!) through Data Analysis

Adequate Yearly Progress: Is it impossible?

“Using the original formulation, the White House’s own calculations revealed that had NCLB been in place for a few years, about 90% of the schools in North Carolina and Texas would have been labeled “failing schools.” If these states that have been singled out for their progress on standardized test can’t meet the standard, what hope is there for the rest? None – that’s the purpose of the law.

“The National Conference of State Legislatures estimated that 90% of all schools would fail while simulations by the Council of Chief State School Officers put the failure rate at only 88%.” ⁽¹⁾

According to Robert Linn, president of the American Educational Research Association, given our present rate of progress, we can meet the NCLB proficiency targets for 4th grade math in 57 years, for 8th grade math in 61 years, and for 12th grade math in 166 years. The law requires states to meet the targets by 2014.” ⁽²⁾

On the other hand...

A 4th grade student who can identify the correct answer to 25% of the ITBS Reading Comprehension items and randomly guesses on the rest of the items has a 50% chance of earning a proficient score. Students who are able to eliminate one or two incorrect answers on each item have a 79% - 99% chance of earning a proficient score. ⁽³⁾

Options for meeting AYP: ⁽⁴⁾

- 1) Change “education” to “test preparation” – especially for non-proficient (aka low-income / IEP) students.
- 2) Focus your entire school day on reading & math at the expense of other subjects
- 3) Work longer hours (stress to teachers that they should “work harder” and schedule lots of meetings)
- 4) Go to presentations where the speakers claim to know how to improve your test scores. ⁽⁵⁾
- 5) Cheat (at least look for loopholes in the definition of “full academic year.”)
- 6) Give up. When you fail to meet AYP, explain that NCLB is “an attack on public schools.”

I don’t have a magic solution to increase your students’ test scores. By the end of the day, I hope you’ll gain some new tools, knowledge, and skills that you may choose to implement in your schools. By themselves, these tools will not improve your students’ test scores. They will help improve achievement if they are infused in a focused improvement plan involving your teachers, students, and administrators.

Everything I present today is based on the following two of principles: ⁽⁶⁾

- 1) *Everyone* impacts achievement
- 2) Informed decisions are better than uninformed decisions

(1) <http://nochildleft.com/2003/feb03no.html>

(2) Robert L. Linn, Eva L. Baker, and Damian W. Betebenner, "Accountability systems: Implications of the No Child Left Behind Act of 2001." *Educational Researcher*, August/September 2002, pp. 3-16.

(3) The file “Probability.xls” can be used to simulate a student’s probability of earning a proficient score on any ITBS test. The calculations are based on the Law of Total Probability and the binomial distribution.

(4) These options are not recommendations. They are, however, based on actual approaches used by schools.

(5) Every one of you already knows how to improve your test scores – it’s just really difficult to do. I think you should look at NCLB as an opportunity to change what you know should be changed in your buildings.

(6) The two principles lead us to the following conclusions:

- 1) Everyone must receive useful (customized) information
- 2) Everyone must receive the same message (a general goal with specific information)
- 3) Everyone must work with the information
- 4) Everyone must know how the information will be used (building trust in the process)

What information do students need?

- Information on how they compare to their peers
- Information on how they have grown in achievement since last year
- An understanding of their relative strengths and weaknesses
- An understanding of what they can do to improve those relative weaknesses

What are students typically given?

- A set of NPR or NGE scores (pictured below)
- A performance profile

STUDENT NAME		Birth Date Level (Gender)		READING			WORD ANALYSIS			LISTENING			LANGUAGE				MATHEMATICS				CORE TOTAL			SOCIAL STUDIES		SCIENCE		SOURCES OF INFO.			COMPOSITE
I.D. Number	Calc. Code	Age	Form	Vocabulary	Comprehension	TOTAL	Spelling	Capitalization	Punctuation	Usage/Expression	TOTAL	Concepts/Estimate	Problem/Interp.	Computation	TOTAL	History	Geography	Economics	Government and Society	Maps/Diagrams	Reference Materials	TOTAL	Map/Diagrams	Ref. Materials	TOTAL						
Anderson, Jamie	09/91	9	(F)	SS	204	188	196	196	179	214	198	215	206	182	193	172	188	197	179	186	204	228	216	195	4.3						
0000141452	Y	9-08	A	GE	5.0	4.0	4.5	4.5	3.4	4.9	5.8	4.5	5.8	5.3	3.8	4.4	3.2	4.0	4.6	3.4	3.9	5.0	6.9	5.9	4.3						
999 999 999	ABCDEFGHI	JKL	MNOPZ	NS	7	5	6	6	5	7	7	6	7	7	5	6	4	5	6	5	7	9	8	6	6						
999 999 999	ABCDEFGHI	JKL	MNOPZ	NPR	70	54	61	61	46	69	72	61	71	69	49	50	37	55	63	46	52	68	93	80	61						
999 999 999	ABCDEFGHI	JKL	MNOPZ		83	58	70	70	42	82	85	70	84	82	49	66	27	59	73	42	54	81	98	92	69						

Class/Group: Clark
 School: Central Elementary
 School Code: 99C002120
 District: Spring Lake
 Order No.: 002-A7000028-0-002

Test Date: 04/2001
 Report Date: 04/25/01
 Norms: Spring 2000
 Page: 1
 Grade: 3

Test/Skill	Total Items	No. Att.	% Class	% Nat.	% Low	% Med.	% High
READING							
Vocabulary							
Vocabulary	29	28	72	69	32	55	14
Reading Comprehension							
Factual Understanding	17	17	86	79	14	82	5
Inference and Interpretation	12	12	83	71	32	50	18
Analysis and Generalization	8	8	63	65	45	41	14
WORD ANALYSIS							
Phon. Awareness and Decoding	11	11	75	69	19	54	27
Identifying/Analyzing Word Parts	24	24	60	65	35	31	35
LISTENING							
Literal Comprehension	16	16	69	75	27	46	23
Inferential Comprehension	15	15	73	80	23	50	27
LANGUAGE							
Spelling							
Root Words	21	21	76	77	19	54	27
Words with Affixes	3	3	100	72	35	31	35
Correct Spelling	4	4	75	72	4	38	58
Capitalization							
Names and Titles	4	4	75	73	38	42	19
Dates and Holidays	4	4	75	78	42	54	4
Place Names	7	7	70	75	31	54	15
Writing Conventions	5	5	80	77	31	65	4
Overcap./Correct Cap.	4	4	50	60	42	35	23
Punctuation							
End Punctuation	12	10	74	81	65	27	5
Commas	6	5	34	55	38	50	12
Other Punctuation Marks (" ;)	3	2	67	78	27	54	19
Correct Punctuation	3	3	100	76	27	62	12

Test/Skill	Total Items	No. Att.	% Class	% Nat.	% Low	% Med.	% High
Usage & Expression							
Nouns, Pronouns, and Modifiers	6	6	68	79	42	35	23
Verbs	8	8	75	75	31	35	35
Conciseness and Clarity	3	3	67	75	19	54	27
Organization of Ideas	5	5	90	77	27	46	27
Appropriate Use	8	8	63	62	19	54	27
MATHEMATICS							
Concepts and Estimation							
Number Properties & Operations	9	9	66	77	35	31	35
Algebra	5	5	20	67	27	46	27
Geometry	4	4	100	64	23	50	27
Measurement	3	3	67	76	19	54	27
Probability and Statistics	3	3	67	72	35	31	35
Estimation	7	7	70	48	4	38	58
Problem Solving							
Single-Step	7	7	70	66	42	54	4
Multiple-Step	3	3	67	71	31	54	15
Approaches and Procedures	4	4	75	30	31	65	4
Data Interpretation							
Read Amounts	3	3	67	47	42	35	23
Compare Quant./Interp. Relat.	5	5	90	77	65	27	8
Computation							
Add with Whole Numbers	8	8	75	81	38	50	12
Subtract with Whole Numbers	8	8	63	63	35	42	19
Multiply/Divide Whole Numbers	9	9	66	66	14	82	5

Test/Skill	Total Items	No. Att.	% Class	% Nat.	% Low	% Med.	% High
SOCIAL STUDIES							
History	5	5	60	46	27	8	
Geography	6	6	51	60	50	12	
Economics	7	7	42	44	41	14	
Government and Society	12	12	67	58	54	19	
SCIENCE							
Scientific Inquiry	9	9	66	55	62	12	
Life Science	10	10	60	46	35	23	
Earth and Space Science	8	8	76	66	35	35	
Physical Science	3	3	67	66	54	27	
SOURCES OF INFORMATION							
Maps and Diagrams							
Locate/Process Information	12	12	67	45	31	35	
Interpret Information	9	9	66	73	46	27	
Analyze Information	3	3	67	89	50	27	
Reference Materials							
Using Reference Materials	10	10	70	66	54	27	
Searching for Information	17	17	53	66	31	35	
Using Search Results	1	1	100	46	38	58	

□1 and 2 Item Skills are not graphed

(7) Having students work with tables and graphs affect our lives can be seen by the dramatic increase in IQ scores in all cultures which have acquired information technology: in the United States there has been an average increase of 3 IQ points per decade over the last 60 years, for a total of an 18 IQ point increase. There is no known biological explanation for this increase and the most likely cause is widespread exposure to text, symbols, and graphics that accompany modern life." – *The Visual Display of Quantitative Information*

Limitations:

Students (if they understand the score report) know broad areas of weakness, but they don't know what they can do to improve. Students need to actively work with their score report to create a self-improvement plan.⁽⁷⁾

Students Part in **The Plan**:

- Have students graph their own growth from year-to-year in each subject area.
- Students, with the help of the teacher, should identify their own relative strengths and weaknesses
- Students should develop a written plan to improve their performance in those relatively weak subjects/skills⁽⁸⁾
- Students and teachers should track progress throughout the year on those weak skills

Alicia Benevides Grade 3

My best scores were in reading comprehension and listening. My worst scores were in capitalization and word analysis. I will improve my score in capitalization by making a list of words that I capitalize wrong. I will write a paragraph in my journal once a week and let my mom make corrections. I will also meet with my teacher once a week to look at my journal.

(8) "But I don't have any extra time to devote to assessment!"

I believe these self-improvement plans should be part of a classroom's normal day-to-day procedures. Students can work on their weaknesses during regular instruction time.

To improve, I will...

Week #1: _____

Progress Week #1: _____

Week #1: _____

Progress Week #1: _____

Why **The Plan** will work:

- Students learn self-evaluation in addition to information literacy skills
- Students take responsibility for their relative weaknesses (which may motivate them to improve)
- Students know what to focus on for improvement

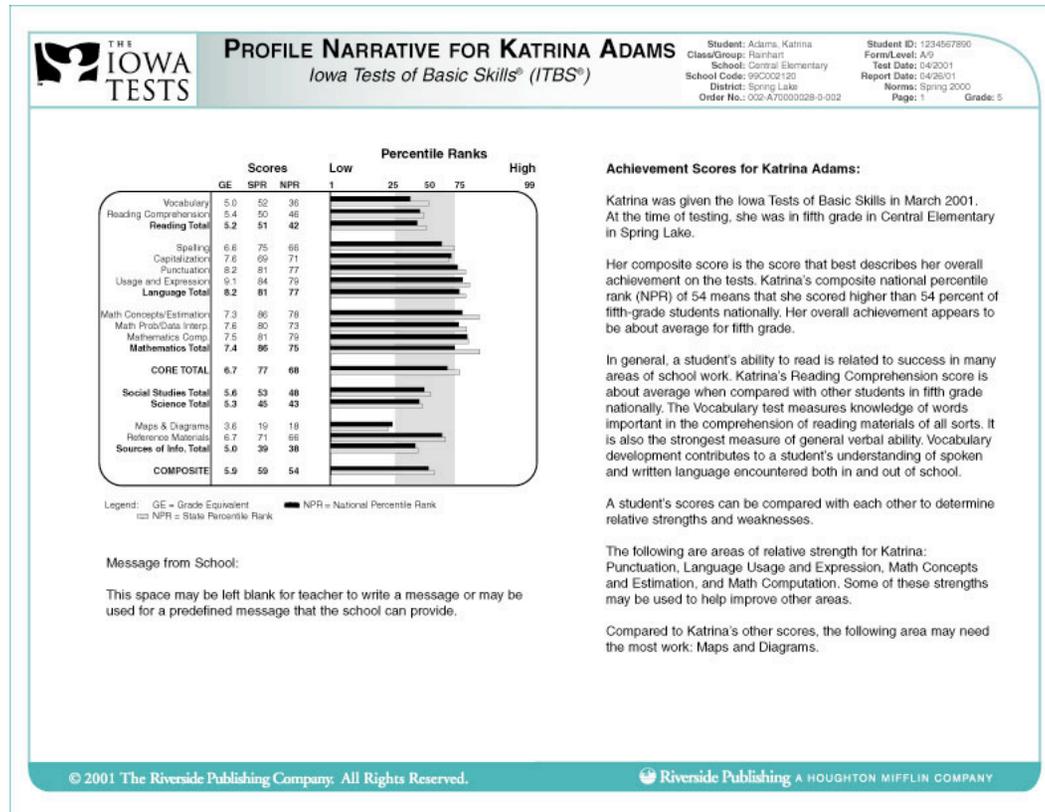
Analyzing test scores is not a waste of instructional time. Assessment is instruction!

What information do parents need?

- Information on how their child compares to other children in the same grade level.
- Information on how their child has grown in achievement over time
- A list of subjects and skills in which their child could improve
- A list of resources available to help their child with specific subjects and skills
- Specific advice on what they could do to improve their child's performance

What are parents typically given?

- A set of NPR or NGE scores (pictured below)
- A performance profile



Limitations:

Parents don't know what they can do to help their child. All they know is that their child is either above average or below average.

Parent's Part in **The Plan**:

Parents should meet with teachers to discuss their information needs. Parent's need:

- 1) Teachers to explain what the scores mean and how they will be used
- 2) Teachers to support (or refute) the test scores with examples of class work
- 3) A chart, created by their child, showing the student's growth in each subject
- 4) The child's written plan for improvement
- 5) A plan, written by the teacher, addressing how the student's weaknesses will be addressed in class
- 6) The teacher's suggestions on what the parent can do to help at home
- 7) A list of resources available to help their child.

Why **The Plan** will work:

Parents become involved, at least at a low level, in their child's education.

Some, Many, All Rule: All parents want their child to succeed in school.

Many parents are willing to help.

Some parents are willing to ask for help.

What information do teachers need?

Relative strengths and weaknesses of their individual students

Relative strengths and weaknesses of their past students (weakness in instruction)

The growth in achievement of past students

Ideas on what they can do to improve achievement (strategies, materials)

What are teachers typically given?

A classroom report & a list of student scores (**teachers already know this information**)

A presentation from the principal telling them that they need to work harder.

Limitations:

Teachers already know which students will earn low ITBS scores. The score reports don't give them any additional information.

Teacher's Part in **The Plan**:

Teachers need:

- 1) An understanding of NCLB beyond headlines (history, purpose, support, sanctions, definitions)
- 2) An understanding of "proficiency" (which is "recognizing fewer than 50% of the correct answers on the ITBS.")
- 3) Clear goals set by the building administrator (I recommend some version of **The Plan**)
- 4) Support from the principal in identifying strategies and creating improvement plans
- 5) A clear display of their effectiveness in increasing test scores for their previous students
- 6) The building administrator to model the process of creating and implementing an improvement plan

Teachers need to:

- 1) Write out relative weaknesses for their classroom (in terms of subjects and skills)
- 2) Develop a plan to address the relative weaknesses of the classroom (and each student)
- 3) Help students develop their plans to track progress throughout the year
- 4) Meet with parents to discuss test results & share examples of class work
- 5) Develop a plan for parents to help their child improve
- 6) Track the growth of past students (through high school, if possible)

Side note: If you're going to spend 4 hours a day reading, at least have students read real content.

Why **The Plan** will work:

Teachers will see the impact they have on next year's test scores. They will also have a specific set of improvement goals to track throughout the year. The responsibility for improving ITBS scores no longer falls only on their shoulders – students and their parents now have responsibilities (whether or not they accept them).

Accountability

- All teachers and assistants must be highly qualified (by the year 2005)
 - Problem: 50% of history & physical science teachers have never studied their subjects in any concentrated way.
 - Solutions: Teacher qualifications will be made public each year. Qualified Teacher = Bachelor's degree, full certification/licensure, and subject area competence. Qualified Assistants = High school diploma and 2 years of postsecondary education
 - Resources: Funding for professional development, teacher recruitment, and alternative certification
- All districts must develop challenging academic standards in reading, math, and science (by May 2003)
 - Problem: Some schools operate without a clear set of expectations for student achievement.
 - Solutions: Taxpayer dollars will only go to states that have standards and expectations for student learning. All students will be held to the same high expectations. States must develop levels of achievement to measure student attainment of the standards.
 - Resources: Federal education funding increases 49% from 2000 to 2002 under NCLB.
- All districts must administer multiple assessments aligned with the content standards to all students (by 2004)
 - Problem: 75% of Americans are not aware of the achievement gap among student subgroups.
 - Solutions: 95% of all students (minorities, low-income, LEP, and special education students) must be tested each year. All administered assessments must have evidence demonstrating high technical quality. 0.5% of special education students may be administered an alternate assessment. Testing will allow educators to identify areas of relative weakness and to track growth in achievement. All Title I schools must administer the NAEP tests in grades 4 and 8.
 - Resources: \$387 million has been provided to help states develop and administer reading and math tests.
- All schools will make adequate yearly progress towards 100% student proficiency in reading, math, and science (by 2014)
 - Problem: Since 1966, \$321 billion has been spent on public education; reading scores have not improved since 1970
 - Solutions: Districts and schools will track student achievement through the multiple yearly assessments. Each year, the percentage of students earning a proficient score must increase. This increase must be large enough so that the school is on track to have 100% proficiency by 2014. All student subgroups must show this same level of Adequate Yearly Progress (AYP). Districts or schools that fail to meet AYP goals (for each student subgroup) will face sanctions. Federal funds have been set aside to help states disaggregate test data by student subgroups.
 - Resources:
- All high schools must ensure incoming freshmen students graduate in 4 years (Goal: 100% graduate in 4 years by 2014)
 - Problem: 12% of American high school students dropout each year (28% of Hispanic high school students)
 - Solutions: High schools must track the percentage of incoming freshmen who graduate within 4 years. If the graduation rate does not increase, the high school faces sanctions.
- All schools must be safe (or at least not "Persistently Dangerous") for students and teachers.
 - Problem: Too many schools in America remain unsafe. Too many teachers are threatened by violence.
 - Solutions: Schools must report school safety information to the public each year. Schools suspending 1% of students long-term for violence over 3 consecutive years and Schools with 2+ weapons violations resulting in expulsion over 3 consecutive years and Schools with 1% of students exercising the individual Unsafe School Choice Option are unsafe. Districts must pay for students to transfer out of Persistently Dangerous schools.
 - Resources: NCLB protects teachers and principals from frivolous litigation when they take action to maintain order.
- All schools must issue report cards to the public.
 - Problem: Taxpayers are unaware of progress being made in education
 - Solutions: Schools and districts must make information available to the public. Schools will report student achievement data and progress towards the 100% proficiency goal each year. Schools will report graduation rates, teacher quality information, and school improvement plans. All information must be reported by gender, race, English proficiency, income, and special education status. All schools facing sanctions must inform parents of their status.

Research-based Methods

- NCLB provides funding for research in education. Money will only be awarded for programs that have been demonstrated to increase student achievement. All research must follow the scientific method, must have replicated results, must have results that can be generalized, and must meet rigorous standards.

Flexibility

- In return for increased accountability, school districts are given greater discretion in using federal education funds. Up to 50% of funding may be transferred for teacher quality, technology, innovative programs, drug-free schools programs, or to Title I programs.

Focus on the Economically Disadvantaged

- No students are forced to attend schools that are facing sanctions. Some options include:
 - Transferring to a non-failing school in the district (the district pays for transportation)
 - Providing low-income students with supplemental services (paid for by the district)
 - Reopening failing public schools as charter schools, state-controlled schools, or private schools.

A school or district faces sanctions if:

- 1) Student achievement decreases
- 2) Student achievement increases, but it does not increase enough to meet Adequate Yearly Progress (AYP) goals
- 3) One student subgroup (special education, for example) fails to meet AYP goals
- 4) Graduation rate fails to increase
- 5) Fewer than 95% of students complete the multiple assessments
- 6) Fewer than 95% of students in a particular subgroup (low-income students, for example) are tested

Sanctions may be delayed for schools that meet AYP goals one year. Schools meeting AYP goals for 2 consecutive years will be taken off the sanctions list.

"Safe Harbor Option" - If a school increases proficiency by 10% for one of its student subgroups, that school will have met its AYP goal even if overall student achievement declined.

Schools failing to meet AYP for one year will be listed on the state and district report cards.

Schools failing to meet AYP for 2 consecutive years: "Year One of School Improvement Assistance"

- Schools are provided technical assistance (the state may change the criteria for distributing Title I funds)
- Schools must develop a 2-year school improvement plan, which will explain how they will increase student achievement.
- Schools labeled as "Needing Improvement" (SINI)
- Parents are notified of the label (8652 SINI school in the US; 26 in Iowa)
- Districts must set aside 10% of funds for professional development within 3 months of getting labeled.
- All students who are enrolled in a SINI school for 2 or more consecutive years must be offered public school choice

Public School Choice:

- Parents may choose to send their children to any non-SINI public school in the district.
- All students may transfer to a school until building health and safety codes would be violated.
- District must spend at least 5% of Title I funds for transporting students to their chosen school.
- Students who transfer to another public school may remain in that public school as long as they wish.
- If all schools in a district are SINI, an agreement must be made with another district.

Schools failing to meet AYP for 3 consecutive years: "Year Two of School Improvement Assistance"

- All of the above sanctions, plus:
- Low-income students who have been enrolled in a low performing school for 3 years must be offered supplemental services

Supplemental Services:

- May be provided by private organizations or by public schools that have met their AYP goals.
- Districts are not required to pay transportation costs for these supplemental services.
- Title I funds must be set aside by the district for the costs of these supplemental services.
- Supplemental services must be research-based and must have a record of effectiveness.

Schools failing to meet AYP for 4 consecutive years: "Year One of Corrective Action"

- All of the above sanctions, plus:
- Schools can now replace staff members who are contributing to the problem
- The school may be forced to implement a new curriculum
- District can significantly decrease the management authority at the school
- The school can extend the school day or school year
- Schools can appoint outside experts who specialize in improving student achievement
- Schools can choose other major internal restructuring

Schools failing to meet AYP for 5 consecutive years: "Year Two of Corrective Action"

- All of the above sanctions, plus:
- Schools can be reopened as charter schools
- Districts can replace principals and entire building staffs
- Schools can contract with a private management company
- The state can take over the school
- Schools can choose other major internal restructuring

Schools failing to meet AYP for 6 consecutive years: "Year Three of Corrective Action"

- The school must continue to implement changes beginning no later than the 1st day of school

If a district fails to make AYP for 4 consecutive years, students may be offered the choice to transfer to higher-performing school in another district. Some other sanctions for school districts include:

- Deferring program funds
- Reducing administrative funds
- Implementing new curriculum or professional development programs
- Replacing district personnel
- Establishing new governance structures for schools in the district
- Taking over district leadership (superintendent and school board)
- Abolishing or restructuring the district

The enclosed reports show the change in student performance from 2001-02 to 2002-03 on the ITBS. Teachers can use these reports to see the amount of academic growth each student achieved in reading, math, science, and the core total. Each report should correspond to each teacher's 2001-02 class roster. In addition to school, grade level, classroom, and student name, the reports contain the following data:

Subject Area / Test Name			
National Grade Equivalent (NGE) Scores			2002-03 National Percentile Rank on the test (>40 is proficient)
2001-02 NGE Score	2002-03 NGE Score	Academic Growth in Months	

Here is one way in which teachers can analyze the information:

1) Look at a student's 2002 NGE for the Core Total. This tells you the level students were performing at the beginning of last year. For example, a student with an NGE of 4.2 earned a score on the ITBS equivalent to the score earned by a student (on the same test) who was in the 2nd month of 4th grade. Since the 2002 test was administered in October, the average grade equivalent scores would be:

Kindergarten	0.2		3 rd grade	3.2
1 st grade	1.2		4 th grade	4.2
2 nd grade	2.2		5 th grade	5.2

Comparing the 2002 NGE scores with the above table will show you if a student had above- or below-average ability.

2) Look at that student's 2003 NGE for the Core Total. Since the test was administered in late September, the average scores would still end in ".2" (kindergarten average = 0.2, 5th grade average = 5.2). This number would tell you if a student is currently above or below average.

3) Now look at the +/- column to see the student's academic growth during the 2001-02 school year. The average student would be expected to grow 10 months (one full academic year) in each subject area. Any growth above 10 months would be above average; any growth below 10 months would be below average.

Note: Students who were below average in 2001-02 would not be expected to make a full 10 months growth. Students who were above average in 2001-02 would be expected to make more than 10 months growth.

4) While you are still looking at the +/- column, you can calculate a couple statistics. First, find the average amount of growth students made in your classroom (add up the months growth for each student and divide that sum by the number of students in the class). Your average classroom growth should be about 10 months (unless you had a class that was dramatically above or below average in 2001-02). Second, calculate the percent of students who made the expected amount of growth (add up the number of students who made at least 10 months growth and divide by the number of students in the class). Ideally, you would want all of your students to achieve at least 10 months of growth since last year.

5) If any student shows negative growth from 2001-02, notify your principal. No student should show negative growth on the ITBS. If you have a student who shows negative growth, find out why.

6) Finally, look at the 2003 NPR column. This shows the national percentile rank of the student on this year's test. Calculate the percentage of students who earned a proficient score (add the number of students with NPRs of 41 or above and divide by the total number of students in the classroom). Remember that our goal is to ensure every student is proficient in reading, math, and science by the year 2014.

Students who were enrolled last year but did not receive 2002-03 ITBS scores (transferred out/didn't finish test/incorrect student ID number) do not appear on these reports.

A Sample of a Teacher's Student Growth Table

Teacher	Grade	Student	Core Total				Reading				Math				Science			
			NGE			2003	NGE			2003	NGE			2003	NGE			2003
			2002	2003	+/-	NPR	2002	2003	+/-	NPR	2002	2003	+/-	NPR	2002	2003	+/-	NPR
Mr. Smith	4	Amy Adams	7.7	8.9	12 mo	95	9.0	9.1	1 mo	92	7.3	8.7	14 mo	94	9.4	11.0	16 mo	97
		Bobby Botkin	4.0	5.3	13 mo	53	4.8	5.5	7 mo	56	3.8	6.5	27 mo	73	4.7	8.6	39 mo	88
		Chris Carter	4.2	5.6	14 mo	58	4.6	6.0	14 mo	63	4.6	5.7	11 mo	62	5.1	5.6	5 mo	57
		Danielle Davis	3.1	4.1	10 mo	28	3.8	4.0	2 mo	30	3.2	4.1	9 mo	27	3.5	5.1	16 mo	48
		Eddie Evans	7.2	7.7	5 mo	87	7.4	7.8	4 mo	84	8.0	9.2	12 mo	96	7.3	11.8	45 mo	99
		Fran Franklin	3.8	4.7	9 mo	40	4.0	2.7	-13 mo	9	4.0	4.9	9 mo	47	5.0	2.9	-21 mo	11
		Gary Godfrey	5.8	6.3	5 mo	70	5.4	8.6	32 mo	89	5.5	6.7	12 mo	76	5.0	10.0	50 mo	94
		Helen Hanks	4.8	5.8	10 mo	62	4.6	7.4	28 mo	80	4.8	5.6	8 mo	60	4.6	6.4	18 mo	69
		Irene Irons	6.2	8.5	23 mo	93	6.6	10.9	43 mo	98	5.0	7.2	22 mo	82	6.7	7.2	5 mo	77
		Jow Jones	3.8	4.0	2 mo	25	3.3	3.5	2 mo	21	3.6	4.6	10 mo	39	4.7	4.6	-1 mo	40
		Kerry Kramer	4.7	5.8	11 mo	62	4.1	5.2	11 mo	50	5.0	6.1	11 mo	68	4.6	5.6	10 mo	57
		Laura Long	5.1	5.4	3 mo	55	5.4	5.0	-4 mo	48	5.3	4.6	-7 mo	39	6.7	8.0	13 mo	84
		Mike Michales	4.7	5.0	3 mo	47	4.8	6.0	12 mo	63	4.3	4.8	5 mo	42	7.3	4.1	-32 mo	30
		Ned Newton	4.8	6.6	18 mo	75	5.0	7.4	24 mo	80	4.5	6.8	23 mo	78	4.7	8.6	39 mo	88
		Oprah O'Leary	4.9	6.6	17 mo	75	4.1	7.8	37 mo	84	4.6	5.8	12 mo	63	4.7	4.9	2 mo	44
		Pete Peterson	2.9	3.8	9 mo	23	2.6	3.9	13 mo	27	2.3	4.1	18 mo	29	3.0	2.9	-1 mo	11
		Qunicy Quixote	4.1	4.2	1 mo	30	4.1	5.5	14 mo	56	3.7	4.8	11 mo	42	4.2	7.2	30 mo	77
		Roger Robinson	3.3	4.0	7 mo	25	3.0	2.7	-3 mo	9	3.2	4.9	17 mo	47	3.9	4.9	10 mo	44
		Sall Simpkins	3.5	3.8	3 mo	23	4.3	4.4	1 mo	37	3.0	3.0	mo	9	3.9	4.3	4 mo	35
		Tim Turner	4.2	4.2	0 mo	31	3.8	3.9	1 mo	27	5.1	3.6	-15 mo	20	4.6	4.3	-3 mo	35
Ursula Usher	.	4.9	--	42	5.9	5.0	-9 mo	48	.	4.5	--	36	4.7	7.7	30 mo	81		
Vera Van Buren	3.7	2.9	-8 mo	7	4.1	2.9	-12 mo	11	4.1	3.2	-9 mo	13	4.1	2.1	-20 mo	3		

- 1) Identify which students are proficient
- 2) Count the number of students who achieved at least 8 months growth
- 3) What was your average level of growth?
- 4) Which students did not grow 8 months? Why? What can we do to help those students?
- 5) Which students had negative growth? Why?

Sample of Classroom Growth Data

Classroom	Students	Core Total				Reading				Math				Science			
		2002	2003	+/-	8mo	2002	2003	+/-	8mo	2002	2003	+/-	8mo	2002	2003	+/-	8mo
Teacher A	22	6.0	6.8	8	55%	6.7	7.5	9	64%	5.9	6.8	10	59%	5.7	7.0	14	64%
Teacher B	21	5.9	7.4	15	81%	5.8	7.3	15	67%	5.8	7.2	14	71%	6.2	7.5	14	67%
Teacher C	17	5.7	6.6	10	65%	5.8	7.6	17	65%	5.2	6.4	12	59%	6.2	6.7	4	47%
Teacher D	22	5.0	5.9	9	59%	5.0	6.1	11	64%	4.7	5.6	9	45%	5.0	6.2	12	64%
Teacher E	24	5.0	6.1	12	67%	4.9	6.2	14	71%	4.6	6.0	14	71%	4.9	6.4	15	63%
Teacher F	21	4.9	5.9	10	52%	5.2	6.1	9	57%	4.8	5.5	7	57%	4.9	5.9	10	62%
Teacher G	19	4.8	5.7	8	47%	5.2	6.2	10	47%	4.5	5.4	9	58%	5.4	6.3	9	63%
Teacher H	23	4.8	6.1	13	83%	5.0	6.5	15	78%	4.6	6.0	15	83%	5.3	7.0	17	70%
Teacher I	23	4.7	5.7	10	61%	5.0	5.6	6	48%	4.6	5.6	11	61%	5.2	6.1	9	48%
Mr. Smith	21	4.6	5.4	8	52%	4.8	5.7	9	48%	4.5	5.4	10	76%	5.1	6.3	12	57%
Teacher K	21	4.6	5.6	11	67%	5.0	6.1	11	48%	4.4	5.6	11	57%	4.9	6.5	15	67%
Teacher L	24	4.5	5.6	11	79%	4.6	5.6	11	58%	4.3	5.4	11	54%	4.6	6.1	15	71%
Teacher M	14	4.5	5.0	6	57%	4.4	5.2	8	57%	3.9	4.3	4	50%	4.6	5.9	14	71%
Teacher N	17	4.3	5.3	10	71%	4.8	5.7	9	59%	3.9	5.0	11	71%	4.7	6.0	13	76%
Teacher O	3	4.1	4.9	8	33%	4.1	5.7	17	100%	4.2	4.7	5	33%	4.6	5.8	13	67%
Teacher P	2	3.8	4.6	8	50%	3.6	5.5	19	100%	4.2	4.3	1	50%	4.0	5.9	19	100%
Teacher Q	3	3.7	4.9	11	100%	4.0	5.0	10	67%	3.5	5.0	15	100%	4.1	5.9	18	100%
Teacher R	5	3.1	3.6	5	20%	2.4	3.1	7	80%	3.3	3.6	3	40%	3.6	4.4	7	60%
Teacher S	3	1.3	1.5	3	0%	1.6	1.9	3	0%	1.0	1.3	3	33%				

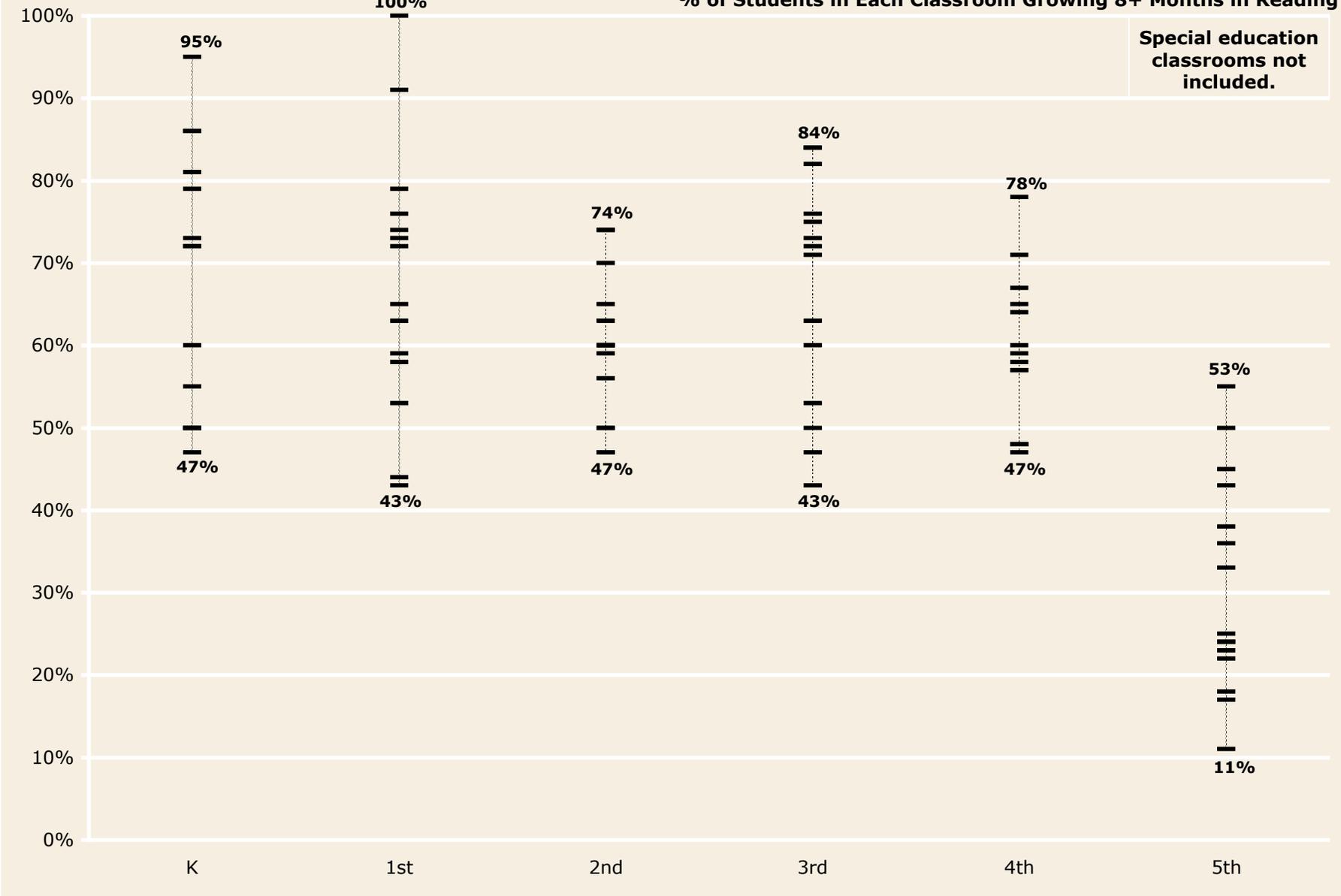
- 1) Teachers are ranked by the strength of their incoming students.
- 2) +/- shows the growth (in months) of the average student in the class
- 3) 8mo shows the percent of students who achieved at least 8 months of growth

We realize that: classrooms have different levels of ability.
 This is only one measure that does not perfectly align with the classroom
 Teacher performance is not solely measured by test scores

What could you do this year to increase growth?

% of Students in Each Classroom Growing 8+ Months in Reading

Special education classrooms not included.



An improvement plan > teacher evaluation

What information do principals need?

- Comparisons with similar buildings in & out of the district
- Ideas on what they can do to improve achievement.
- Information on past students' performance on the ITBS (from elementary to middle school)
- Weak students, subjects, and skills identified
- Weak teachers identified

What are principals typically given?

- Building-level and classroom reports.

Limitations:

- Be honest – you really don't know what to do with the score reports you receive.

Principal's Part in **The Plan**:

Principals need:

- 1) A list of students who are not proficient (by grade level and classroom)
- 2) A way to identify teachers who are successful in increasing test scores
- 3) A clear display of achievement trends for the building and individual teachers
- 4) A list of the skills that need the most improvement
- 5) Help designing a building-level improvement plan

Principals need to:

- 1) Identify urgent skills
- 2) Prioritize skill urgency and identify strategies to improve achievement in those areas
- 3) Meet with teachers to discuss student growth & teacher improvement plans
- 4) Track growth for all teachers
- 5) Develop a building improvement plan (based on not proficient & class growth data)
- 6) Identify/Develop resources for parents

Why **The Plan** will work:

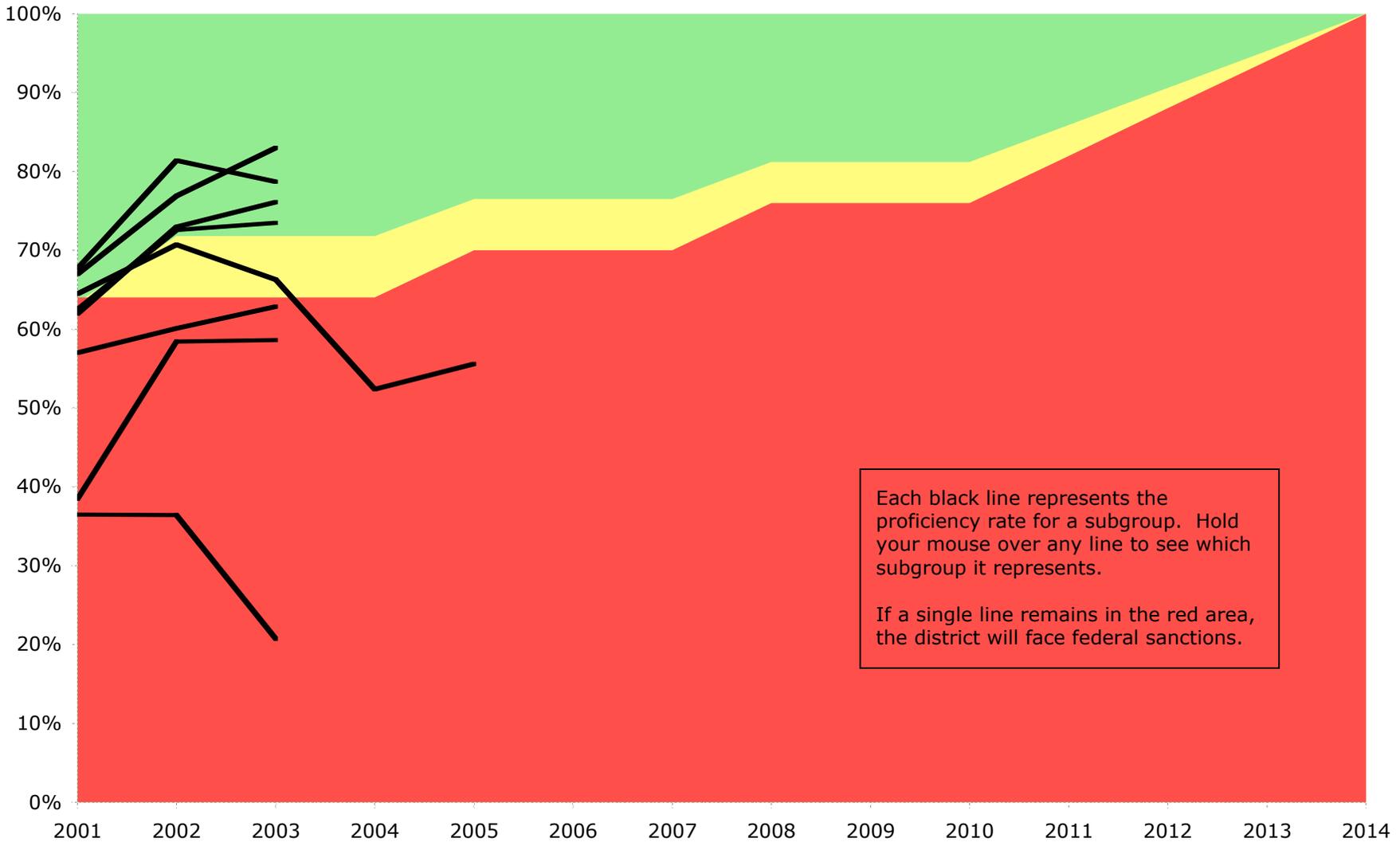
- Principals will be able to identify teachers who are successful in increasing test scores. They will also be able to effectively allocate resources to specific students or teachers. Finally, this will force principals and teachers to openly communicate about assessment & test results (and hopefully build an environment of trust).

4th Grade Reading AYP Goals

■ All goals have been met.

■ Must submit plan to DE

■ Federal Sanctions



Each black line represents the proficiency rate for a subgroup. Hold your mouse over any line to see which subgroup it represents.

If a single line remains in the red area, the district will face federal sanctions.

Sample Urgency Report

Reading Total		43.0%	66	1.00	15.8%
Vocabulary	Proficient = 12 Correct (41%)	39.4%	29	0.44	7.6%
	Nouns	41.9%	9	0.14	2.2%
	Verbs	36.8%	10	0.15	2.8%
	Modifiers	39.9%	10	0.15	2.6%
Comprehension	Proficient = 17 Correct (46%)	45.8%	37	0.56	8.3%
	Factual Understanding	47.8%	14	0.21	3.0%
	Understand stated information	47.9%	13	0.20	2.8%
	Understand words in context	46.0%	1	0.02	0.2%
	Inference & Interpretation	47.2%	15	0.23	3.3%
	Draw Conclusions	43.4%	7	0.11	1.7%
	Infer motives and traits	44.0%	2	0.03	0.5%
	Interpret new info in new contexts	56.0%	5	0.08	0.9%
	Interpret nonliteral language	36.0%	1	0.02	0.3%
	Analysis & Generalization	39.6%	8	0.12	2.1%
	Determine main ideas	39.2%	5	0.08	1.3%
	Identify purpose	42.0%	1	0.02	0.2%
	Analyze structure	36.0%	1	0.02	0.3%
	Analyze style	43.0%	1	0.02	0.2%

15.8% of our opportunity to improve ITBS scores falls in the category of READING. (On the next page, you can see math only provides 12% of the opportunity for improvement).

In reading comprehension, we need to focus on INFERENCE & INTERPRETATION; specifically DRAWING CONCLUSIONS

Math Total			54.0%	53	1.00	12.6%
Concepts/Estimate	Proficient = 15 Correct (48%)		55.0%	31	0.58	7.2%
	Properties/Operations		65.2%	9	0.17	1.8%
		Represent numbers	71.0%	2	0.04	0.4%
		Order numbers	84.0%	1	0.02	0.2%
		Apply properties of numbers	64.0%	1	0.02	0.2%
		Perform operations	52.3%	3	0.06	0.7%
		Compare numbers	53.0%	1	0.02	0.2%
		Write numbers in standard form	87.0%	1	0.02	0.1%
	Algebra		60.7%	6	0.11	1.3%
		Use operational symbols	60.0%	1	0.02	0.2%
		Solve equations	80.0%	2	0.04	0.3%
		Use expressions to model situations	57.0%	1	0.02	0.2%
		Explore numerical patterns	43.5%	2	0.04	0.6%
	Geometry		56.0%	4	0.08	0.9%
		Describe geometric relationships	51.5%	2	0.04	0.5%
		Describe geometric patterns	61.0%	1	0.02	0.2%
		Apply concept of area	60.0%	1	0.02	0.2%
	Measurement		42.0%	2	0.04	0.6%
		Estimate with precision	40.0%	1	0.02	0.3%
		Use appropriate units	44.0%	1	0.02	0.3%
	Probability & Statistics		43.3%	3	0.06	0.9%
		Apply counting rules	33.0%	1	0.02	0.4%
		Apply probability concepts	70.0%	1	0.02	0.2%
		Understand central tendency	27.0%	1	0.02	0.5%
	Estimation		45.1%	7	0.13	2.0%
		Use standard rounding	37.0%	4	0.08	1.4%
		Use order of magnitude	60.5%	2	0.04	0.4%
		Use number sense	47.0%	1	0.02	0.3%
Problem Solving	Proficient = 11 Correct (50%)		52.6%	22	0.42	5.3%
	Problem Solving		51.1%	14	0.26	3.5%
		Single-Step	55.9%	7	0.13	1.6%
		Multiple-Step	43.3%	3	0.06	0.9%
		Choose solution methods	59.5%	2	0.04	0.4%
		Identify insufficient information	37.5%	2	0.04	0.7%
	Data Interpretation		55.4%	8	0.15	1.8%
		Reading grahs	72.5%	2	0.04	0.4%
		To determine sums & differences	24.0%	1	0.02	0.5%
		To find ratios	44.0%	1	0.02	0.3%
		To determine rank and trends	64.0%	1	0.02	0.2%
		To draw conclusions	55.3%	3	0.06	0.7%

4th Grade Reading Comprehension Weaknesses

Understand Stated Information

The reader must identify ideas stated explicitly in the text. The ideas from the passage are paraphrased in the items so that readers are not merely matching words.

Which of the following questions does the passage answer?

What is special about the object in this story?

- Strategies:*
- 1) In discussions and in writing about people, places, events, or ideas from their reading, encourage students to say things in their own way rather than simply repeat the language of the text. Ask questions that cannot be answered by “word-matching.”
 - 2) When students come across words that they do not know, encourage them to try to identify them using their knowledge of letter-sound relationships and word structure as well as clues from the language and meaning of the text.

Determine Main Ideas

The reader must draw upon skills that have developed through previous attempts to synthesize the main idea of other pieces of texts.

What does this poem describe?

The last paragraph is mostly about...

Which idea would the main character most likely agree with?

- Strategies:*
- 1) Give students practice in summarizing the main idea or key points of a piece of writing.
 - 2) Encourage students to consider what the author’s purpose might be.

Draw Conclusions

The reader must use textual information to draw conclusions that are implied in the text.

Which character would be most likely to...

What time of day does this story take place?

- Strategies:*
- 1) In writing about and discussing their reading, encourage students to reach conclusions that require interpretation and inference. Have students support their ideas with info from the text
 - 2) Encourage students to go beyond the text in their responses to their reading. Ask them to predict what is likely to happen next or to suggest alternative endings to stories.

4th Grade Math Concepts Weaknesses

Number Properties & Operations

Perform operations

What is another way to express $400 + 20 + 3$?

Joe received 17¢ in change. What's the highest number of nickels he could get?.

Represent numbers

[Picture of glass nearly empty]: What fraction is the best estimate of how full the glass is?

Estimation

Standard Rounding

*Closest estimate of $4 * \$1.90$.*

Order of magnitude

Closest estimate of 616 divided by 10? 6, 60, 600, 6000?

Algebra

Use equations to model situations

Joe read 3 of 8 books. Which number sentence describes how many more he has to read?

Explore numerical patterns

Which of the following numbers would appear in the pattern: 3, 6, 9, 12, 15, 18...

Geometry

Describe geometric properties

Parallel lines. Congruency. The concept of area,

Strategies:

- 1) Engage students in thinking and talking about mathematical ideas they encounter in their daily lives. Draw attention to number concepts, geometry relationships, and other mathematical concepts that appear in their general reading.
- 2) Present problem-solving situations as a context for introducing new concepts, and lead students in discovering how tools such as geometry and measurement help solve important problems at home and in the workplace. Relate geometric shapes and patterns to processes in artistic creation.
- 3) Use estimation and analogy to build a mental picture of the magnitude or quantities that are not readily measurable in real life.

(AEA's Website now takes care of this.)

Final Thoughts:

Audre Lorde: *For the master's tools will never dismantle the master's house. They may temporarily allow us to beat him down at his own game, but they will never enable us to bring about genuine change.*

- The game has changed. Standard ITBS reports and traditional reporting techniques (business as usual) will not bring about the needed gains in proficiency.
- You cannot take a “wait and see” approach to the ITBS. Actively measure progress throughout the year on key skills and subjects (diagnostic testing). Help teachers develop classroom assessments (not necessarily traditional tests) that will enable them to see if students are improving. Scores will not increase each year unless you are confident that they will increase each year.
- *Everyone* must know what they can do to help. Everyone needs to help; most are willing to help; few know specifically what they can do to help.
- Teachers are responsible for their students' test scores until they graduate from high school. Teachers must know the performance of former students.
- Only spend time analyzing information from students who remain in the district for at least one full academic year. There are no excuses why these students cannot grow in achievement each year.
- Get involved with the ITAP (Iowa Technical Adequacy Project) alignment process. Understand how your district's curriculum fits with what is measured on the ITBS. Poor alignment does not mean the curriculum (or the test) has to change.
- Test in the fall. If you want to build an environment of trust when discussing test results, you will need Fall ITBS testing. If you test in the Spring, you will judge teachers based solely on ITBS scores (it's just too tempting). Also, Fall testing gives you time to develop and implement a plan to increase achievement. It also gives you time to gather all the information for the increased reporting requirements of NCLB.
- Utilize all your resources. Analyzing ITBS scores can be an instructional activity for students, a staff development activity for teachers, a conference activity for parents. Assessment isn't a waste of instructional time. Assessment isn't separate from instruction. Assessment is instruction!
- Make things clear; not simple. Everyone should be given specific information they can use to improve achievement. The information should be displayed in a way that it clearly points to the next course of action. After examining the information, no one should say “So what?”

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