

Subgroup Performance Profile

The Subgroup Performance Profile (SPP), a new report for 2004-2005, is similar to the Group Performance Profile, a report that has been available for many years. The SPP provides a report of test scores and skill scores for grade subgroups in each building and a corresponding report for the entire system. The subgroups, called *proficient* and *non proficient*, are formed separately for reports in reading, math, and science. For example, students in a grade are divided according to their Math Total score into a proficient ($\text{NPR} > 40$) and a non proficient ($\text{NPR} \leq 40$) subgroup. (An NPR, or national percentile rank, is the percent of students in this grade in the nation that obtained a lower score on the test.) The SPP report is then prepared separately for the two subgroups. For the reading reports, subgroups are formed on the basis of their NPRs for Reading Comprehension. Similarly, the science reports are based on performance on the Science test. The main purpose of the report is to contrast the performance of the two subgroups so that instructional plans can be made for helping the less proficient students improve.

The Building SPP for a Non Proficient Math Subgroup is pictured below on page 3. Information in the upper-right hand corner tells us that this report is for grade 6 from Longfellow School in the Dalen Community Schools. The students took Level 12, Form A of the *ITBS* administered in October of 2004, and scores are based on Fall 2000 national norms. (If the district had ordered this service with Iowa norms, scores would have been based on 2003 Iowa norms.)

The upper-left part of the report contains a horizontal bar graph that displays the performance of the subgroup for each test. The N tells us that 10 students were grouped as Non Proficient based on their Math Total. These 10 students obtained scores on each of the tests. In addition, the NGE (national grade equivalent) and NPR (national percentile rank) correspond to the average achievement of the 10 non proficient sixth-graders in math from Longfellow. The NPRs for each test are displayed in horizontal bars of varying length, which can help identify the relative strengths and weaknesses of this subgroup of students.

The bottom half of the report provides more detail about the performance of the subgroup on the *ITBS* tests and the various skills that make up each test. The report lists the number of items for each skill, the average number of these items attempted within the subgroup, the average percent correct for students within the subgroup, and the average percent correct for all students in this grade in the nation. To the right of these scores are numbers that show the percent of students in the subgroup who scored like the low, middle, and high achievers in the entire national norm group. The “Low” national group is the lowest scoring 25 percent, the “Mid.” is the middle-scoring 50 percent, and the “High” is the upper 25 percent of all grade 6 students in the nation.

To use the Subgroup Performance Profile, start by looking at the performance of the 10 grade 6 students who are classified as non proficient in math. The grouping was based on the *ITBS* Math Total score, which is the average of scores on the Math Concepts & Estimation test and the Math Problem Solving & Data Interpretation test. (For the ITED, the Math Total score is the same as the Math Concepts & Problem Solving score.) (Math Computation is not included in the Math Total score.) The bar graph indicates that the students are relatively weak in the area of Math Problem Solving & Data Interpretation. Their average score for this test corresponds to an NPR of 13. In Math Concepts & Estimation, however, they have an NPR of 35. Thus, this subgroup could improve its math performance by addressing both areas, concepts and problems, but their achievement in problem solving seems to need greater attention. Looking more closely at the subgroup's performance on the skills in Problem Solving & Data Interpretation, it appears that the students are somewhat weaker in problem solving than in data interpretation. On the 17 Problem Solving items, 80% of this subgroup scored in the Low area, but on the 11 data interpretation items only 50% scored in the Low area. So in trying to target skills that seem to need the most improvement, it appears that problem solving would be a good place to start.

The scores of the non proficient group in math can be contrasted with those of the proficient group to gain a fuller understanding of the nature of the deficiencies of the non proficient group. Is Math Problem Solving & Data Interpretation a building-wide weakness and not just one for the non proficient group? Is problem solving weaker than data interpretation for everyone, not just the non proficient students? These questions have implications for the instructional approach that might be taken to help students improve their math achievement. For example, should this be an individualized effort for 10 students or a group effort for nearly all 37? By looking at the second report, the SPP for the math proficient students from Longfellow's grade 6 (page 4), we can begin to investigate these questions. The test scores at the top and the skill scores at the bottom for the 27 proficient students do not indicate a similar weakness for the proficient subgroup. So this comparison provides some perspective on the unique needs of the non proficient group while providing some evidence that there is not a general curricular weakness in math problem solving for the entire grade group relative to other areas of math.

The reading version of the SPP is a bit more difficult to use diagnostically because there are only three main skills measured in reading comprehension. Nonetheless, the skill information provided about students in the non proficient group can be helpful in instructional planning or in confirming information obtained from other assessments. In some cases, the results may point to the need for additional information to determine whether a particular skill is really a weakness for an individual student. In such cases, reading probes and informal reading inventories can be used to obtain more detailed information for individualization of instruction. The reading report also can be used to contrast the scores of the non proficient and

proficient subgroups in the test areas in which the most reading is required when completing the test. Tests like Usage & Expression, Social Studies, and Science require more reading by students than do tests in most other areas. The results in the former areas could be reviewed to determine whether it appears that the non proficient reading students are hampered more in such areas than they are in areas that require less reading. That is, is there a general reading problem, or is there a generalized low achievement problem with such students?

In science, where there are four main skills, the reports might be used in the same way that was described above for math. Of course, with only four skills being measured in science, it might be difficult to obtain enough diagnostic information to inform instructional planning for those who are classified as non proficient in science. Consequently, either the Group Item Analysis report or the Class Item Response Record report might be more useful for obtaining such details.

BUILDING PERFORMANCE PROFILE

Iowa Tests of Basic Skills® (ITBS®)

Non Proficient Subgroup: Math

Building: Longfellow
System: Dalen Community 123-1544

Form/Level: A/ 12
Test Date: 10/2004
Norms: Fall Nat2000/IA2003
Order No.: 006002213
Page: 1 Grade: 6

Tests	Scores			PERCENTILE RANK				High 99
	N	NGE	NPR	Low 1	25	50	75	
Vocabulary	10	5.1	28					
Reading Comprehension	10	3.9	19					
Reading Total	10	4.4	22					
Spelling	10	5.2	33					
Capitalization	10	5.0	34					
Punctuation	10	5.9	46					
Usage and Expression	10	5.5	42					
Language Total	10	5.3	38					
Concepts & Estimation	10	5.4	35					
Prob. Solv. & Data Interp.	10	3.6	13					
*Math Computation	10	5.6	40					
Mathematics Total	10	4.4	22					
CORE TOTAL	10	4.8	25					
Social Studies	10	5.4	36					
Science	10	6.0	49					
Maps and Diagrams	10	5.4	37					
Reference Materials	10	6.1	50					
Sources of Information Total	10	5.7	43					
COMPOSITE	10	5.2	33					

In the upper left part of this report, averages are printed for the tests, totals, or composite. Several types of scores are reported, including the national percentile rank (NPR), which is the percent of students in this grade in the nation with a lower score on that test, total, or composite.

The graph to the right of the scores provides a visual display of the performance of the building for each test relative to other test areas. The NPRs for the various scores are displayed in horizontal bars. The varying lengths of these bars permit identification of the stronger and weaker areas of achievement for this building.

The lower part of the report provides detailed information about skills in each test area. The number of test items for each skill, the average number attempted, the average percent correct for the building, and the average percent correct for students in this grade in the nation are reported. The percent of local students scoring "Low," "Mid.," and "High" for each skill can be compared with the percent of students nationally who scored in these ranges. "Low" is the bottom 25 percent, "Mid." is the middle 50 percent, and "High" is the top 25 percent of students in the nation.

* = Math Computation not included in Totals or Composite
NGE = National Grade Equivalent, NPR = National Percentile Rank

Tests and Skills	Total Items	No. Att.	%C Bldg.	%C Nat.	% Low	% Mid.	% High
Vocabulary							
Vocabulary	39	39	44	56	40	60	0
Reading Comprehension							
Factual Understanding	18	18	36	56	90	10	0
Inference and Interpretation	14	14	34	59	90	10	0
Analysis and Generalization	13	13	40	58	50	40	10
Spelling							
Root Words	27	27	44	57	50	50	0
Words with Affixes	7	7	41	47	40	40	20
Correct Spelling	4	4	60	65	20	70	10
Capitalization							
Names and Titles	3	3	57	60	50	30	20
Dates and Holidays	3	3	53	63	50	40	10
Place Names	5	5	50	57	30	30	40
Names: Organizations & Groups	6	6	33	45	40	50	10
Writing Conventions	6	6	52	59	30	50	20
Overcapitalization	3	3	43	46	20	30	50
Correct Capitalization	4	4	55	66	30	60	10
Punctuation							
End Punctuation	11	11	60	58	10	70	20
Comma	11	11	53	60	30	60	10
Apostrophe/Quotes/Colon/Semi	5	5	42	46	20	60	20
Correct Punctuation	3	3	57	70	40	20	40

No. Att. = Number Attempted %C = Percent Correct □ = 1 and 2 item skills are not graphed

Tests and Skills	Total Items	No. Att.	%C Bldg.	%C Nat.	% Low	% Mid.	% High
Usage and Expression							
Nouns, Pronouns, and Modifiers	10	10	55	58	40	30	30
Verbs	6	6	55	58	20	60	20
Conciseness and Clarity	5	5	38	53	50	30	20
Organization of Ideas	6	6	58	59	20	50	30
Appropriate Use	11	11	61	64	20	50	30
Concepts & Estimation							
Number Properties & Operations	13	13	52	57	30	60	10
Algebra	7	7	51	58	20	80	0
Geometry	5	5	50	61	60	10	30
Measurement	4	4	63	64	20	70	10
Probability and Statistics	4	4	25	47	60	40	0
Estimation	10	10	33	47	60	30	10
Prob. Solv. & Data Interp.							
Problem Solving	17	17	28	57	80	20	0
Single-step	5	5	34	63	70	30	0
Multi-step	8	8	21	53	80	20	0
Approaches and Procedures	4	4	33	57	70	30	0
Data Interpretation	11	11	37	58	50	50	0
Read Amounts/Compare Quant.	5	5	52	70	50	50	0
Relationships & Trends	6	6	25	48	60	40	0

Tests and Skills	Total Items	No. Att.	%C Bldg.	%C Nat.	% Low	% Mid.	% High
Math Computation							
Add/Subtract Whole Numbers	4	4	60	71	70	10	20
Multiply with Whole Numbers	3	3	53	60	50	20	30
Divide with Whole Numbers	3	3	50	57	60	10	30
Add with Fractions	4	4	33	50	60	10	30
Subtract with Fractions	4	4	43	52	50	20	30
Multiply with Fractions □	2	2	70	59			
Add with Decimals	3	3	40	51	20	70	10
Subtract with Decimals	3	3	53	67	60	10	30
Multiply/Divide Decimals	4	4	40	34	10	60	30
Social Studies							
History	13	13	40	50	50	40	10
Geography	7	7	41	48	30	70	0
Economics	12	12	47	53	40	50	10
Government and Society	7	7	46	54	30	60	10
Science							
Scientific Inquiry	17	17	55	52	10	70	20
Life Science	9	9	37	51	50	40	10
Earth and Space Science	7	7	57	53	10	60	30
Physical Sciences	6	6	55	55	30	50	20
Maps and Diagrams							
Locate/Process Information	8	8	55	62	20	70	10
Interpret Information	11	11	44	52	60	30	10
Analyze Information	9	9	42	49	50	40	10
Reference Materials							
Using Reference Materials	11	11	54	55	20	60	20
Searching for Information	15	15	55	57	30	30	40
Using Search Results	8	8	49	46	20	50	30

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Tests	Scores			PERCENTILE RANK				High 99
	N	NGE	NPR	Low 1	25	50	75	
Vocabulary	27	7.9	78					
Reading Comprehension	27	7.9	72					
Reading Total	27	7.9	75					
Spelling	27	9.0	84					
Capitalization	27	10.5	82					
Punctuation	27	10.4	81					
Usage and Expression	27	9.9	79					
Language Total	27	9.9	84					
Concepts & Estimation	27	8.0	80					
Prob. Solv. & Data Interp.	27	8.2	74					
*Math Computation	27	7.5	73					
Mathematics Total	27	8.1	76					
CORE TOTAL	27	8.5	82					
Social Studies	27	8.7	79					
Science	27	9.1	80					
Maps and Diagrams	27	9.2	78					
Reference Materials	27	8.6	77					
Sources of Information Total	27	8.9	79					
COMPOSITE	27	8.7	80					

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The graph to the right of the scores provides a visual display of the performance of the building for each test relative to other test areas. The NPRs for the various scores are displayed in horizontal bars. The varying lengths of these bars permit identification of the stronger and weaker areas of achievement for this building.

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* = Math Computation not included in Totals or Composite
NGE = National Grade Equivalent, NPR = National Percentile Rank

Tests and Skills	Total Items	No. Att.	%C Bldg.	%C Nat.	% Low	% Mid.	% High
Vocabulary							
Vocabulary	39	39	72	56	4	41	56
Reading Comprehension							
Factual Understanding	18	18	71	56	15	26	59
Inference and Interpretation	14	14	71	59	11	41	48
Analysis and Generalization	13	13	68	58	15	41	44
Spelling							
Root Words	27	27	78	57	7	30	63
Words with Affixes	7	7	67	47	4	37	59
Correct Spelling	4	4	86	65	4	30	67
Capitalization							
Names and Titles	3	3	86	60	7	26	67
Dates and Holidays	3	3	69	63	26	41	33
Place Names	5	5	83	57	0	19	81
Names: Organizations & Groups	6	6	59	45	7	30	63
Writing Conventions	6	6	85	59	0	30	70
Overcapitalization	3	3	48	46	26	15	59
Correct Capitalization	4	4	78	66	0	59	41
Punctuation							
End Punctuation	11	11	78	58	4	41	56
Comma	11	11	83	60	0	37	63
Apostrophe/Quotes/Colon/Semi	5	5	61	46	7	56	37
Correct Punctuation	3	3	80	70	11	33	56

No. Att. = Number Attempted %C = Percent Correct □ = 1 and 2 item skills are not graphed

Tests and Skills	Total Items	No. Att.	%C Bldg.	%C Nat.	% Low	% Mid.	% High
Usage and Expression							
Nouns, Pronouns, and Modifiers	10	10	71	58	7	48	44
Verbs	6	6	78	58	7	33	59
Conciseness and Clarity	5	5	67	53	7	48	44
Organization of Ideas	6	6	78	59	0	44	56
Appropriate Use	11	11	87	64	7	15	78
Concepts & Estimation							
Number Properties & Operations	13	13	78	57	0	30	70
Algebra	7	7	79	58	7	30	63
Geometry	5	5	73	61	11	30	59
Measurement	4	4	80	64	7	48	44
Probability and Statistics	4	4	56	47	11	48	41
Estimation	10	10	63	47	11	33	56
Prob. Solv. & Data Interp.							
Problem Solving	17	17	73	57	0	48	52
Single-step	5	5	85	63	11	37	52
Multi-step	8	8	68	53	4	48	48
Approaches and Procedures	4	4	69	57	11	63	26
Data Interpretation	11	11	69	58	0	44	56
Read Amounts/Compare Quant.	5	5	81	70	0	74	26
Relationships & Trends	6	6	59	48	4	48	48

Tests and Skills	Total Items	No. Att.	%C Bldg.	%C Nat.	% Low	% Mid.	% High
Math Computation							
Add/Subtract Whole Numbers	4	4	77	71	19	52	30
Multiply with Whole Numbers	3	3	70	60	26	30	44
Divide with Whole Numbers	3	3	62	57	37	33	30
Add with Fractions	4	4	76	50	4	22	74
Subtract with Fractions	4	4	78	52	0	19	81
Multiply with Fractions □	2	2	70	59			
Add with Decimals	3	3	53	51	11	74	15
Subtract with Decimals	3	3	78	67	19	22	59
Multiply/Divide Decimals	4	3	32	34	26	59	15
Social Studies							
History	13	13	69	50	7	30	63
Geography	7	7	58	48	15	44	41
Economics	12	12	68	53	11	41	48
Government and Society	7	7	66	54	7	26	67
Science							
Scientific Inquiry	17	17	71	52	11	19	70
Life Science	9	9	65	51	11	22	67
Earth and Space Science	7	7	74	53	4	26	70
Physical Sciences	6	6	76	55	11	30	59
Maps and Diagrams							
Locate/Process Information	8	8	78	62	0	56	44
Interpret Information	11	11	68	52	4	44	52
Analyze Information	9	9	65	49	7	41	52
Reference Materials							
Using Reference Materials	11	11	68	55	7	41	52
Searching for Information	15	15	74	57	4	37	59
Using Search Results	8	8	63	46	7	33	59