Course Instructions

1. **Getting Started:** The table of contents page serves as your guide to the course content and an indicator of lessons you have reviewed or completed. To start reviewing a page, click the **"Begin"** link next to the page. Once you have accessed a page's content, you can always revisit the content by clicking **"Revisit."**

2. **Navigating the Course:** Upon reading the first page of the course's units, you can access the next page of the content by clicking the **"Next"** button. If you need to re-read a unit's content, you can click the **"Previous"** button to return to the previous page. Or, you can return to the course syllabus to select the unit you wish to re-read. Repeat these steps until you have finished the course.

3. **Taking the Posttest:** At the end of the course, you will be given a posttest. Answer each question and click **"Submit, I'm Done."** You will immediately see your test results and each question's correct answer. To receive credit for a course, you must answer at least 7 of the 10 questions correctly. If you don't pass the first time, review the course content again and re-attempt the posttest. If you start the posttest, but cannot complete it during a session, click **"Save and Return Later"** at the bottom of the page.

4. **Completing the Application & Knowledge Activities:** Each course includes five extended response questions that allow for reflection and help you consider how you will apply this learning to your work. Your administrators can review responses to these questions and provide feedback as well. After you have entered your responses, click **"Submit, I'm Done."** Once you submit your answers, you will no longer be able to edit them. If you wish to save your work, but cannot complete it during a session, click **"Save & Return Later"** at the bottom of the page.

5. **Deciding to Withdraw from a Course:** If you select a course that you decide you do not want to take, click **"Withdraw"** under the **"Action"** column.

6. **Resuming a Course:** If you start taking a course, but do not complete it in your current session, you can continue the course when you return to the portal to access Learn. Simply click on "**Resume Course**" under the "**Action**" column when you return.

7. **Completing a Course:** Once you have completed a course and passed the posttest, the course will appear at the bottom of the screen under "**My Completed Courses.**" Click "**Print Certificate**" under the "**Action**" column to receive a personalized document confirming that you have completed this course. If you wish to review the content of a completed course, click "**Review.**"

8. **Accessing Your Transcript:** Click "**View Transcript**" link at the top right corner of the screen to review a list of courses you have completed, including the Course Completed Date, Course Name and Course Code.

9. **Ending Your Session:** Be sure to click "**Log Out**" at the bottom of the page when you are finished using the portal.

Learning Description & Objectives

Learning Description

In this course, you will be introduced to the different kinds of diagnostic information that value-added analysis offers. This course includes visual representations of copyrighted EVAAS® Web reporting software from SAS Institute Inc. for instructional purposes.

Learning Objectives

1. Connect value-added information with school improvement efforts.
2. Use the student search function to find specific information.
3. Examine various types of value-added reports.

Pretest

You must take the pretest to access the course material. The pretest is designed to help you gauge the knowledge you already have about the course material and provide an overview of what you will learn.

Please answer each question and press *submit*.

After submitting your answers, you will be shown your test results.

Question 1

In this school performance diagnostic report, how many students from this school have been included in the Proficient category?

			Observed minus Predicted Score by Predicted Score Quintile			
			Limited	Basic	Proficient	Advanced
Math	2005	Mean	13.9	11.8	11.2	4.2
		Std Err	3.5	7.1	4.1	6.2
		Nr of Students	21	8	19	6
		% of Students	38.9	14.8	35.2	11.1

Required

- a. 8 students.
- ✓ b. 19 students.
- c. 14 students.
- d. 4 students.

Question 2

Which of the following reports divides students into quintiles to show progress by prior achievement level? Required

- a. Value-added summary report.
- b. School performance diagnostic report.
- c. School value-added report.
- ✓ d. School diagnostic report.

Question 3

Which group of students in the following school performance diagnostic report seems to be making the least gains in fourth grade math?

			Observed minus Predicted Score by Predicted Score Quintile			
			Limited	Basic	Proficient	Advanced
Math	2005	Mean	13.9	11.8	11.2	4.2
		Std Err	3.5	7.1	4.1	6.2
		Nr of Students	21	8	19	6
		% of Students	38.9	14.8	35.2	11.1

Required

- a. Limited group.
- b. Basic group.
- c. Proficient group.
- ✓ d. Advanced group.

Question 4

Which of the following reports shows changes in students' percentile rankings from one year to the next as an indication of growth? Required

- a. School value-added report.
- b. Value-added summary report.
- ✓ c. Individual student report.
- d. Student search report.

Question 5

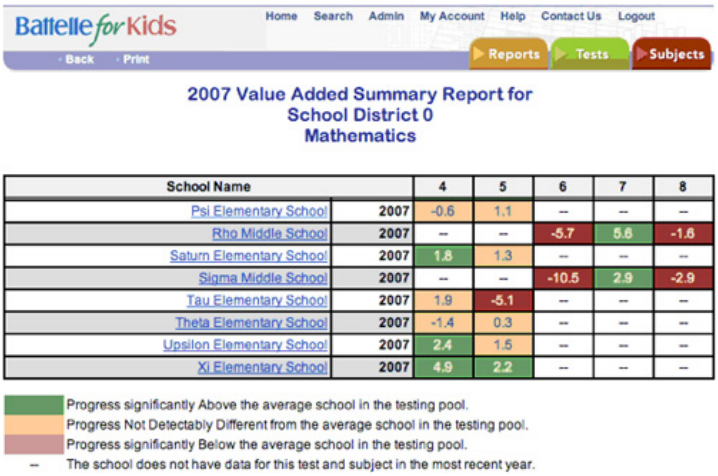
What can you tell about a student from his or her individual student report? Required

a. Whether or not, in general terms, the student is making progress from year to year.
b. How the student is doing compared to the mean achievement level of the students in his or her building.
c. Whether the student is progressing as well as other students in his or her district.
d. All of the above.

Unit 1: Value-Added Summary Report

In this course, you will be introduced to the different kinds of diagnostic information that value-added analysis offers. Because you examined the school value-added report in the course, *Discovering Two Approaches to Measuring School Effectiveness*, we will not address that report in this course.

The first report we will review is a district-level report called the **Value-Added Summary Report**. This report provides a high-level comparison of the progress of all of a district's schools at a specific grade level.



For example, this report compares the progress each school in a district has made in mathematics over the course of the 2006-2007 school year. The color key located at the bottom of the table will vary from state to state.

Generally, colors are representative of the following:

- Green = Above expected growth.
- Yellow = Expected growth.
- Red = Less than expected growth.

Notice that Xi Elementary is the only school in the district producing more growth than expected in each of the grade levels represented in the school.

The fact that only one school is producing higher than expected results across all represented grade levels may represent a curricular weakness for the district. But with this information, educators now know that they have one place to visit to help them address this area for improvement.

Districts that have been armed with this kind of information have been able to make positive changes in a relatively short period of time.

Unit 2: School Diagnostic Report

Now, let's examine a **School Diagnostic Report**. This report shows student subgroups' progress by prior achievement level. This report offers probably the most critical value-added information for teachers and principals.

A school diagnostic report is produced in a series of steps. You begin by rank ordering all students who have the same testing history. This pool could consist of several school districts, or it could include all the students in an entire state. Each student is placed in one of five quintiles based on his or her prior achievement level. The bottom 20 percent of students are placed in the first quintile, the next 20 percent are placed in the second quintile, and so on.

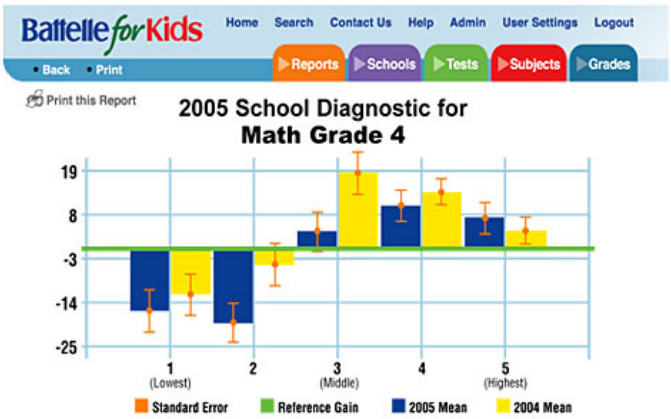
- **1st Quintile:** Bottom 20 percent
- **2nd Quintile:** 20–40 percent range
- **3rd Quintile:** Middle 40–60 percent
- **4th Quintile:** 60–80 percent range
- **5th Quintile:** Top 20 percent

Note: In some states in which district populations are very small, students may be divided into quartiles or tertiles.

Unit 2: School Diagnostic Report

The second step in the process is to calculate the mean growth of your school's students in each quintile relative to other students across the state who also are in that quintile. When this process is finished, you are left with an estimate of how much growth your school is producing in each of these student subgroups relative to the growth other schools are producing in the same subgroups.

You will now review the information presented in a school diagnostic report.



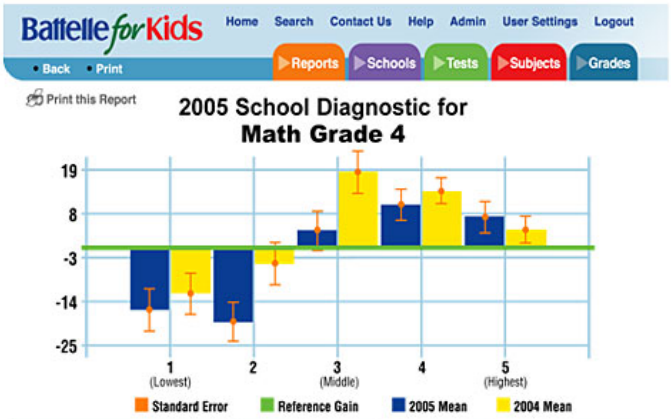
			Observed minus Predicted Score by Predicted Score Quintile				
			1 (Lowest)	2	3 (Middle)	4	5 (Highest)
Math	2005	Mean	-15.9	-18.0	3.7	9.2	7.4
		Std Err	4.0	6.4	4.4	3.2	5.1
		Nr of Students	13	8	16	12	15
		% of Students	20.3	12.5	25.0	18.8	23.4
	2004	Mean	-11.3	-3.8	18.7	12.5	3.7
		Std Err	5.1	5.5	4.3	2.8	3.7
		Nr of Students	6	11	14	14	10
		% of Students	x	x	x	x	x

As you can see in the 2005 information, this school has 15 students in the fifth quintile, 12 in the fourth, 16 in the third, and so on.

Unit 2: School Diagnostic Report

The “Mean” category in the table shows each student subgroup’s average gains compared to other students in the state who are in the same subgroup.

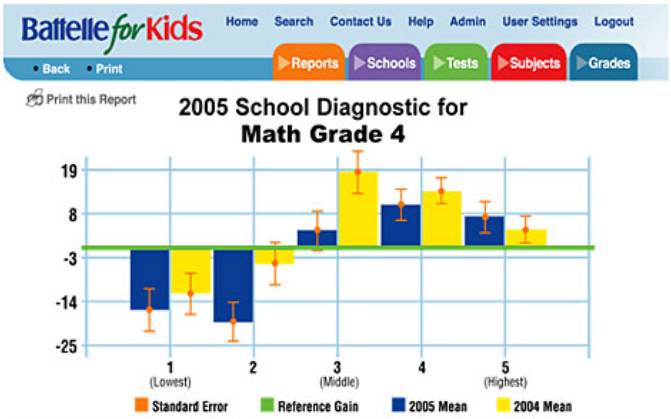
For example, the students in the fifth quintile scored on average more than 7 points higher than expected when compared to other fifth quintile students across the state. If you look at the first and second quintiles, you see students whose gains were much lower than their expected growth, almost 16 points lower in the first quintile and 18 points lower in the second quintile.



			Observed minus Predicted Score by Predicted Score Quintile				
			1 (Lowest)	2	3 (Middle)	4	5 (Highest)
Math	2005	Mean	-15.9	-18.0	3.7	9.2	7.4
		Std Err	4.0	6.4	4.4	3.2	5.1
		Nr of Students	13	8	16	12	15
		% of Students	20.3	12.5	25.0	18.8	23.4
	2004	Mean	-11.3	-3.8	18.7	12.5	3.7
		Std Err	5.1	5.5	4.3	2.8	3.7
		Nr of Students	6	11	14	14	10
		% of Students	x	x	x	x	x

Moving across the rest of the quintiles, you can see that in the fourth quintile, students scored more than 9 points higher than expected, and in the third quintile, they scored almost 4 points higher.

Unit 2: School Diagnostic Report



			Observed minus Predicted Score by Predicted Score Quintile				
			1 (Lowest)	2	3 (Middle)	4	5 (Highest)
Math	2005	Mean	-15.9	-18.0	3.7	9.2	7.4
		Std Err	4.0	6.4	4.4	3.2	5.1
		Nr of Students	13	8	16	12	15
		% of Students	20.3	12.5	25.0	18.8	23.4
	2004	Mean	-11.3	-3.8	18.7	12.5	3.7
		Std Err	5.1	5.5	4.3	2.8	3.7
		Nr of Students	6	11	14	14	10
		% of Students	x	x	x	x	x

If you were this school's principal, and you were meeting with the fourth grade math teachers, you would begin the conversation with a celebration, because students in the third, fourth, and fifth quintiles are all making at least as much progress as would be expected.

You would ask these teachers about the practices they're using to reach these students. But, you also would look at the students in the first and second quintiles and ask the question, "What can we do differently to reach the students in these quintiles?"

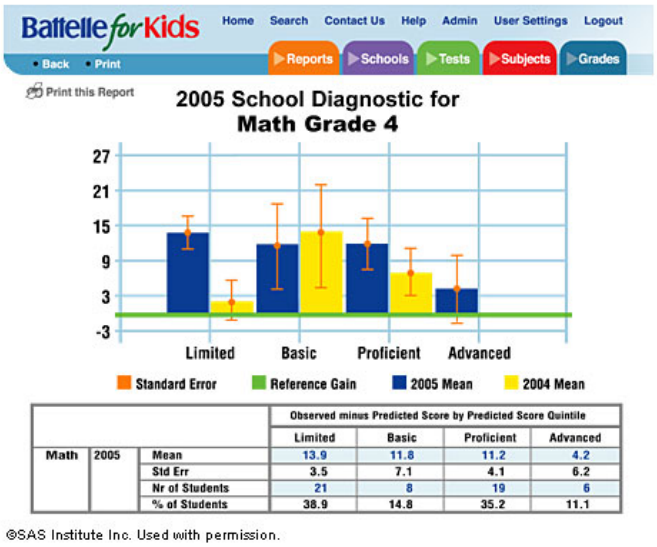
The key question that arises from the diagnostic report is this: Are your curriculum and instructional strategies working for all students? In this example, the answer for three out of five quintiles is acceptable. However, in the other two quintiles, it is not. As teachers in this school, you now have a place to begin to direct your attention.

Unit 3: School Performance Diagnostic Report

The following is a **School Performance Diagnostic Report** that could be considered almost perfect. Notice that this diagnostic report is very similar to the school diagnostic report that was discussed above. The only difference is that students are placed in subgroups relative to their standing in the state's achievement categories.

This state, for example, has four categories:

- Limited.
- Basic.
- Proficient.
- Advanced.

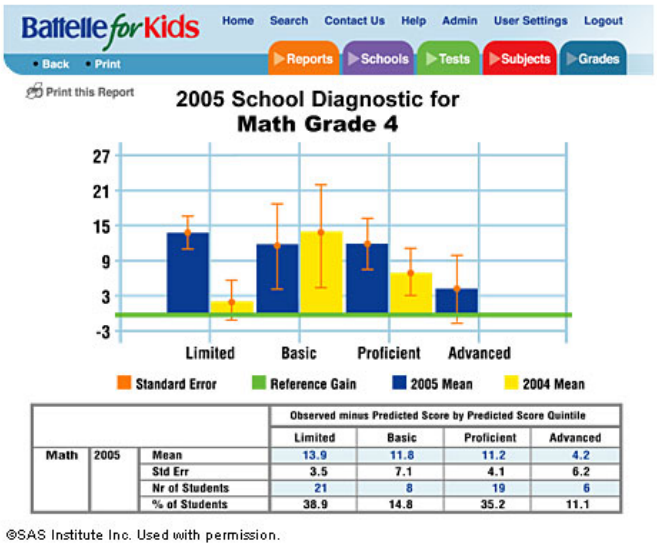


			Observed minus Predicted Score by Predicted Score Quintile			
			Limited	Basic	Proficient	Advanced
Math	2005	Mean	13.9	11.8	11.2	4.2
		Std Err	3.5	7.1	4.1	6.2
		Nr of Students	21	8	19	6
		% of Students	38.9	14.8	35.2	11.1

Unit 3: School Performance Diagnostic Report

The most important thing to take away from this report is that all students are performing at levels beyond expectation; all the bars are above the green “expectation” line. More importantly, the lowest-achieving students are making the greatest gains. In this case, the 21 lowest-achieving students scored, on average, almost 14 points higher than other students who had similar achievement histories.

As you move across the other three categories, you also will see that the rest of the students are making more progress than other students with similar histories.



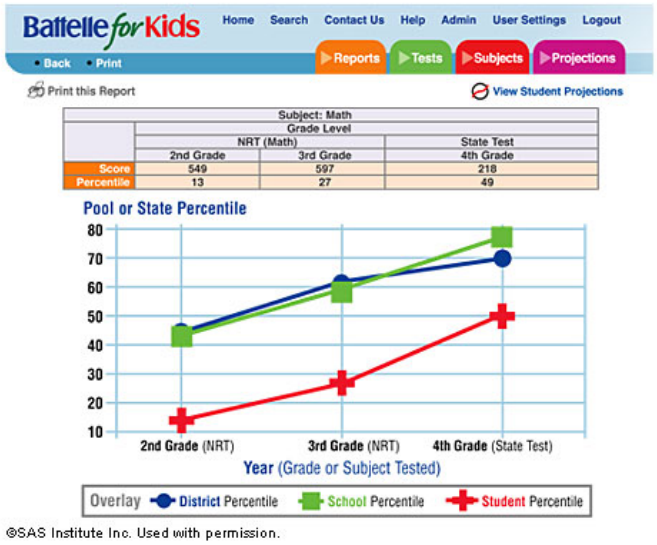
			Observed minus Predicted Score by Predicted Score Quintile			
			Limited	Basic	Proficient	Advanced
Math	2005	Mean	13.9	11.8	11.2	4.2
		Std Err	3.5	7.1	4.1	6.2
		Nr of Students	21	8	19	6
		% of Students	38.9	14.8	35.2	11.1

This particular school should be celebrating across the board. The math program, as it is being implemented in the fourth grade, is working for all the students.

Unit 4: Individual Student Report

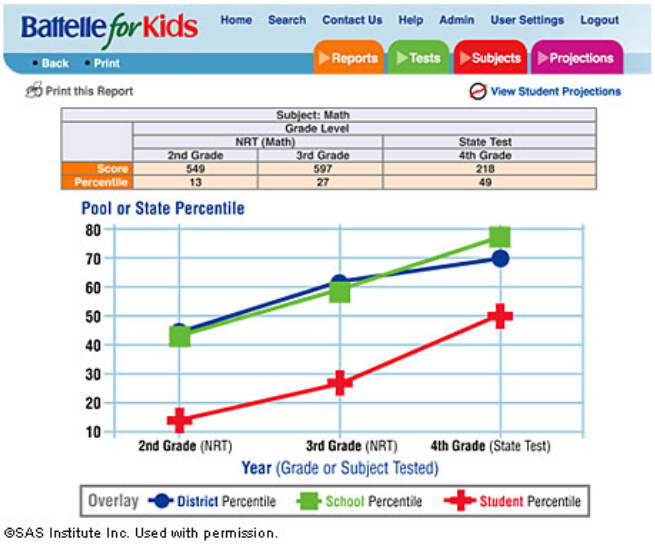
To get some sense of individual student progress, let's examine the **Individual Student Report**. *Note: This is not a value-added report in the same sense as the school value-added report or the diagnostic report.*

Value-added analysis is a sophisticated statistical treatment of longitudinal test data designed to minimize the problems associated with the measurement error that is always present in individual test data. Thus, at the individual level, the best you can do is to show changes in percentile rankings from one year to the next. Changes in percentile rankings are an indication of individual student growth, but they don't address the problems associated with measurement error.



Unit 4: Individual Student Report

Given these caveats, you can now view an individual student report. In **red**, you see data points that represent the percentile ranking of a student from the end of second grade to the end of fourth grade.



This student finished the second grade at the 13th percentile and the third grade at the 27th percentile. By the end of the fourth grade, this student was at the 49th percentile. While measurement error is inherent in each of these data points, the trend in this data is important.

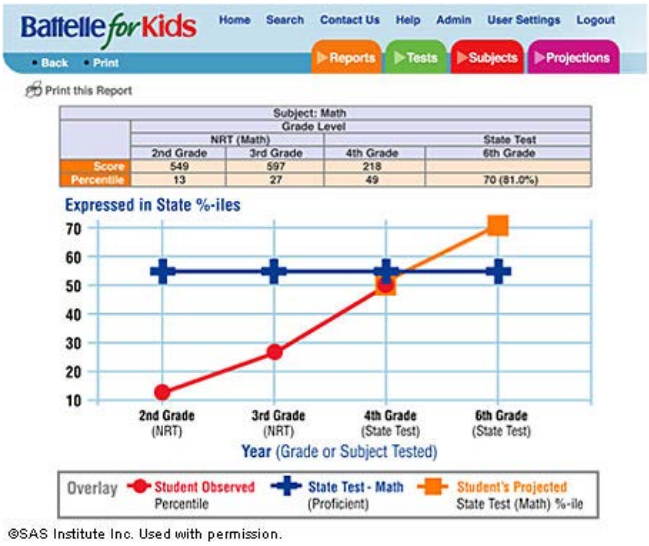
This student has shown remarkable progress. However, in this particular state, students at the 49th percentile have not achieved a passing score on the fourth grade math test. Thus, even though this child has shown great progress, and, in fact, what the teachers are doing with this child is apparently working well, this child has not yet reached proficiency with respect to the state standards in fourth grade math.

You also will notice two other sets of data in this report. You can compare this student's achievement to his or her building's and district's mean achievement level each year. The **blue** line represents the district's mean. The **green** line represents the school's mean score.

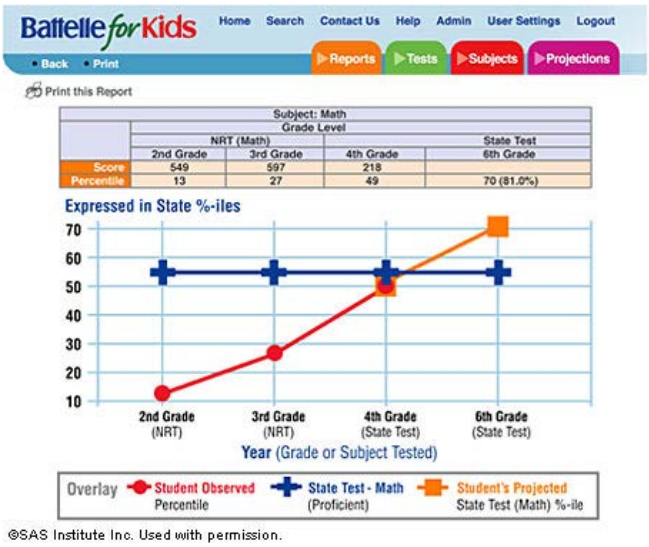
Unit 5: Student Projection

Another feature of the individual student report is the **student projection**.

Because multiple student data points and a large set of historical student data exist, it is possible to project each student's future attainment level. The **orange** line is a "projection" of where this student will likely score if he or she attains the average progress that similar students have historically made.



Unit 5: Student Projection



This projection indicates that if this student receives the average growth of students with similar achievement histories, then this student will be proficient at the end of sixth grade. The **blue** line is the "proficiency" line for this particular state.

For a high-achieving student, the bar can be set at the accelerated or advanced level.

These projections are produced using not only this student's math history, but also this student's history in all of the other subject areas. By using all of these data points, the projection's reliability is greatly enhanced.

Unit 6: Student Search

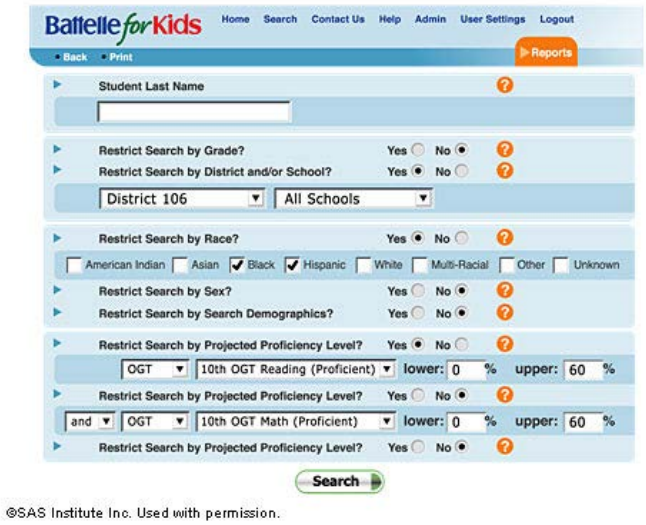
The **student search** feature allows you to find a specific student's report or generate a list of students that conform to the search criteria set by the user.

By setting the search criteria, you can produce a list of students that fit the particular question you have in mind. Search criteria include:

- Grade level.
- School.
- Race.
- Gender.
- Other demographic characteristics.
- Projected proficiency level.

Unit 6: Student Search

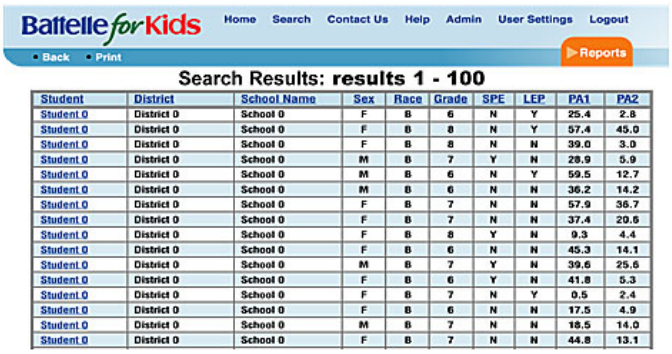
The following is an example of how one user has constructed search criteria to fit a specific need.



This search was constructed to find all of the Black and Hispanic students within a school district who have less than a 60 percent chance of being proficient in both math and reading on the 10th grade Ohio Graduation Test.

Unit 6: Student Search

The following chart shows the results from that search.



Search Results: results 1 - 100

Student	District	School Name	Sex	Race	Grade	SPE	LEP	PA1	PA2
Student 0	District 0	School 0	F	B	6	N	Y	25.4	2.8
Student 0	District 0	School 0	F	B	8	N	Y	57.4	45.0
Student 0	District 0	School 0	F	B	8	N	N	39.0	3.0
Student 0	District 0	School 0	M	B	7	Y	N	28.9	5.9
Student 0	District 0	School 0	M	B	6	N	Y	59.5	12.7
Student 0	District 0	School 0	M	B	6	N	N	36.2	14.2
Student 0	District 0	School 0	F	B	7	N	N	57.9	36.7
Student 0	District 0	School 0	F	B	7	N	N	37.4	20.5
Student 0	District 0	School 0	F	B	8	Y	N	9.3	4.4
Student 0	District 0	School 0	F	B	6	N	N	45.3	14.1
Student 0	District 0	School 0	M	B	7	Y	N	39.6	25.6
Student 0	District 0	School 0	F	B	6	Y	N	41.8	5.3
Student 0	District 0	School 0	F	B	7	N	Y	0.5	2.4
Student 0	District 0	School 0	F	B	6	N	N	17.5	4.9
Student 0	District 0	School 0	M	B	7	N	N	18.5	14.0
Student 0	District 0	School 0	F	B	7	N	N	44.8	13.1

Using this feature, you can identify at-risk students within many student subgroups.

Notice in the “Grade” column on this chart that some of these students have just finished sixth grade, some have just finished seventh grade, and some have just finished eighth grade.

This kind of search can be useful to obtain a list of students who may need extra help. You also can search the other end of the spectrum for high-achieving students who need extra challenge.

Unit 7: Connections with School Improvement

In this course's final unit, you will begin learning to use value-added information to advance school improvement planning efforts.

Value-added analysis provides strategic information that is best used within an annual school improvement process. We recommend that schools use value-added information at the beginning of the school year, taking time to look back and forward.

Unit 7: Connections with School Improvement

Following are a series of steps to help you systematically examine your value-added information and plan for improvement during beginning-of-the-year planning meetings.

1. Examine value-added and other school performance information by grade levels, subject areas, and subgroups.
2. Assess strengths and weaknesses and their potential causes. Ask the following questions:
    a. In terms of progress, how did we do with last year's students?
    b. What were our strengths in terms of student progress?
    c. In which grade levels, subject areas, and student subgroups did we NOT produce adequate progress?
3. Celebrate those areas in which significant student progress was made.
4. Set a small number of goals that build on strengths and address weaknesses.
5. Create action plans and accountabilities to accompany these goals.

Unit 7: Connections with School Improvement

The following chart represents how value-added information is used in an annual school improvement cycle.

During the school year, teachers and administrators should continue to meet and discuss their goals and action plans and assess the results produced through their new practices.

At the beginning of the next school year, you will receive new value-added information confirming whether or not your improvements actually did make a difference.

Unit 8: References

The information in this course is also available in the “Understanding Value-Added Analysis” presentation contained in Module III of Battelle for Kids’ value-added toolkit.

Posttest

The following posttest will help you gauge your understanding of the objectives and content addressed in this course. Please answer each question and click "**Submit, I'm Done**." If you start the posttest, but cannot complete it during a session, click "**Save & Return Later**" at the bottom of the page.

To receive credit for this course, you must answer at least 7 of the 10 questions correctly. Upon submitting your answers, you will immediately see your test results and each question's correct answer. If you don't pass the first time, review the course content and attempt the test again. These questions are randomly selected from a larger pool to increase comprehension when you take the test more than once.

Question 1

What can you tell about a student from his or her individual student report? Required

- a. Whether or not, in general terms, the student is making progress from year to year.
- b. How the student is doing compared to the mean achievement level of the students in his or her building.
- c. Whether the student is progressing as well as other students in his or her district.
- ✓ d. All of the above.

Question 2

If you were the principal of this school, with which student groups would you say that your teachers are achieving success?

			Observed minus Predicted Score by Predicted Score Quintile			
			Limited	Basic	Proficient	Advanced
Math	2005	Mean	13.9	11.8	11.2	4.2
		Std Err	3.5	7.1	4.1	6.2
		Nr of Students	21	8	19	6
		% of Students	38.9	14.8	35.2	11.1

Required

- a. Students in the Limited category only.
- b. Students in the Limited and Basic categories.
- c. All of the groups except students in the Advanced category.
- ✓ d. All of the groups are making more than expected progress.

Question 3

Which of the following search criteria are available in the student search feature? Required

- a. Grade level.
- b. Projected proficiency level.
- c. Race.
- ✓ d. All of the above.

Question 4

According to the annual school improvement cycle discussed in this course, when should teams meet to work on goals? Required

- a. Only at the beginning and end of the year.
- ✓ b. Throughout the school year.
- c. Once a month.
- d. None of the above.

Question 5

Which of the following is NOT true about the individual student report? Required

- ✓ a. It is just as statistically correct as all the other value-added reports.
- b. It compares a student's achievement level to his or her building's and district's mean achievement level each year.
- c. It can show where a student is projected to score on a test in the future.
- d. The individual student line does not address the problems associated with measurement error.

Question 6

Which of the following reports shows changes in students' percentile rankings from one year to the next as an indication of growth? Required

- a. School value-added report.
- b. Value-added summary report.
- ✓ c. Individual student report.
- d. Student search report.

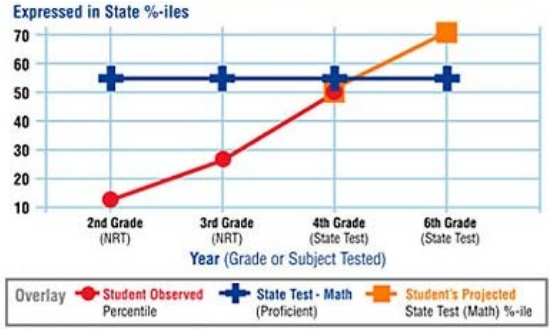
Question 7

Which of the following is NOT a step that your school should follow in beginning-of-the-year planning meetings? Required

- ✓ a. Set as many goals as possible per grade-level and subject-area team to build on strengths and weaknesses.
- b. Celebrate areas in which significant student progress was made.
- c. Examine value-added and other school performance information by grade levels, subject areas, and subgroups.
- d. Assess strengths and weaknesses and their potential causes.

Question 8

What can you tell about this student from his or her individual report and student projection?



Required

- a. The student is not on target to reach the proficiency level by the sixth grade.
- b. The student is not making significant progress across grade levels in math.
- ✓ c. If the student receives the average growth of similar students, the student will be proficient by the end of sixth grade.
- d. None of the above.

Question 9

Using the student search feature can help you generate what kind of information about students? Required

- a. Students who are struggling.
- b. Students who may need extra challenge.
- c. Students who are not on target to meet the proficiency level.
- ✓ d. All of the above.

Question 10

If you were the principal of this school, which quintiles of fourth grade students would you be concerned aren't making enough progress in math?

			Observed minus Predicted Score by Predicted Score Quintile				
			1 (Lowest)	2	3 (Middle)	4	5 (Highest)
Math	2005	Mean	-15.9	-18.0	3.7	9.2	7.4
		Std Err	4.0	6.4	4.4	3.2	5.1
		Nr of Students	13	8	16	12	15
		% of Students	20.3	12.5	25.0	18.8	23.4
	2004	Mean	-11.3	-3.8	18.7	12.5	3.7
		Std Err	5.1	5.5	4.3	2.8	3.7
		Nr of Students	6	11	14	14	10
		% of Students	x	x	x	x	x

Required

- a. Students in the 2nd quintile.
- ✓ b. Students in the 1st and 2nd quintiles.
- c. Students in the 1st and 3rd quintiles.

d. All of the students are making adequate progress.

Application & Knowledge

NOTE: Please read all directions carefully before proceeding to ensure that your responses are properly saved.

The following extended-response questions will allow you to reflect on course content and consider how you will apply this learning to your work.

Type your response into the space provided. Space for responding is unlimited. Please contact your administrator if you are unsure about how long your responses should be. If you want to save your work, but are not yet ready to submit your responses, click "**Save & Return Later**."

Once ready to submit your final responses, click "**Submit, I'm Done**." You will no longer be able to edit your answers.

Your administrators may choose to review responses to these questions and provide feedback as part of your learning experience.

Activity 1

Reflect on the following questions relative to this course's content.

What are the primary differences between the School Diagnostic Report and the School Performance Diagnostic Report?

How does the School Diagnostic Report relate to the School Value-Added Report? Required

Activity 2

Respond to the following scenario and related question based on knowledge gained from this course.

When Miss Ross examined her School Diagnostic report, she discovered that all of her students were gaining the expected growth. For which subgroups is this amount of growth acceptable, and for which groups is this unacceptable? Required

Activity 3

How would you begin using the value-added reports to which you have been introduced? Is it important to review some reports before others? Required

Activity 4

How might you use the student search feature to create a math remediation list for your classroom? Required

Activity 5

Outline your plans to receive more training and gather further resources or materials for understanding and applying value-added analysis. Required