Item Statistics Analysis

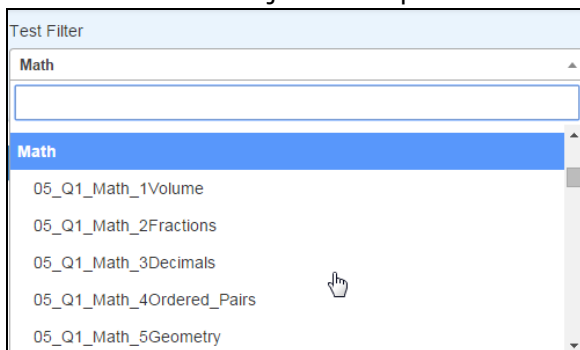| Primary Purpose:	
Provides information about assessment items to help determine how future items should be built and/or will perform	
Cut Scores/Colors:	**Use Timing:**
Special to this report (see below)	After any assessment is administered
Primary Users:	**Primary Uses:**
Teachers School Administrators Principals District Users	Measure the validity of test items based on student responses Determine if the intended distractors were effective Identify misfit and outlier questions that may need further examination
Guiding Questions:	
Do the results on an assessment indicate issues with any particular test items? Do the results on an assessment indicate issues with the overall test design? Are there any changes that need to be made to an assessment or its items before it is administered again?	

> **N O T E S**
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> This statistical model is designed to analyze large amounts of data and is most useful when evaluating items answered by a large number of students.
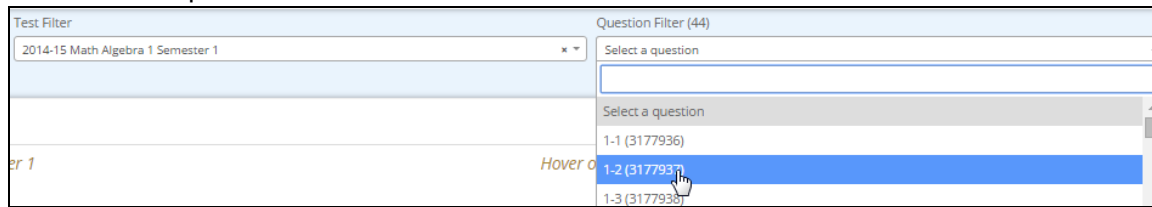>
> This report includes several item statistics. For more information on what these represent, see the topic *Understanding the Statistics*.

Accessing the Report

1. Select Tests > Test Reporting - Item Statistics Analysis from the main navigation menu.
2. Initially, the Item Discrimination Chart (scatter plot) will be displayed, showing data for the subject with the most assessment results.
3. Select an entire subject or a specific test using the Test Filter drop-down menu.
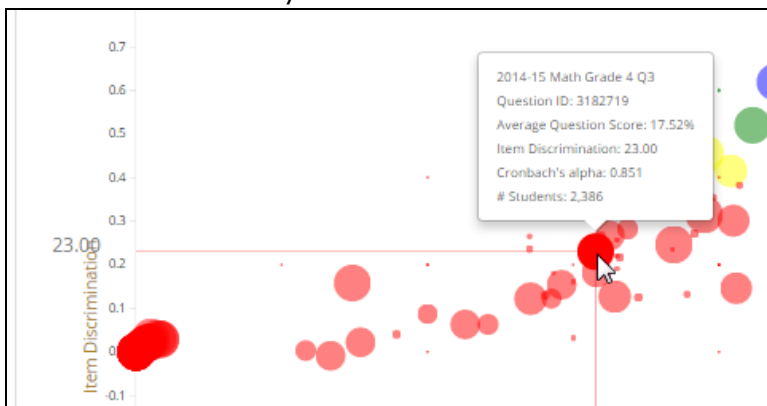
4. If a test is selected, you have the option to choose a specific item from the test using the Question Filter drop-down menu.
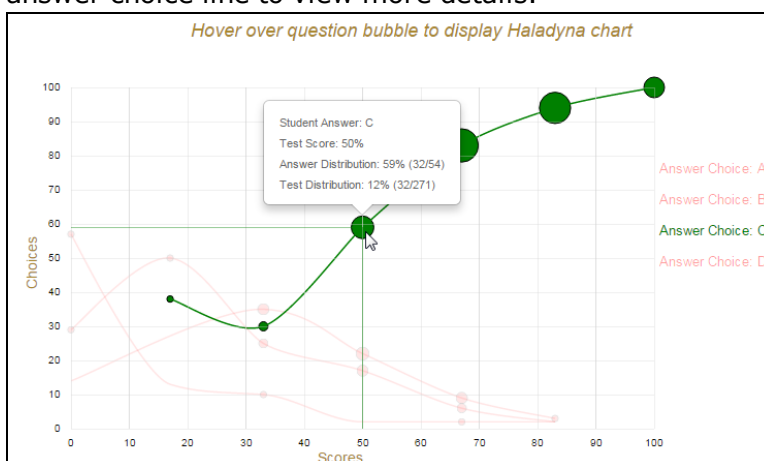

Item Discrimination Chart

The Item Discrimination Chart displays a scatter plot of all the items related to the current subject and test filters. The larger the item bubble, the more student results there are for the item. Bubbles are color-coded based on the item discrimination bands. See the topic *Understanding the Statistics* for more details.

Each item bubble is plotted at the intersection point of its item discrimination score and average item score. Hover over any bubble to view the details of the item, including test name and item statistics.

When you click on an item bubble, the following will happen.

» The report filters will reflect the subject, test, and item selected.

» The scatter plot will be narrowed to the test of the item selected.

» The Haladyna chart for the item selected will appear to the right of the scatter plot. Hover over an answer choice to the right of the chart to view its distribution. Hover over any plot on the answer choice line to view more details.

» A table of all items on the test will appear below the charts. Within the table, multiple item statistics are provided for each item. In addition, you have the options to preview an item and return it for review/edits.

Question			Item Discrimination	P Value	Point Biserial
1-1	QTI Item Preview	Return Item for Review	0.267	0.828	0.348
1-2	QTI Item Preview	Return Item for Review	0.472	0.676	0.446
1-3	QTI Item Preview	Return Item for Review	0.412	0.731	0.412
1-4	QTI Item Preview	Return Item for Review	0.625	0.605	0.515
1-5	QTI Item Preview	Return Item for Review	0.616	0.409	0.497
1-6	QTI Item Preview	Return Item for Review	0.567	0.671	0.506
1-7	QTI Item Preview	Return Item for Review	0.54	0.389	0.449
1-8	QTI Item Preview	Return Item for Review	0.597	0.607	0.513
1-9	QTI Item Preview	Return Item for Review	0.631	0.691	0.581
1-10	QTI Item Preview	Return Item for Review	0.573	0.584	0.475

> **N O T E**
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> Preview of items from a high stakes test requires a user to have HIGH STAKES ADMIN permissions. Only an administrator can assign high stakes admin permissions to a user or group.

Subject Tests

The Subject Tests tab displays the list of all tests selected in the subject filter.

Test Title	Student Count	Weighted Average Score	Cronbach	Number of Questions	Red	Yellow	Green	Blue	Black
2014-15 Math Grade K Q1	972	79	0.792	20	9	7	3	1	0
2014-15 Math Grade 2 Q1	1401	80	0.787	25	13	6	6	0	0
2014-15 Math Grade 3 Q1	1927	57	0.825	25	6	7	6	5	1
2014-15 Math Grade 1 Q1	1249	74	0.795	20	11	5	1	2	1
2014-15 Math Grade 5 Q1	1801	63	0.777	25	9	11	5	1	0
2014-15 Math Grade 4 Q1	1882	67	0.801	27	23	4	0	0	0
2014-15 Math Grade 8 Pre-Algebra	720	45	0.568	21	12	8	2	0	0
2014-15 Math Grade 7 MJ2 Q1	773	59	0.735	20	11	4	5	1	0
2014-15 Math Grade 6 MJ1 Q1	1898	61	0.675	13	4	5	4	0	0
MCE 14-15 Math Grade 5 Q1 Retake	6	44	-1.534	25	21	0	0	4	0

Column	Description
Test Title	The assessment title » Click on a title to view the item discrimination chart for that test
Student Count	Total number of students scored for this test
Weighted Average Score	The proportional relevance of each score, calculated by adding the total number of points the students earned and dividing by the total possible points
Cronbach	The measure of test reliability; see the topic *Understanding the Statistics* for more information
Red	The number of items on the test that fell within the red item discrimination band
Yellow	The number of items on the test that fell within the yellow item discrimination band

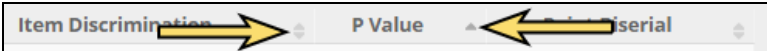| Column	Description
Green	The number of items on the test that fell within the green item discrimination band
Blue	The number of items on the test that fell within the blue item discrimination band
Black	The number of items on the test that fell within the black item discrimination band

Using Additional Filters

Items displayed on the item discrimination chart can be narrowed down using item attribute filters. Simply click on the Additional Filters button, then make your choices by clicking in the attribute fields provided. Click Done to apply the filters.

Additional Filters :≡

Additional Options

You have the following additional options with this report.

Sorting - Click on any table column header that includes a light gray double-arrow to sort by that column. A dark gray arrow will display the current sorting selection.

Item Discrimination   P Value   Point Biserial

Search - Begin typing in the search box above the tables to locate a particular item or test.

Search: [   ]

Export - Use the buttons above the tables to export the current view of the data.

Excel   CSV

» The Excel export will include full table data and color-coding.
» The CSV export will be a flat file of the table data.

> ✎ **N O T E**
> Opening the CSV file with Excel or other spreadsheet application may result in improper formatting of some cell data. Simply format the cells as text for a proper view of the data.

Reset Page - The blue Reset Page link located in the upper-right corner of the screen will refresh the report to the initial default view.