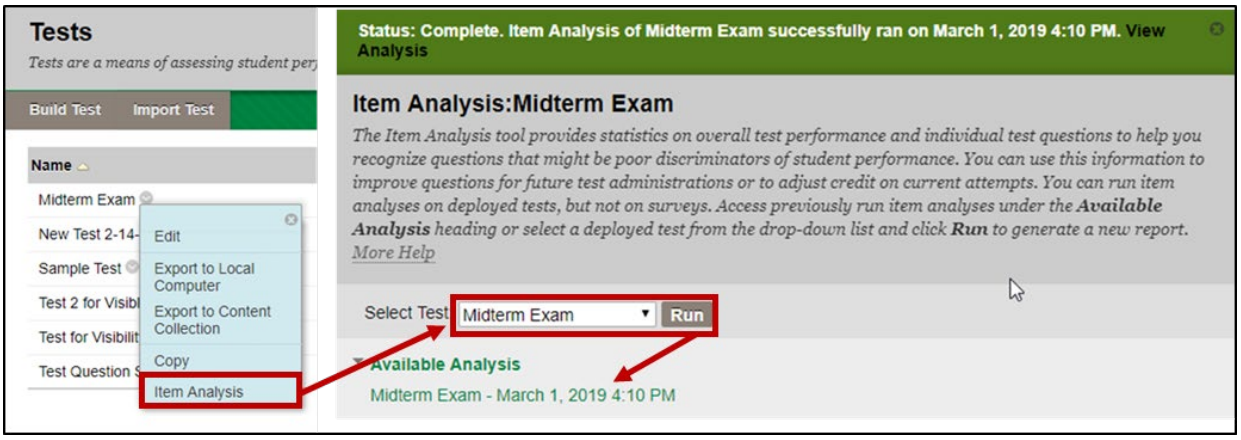
Reporting Options for Tests – Part 2

If you have an online test that needs a report for overall test performance and the success of questions answered, then consider using **Item Analysis. Item analysis** provides statistics on overall performance, test quality, and individual questions that can help you identify question that might not reflect student performance.

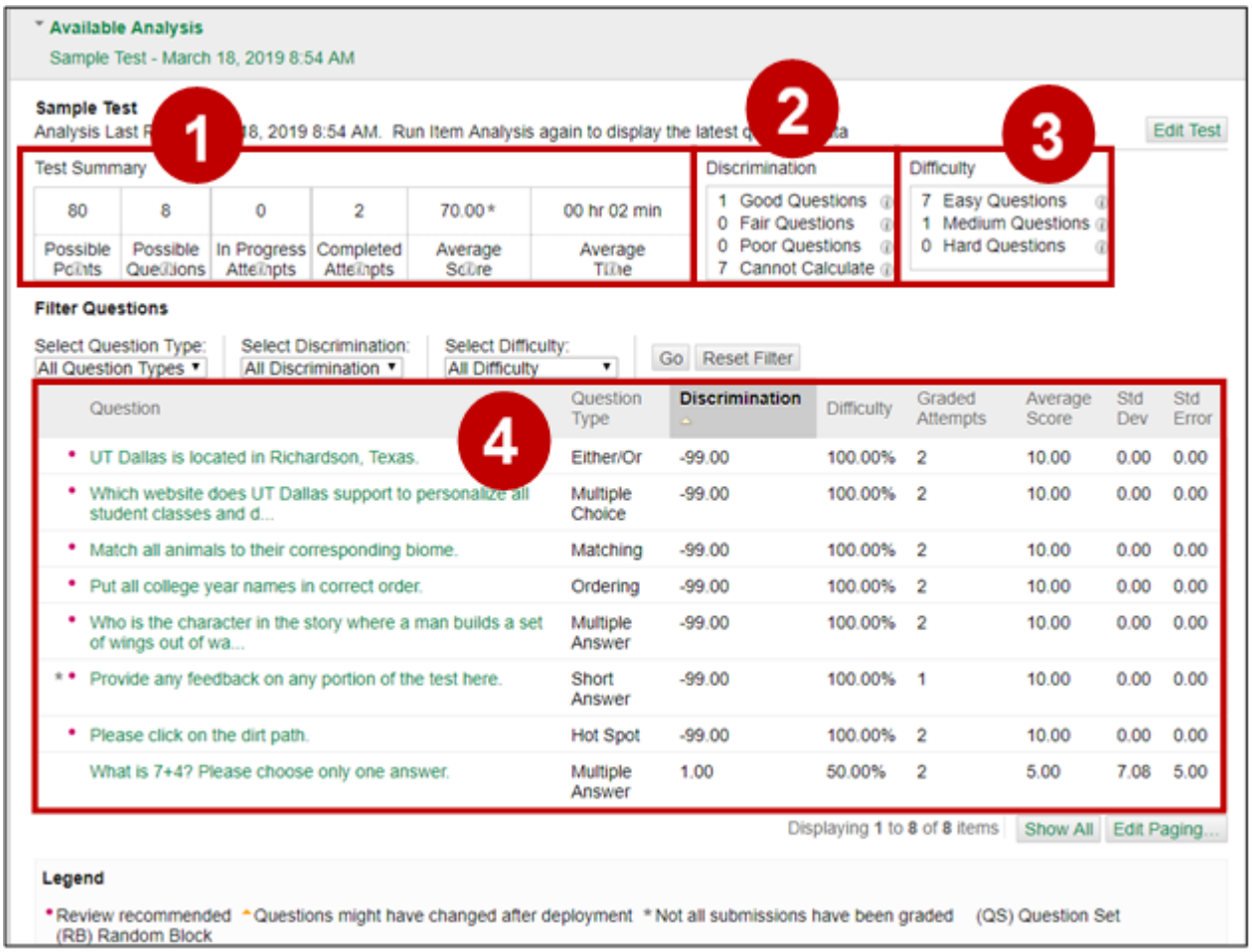
For best results, you need an online test with completed attempts and posted grades. Item Analysis cannot analyze tests in progress. Item analysis only appears as an option for deployed online tests. Therefore, you can run an Item Analysis from a content area, the Tests page, or the Grade Center.

To run Item Analysis, do the following:

1. From the test's option menu, select **Item Analysis.**
2. In the Select Test menu, select a test. Only deployed tests are listed.
3. Select Run.
4. Select the new report's link in the **Available Analysis** section or select **View Analysis** in the status receipt at the top of the page.



The Item Analysis main page is broken down into four sections, the **Test Summary**, **Discrimination**, **Difficulty**, and **Question Statistics**. Hover your mouse over any of the "i" icons to learn about each category. At any time, you can also select **Edit test** to review what was marked as the correct question.



1. The **Test Summary** reiterates a test's points, how many tests are in progress, the total number of questions and the rate of test completion.
2. **Discrimination** indicates how well a question differentiates between students who know the subject matter and those who don't. A good question is recognized when students answer it correctly, and also do well on the test. Values can range from -1.0 to +0.3. A question is flagged for review when its discrimination value is less than 0.1.
3. **Difficulty** categorizes the percentage of students answering the question correctly as Easy (greater than 80%), Medium (30% to 80%), and Hard (less than 30%). Therefore, higher difficulty percentages indicate that the question was easy.
4. **Question Details** The question statistics table provides statistics for each question in the test. Questions in the easy or hard categories are flagged for review with a red dot.

In general, good questions fall in these categories:

- Medium (30% to 80%) difficulty
- Good or Fair (greater than 0.1) discrimination values

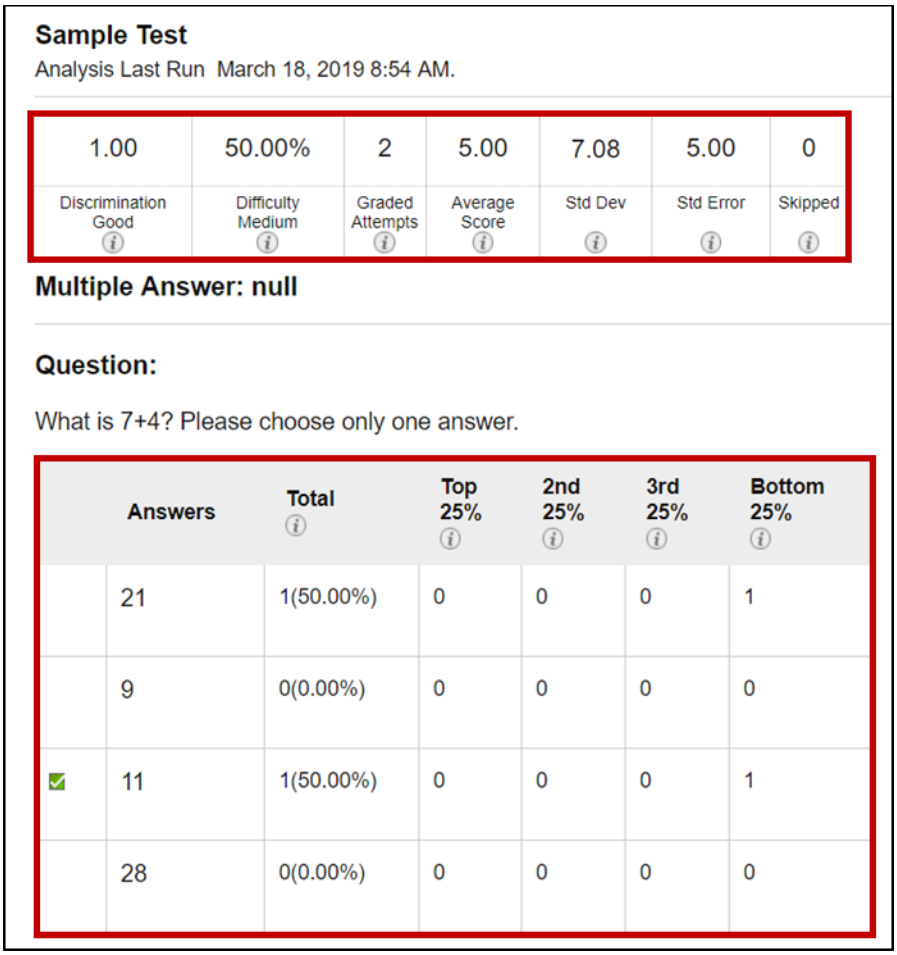
In general, questions recommended for review

- Easy (> 80%) or Hard (< 30%) difficulty
- Poor (< 0.1) discrimination values

Note that Discrimination values can't be calculated when the question's difficulty score is 100% or when all students receive the same score on a question.

Difficulty levels that are slightly higher than midway between chance and perfect scores do a better job differentiating students who know the tested material from those who don't. High difficulty values don't assure high levels of discrimination.

To investigate a question further, select a question to prompt its Question Details page to appear.



Sample Test

Analysis Last Run March 18, 2019 8:54 AM.

1.00	50.00%	2	5.00	7.08	5.00	0
Discrimination Good	Difficulty Medium	Graded Attempts	Average Score	Std Dev	Std Error	Skipped

Multiple Answer: null

Question:

What is 7+4? Please choose only one answer.

	Answers	Total	Top 25%	2nd 25%	3rd 25%	Bottom 25%
	21	1(50.00%)	0	0	0	1
	9	0(0.00%)	0	0	0	0
☑	11	1(50.00%)	0	0	0	1
	28	0(0.00%)	0	0	0	0

Information appears based on the question type. In this example, multiple choice provides the number of students who selected answers and the distribution of those answers among the class quartiles.

With item analysis, you can improve questions for future tests by detecting fix misleading or ambiguous questions in a current test. The following are examples of detection.

- A Multiple-Choice question is flagged for your review. More Top 25% students chose answer B, but A is the correct answer. You realize you didn't choose the correct answer when you created the question. You edit the test question and it's automatically regraded.

- In a Multiple-Choice question, an equal number of students chose A, B, and C. Examine the answer choices to determine if they're ambiguous, if the question is too difficult, or if the material wasn't covered.
- A question is recommended for review because it falls into the hard difficulty category. You determine the question is hard, but you keep it to adequately test your course objectives.

Blackboard has posted additional information about Item Analysis at this link. Additionally, they also have this video introduction.

Again, use **Attempts Statistics**, **Column Statistics**, and **Download Results** for quick reports to review scores and responses.