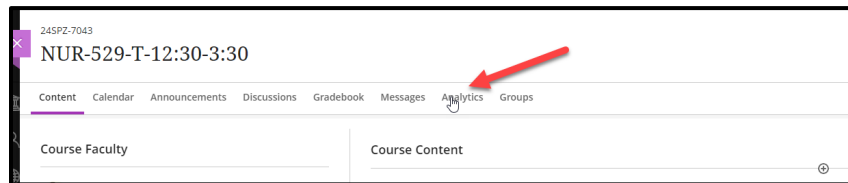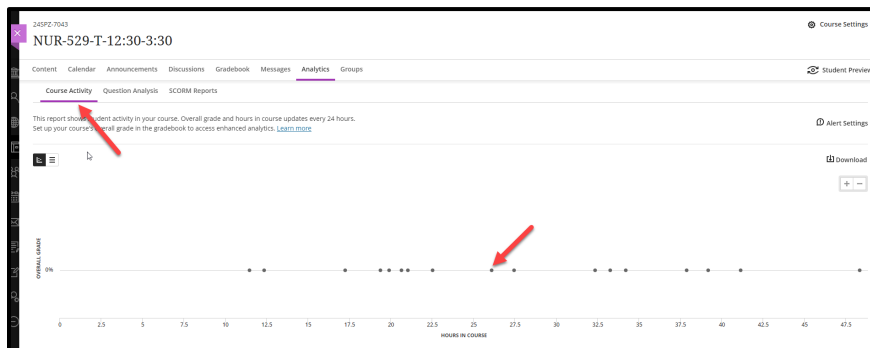## How to Use the Gradebook Analytic Feature

Question analysis provides statistics on overall performance, assessment quality, and individual questions. This data helps you recognize questions that might be poor discriminators of student performance. Question analysis is for assessments **with** questions. You can run a report before all submissions are in if you want to check the quality of your questions and make changes.
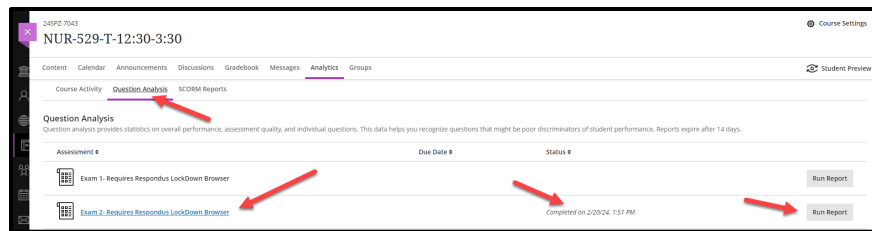
Uses for question analysis:

- Improve questions for future assessments or to adjust credit on current attempts
- Discuss assessment results with your class
- Provide a basis for remedial work
- Improve classroom instruction

The **Analytics** feature is located between **Messages** and **Groups** at the top of the window.
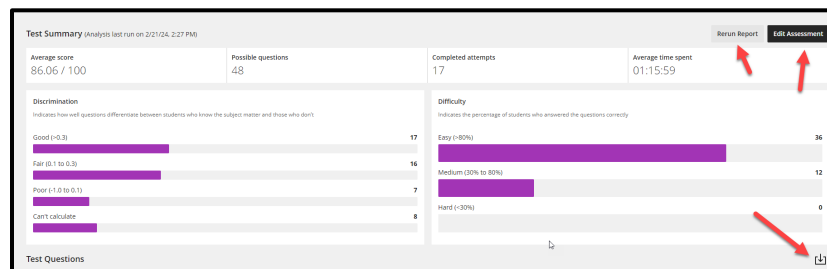

Once **Analytics** is selected you have three choices. By choosing **Course Activity**, you can actively see how much time students have interacted in the course by placing your mouse pointer on the various points on the timeline. Here you will then see the students' information and time spent on the course.

The second option is **Question Analysis**. Here you can run the report by selecting the assessment on the left and then choosing **Run Report** on the right.

It is recommended to refresh the screen after a few minutes if you do not see the *Report in progress* status change to completed.

Once the report populates, you will be able the review the test results and begin to gauge the outcome of the test results in the **Test Summary** located at the top of the report.

Below **Test Summary**, you will find the **Test Question**. Here you can dig into each of the categories for each question. The terms are explained on the next page for clarity.

- *Discrimination*: Indicates how well questions differentiate between students who know the subject matter and those who don't.
  - o Shows the number of questions that fall into these categories:
    - ▪ *Good* (greater than 0.3)
    - ▪ *Fair* (between 0.1 and 0.3)
    - ▪ *Poor* (less than 0.1) categories
    - ▪ *Can't calculate*: A question's difficulty is 100% or all students received the same score on a question.
  - o Questions with discrimination values in the *Good* and *Fair* categories differentiate between students with higher and lower levels of knowledge.
  - o Questions in the *Poor* category are recommended for review.
- *Difficulty*: Percentage of students who answered the questions correctly
  - o Shows the number of questions that fall into these categories:
    - ▪ *Easy* (greater than 80%)
    - ▪ *Medium* (between 30% and 80%)
    - ▪ *Hard* (less than 30%)
  - o Questions in the *Easy* or *Hard* categories are recommended for review.
- *Average Score:* Average point score of the question based on the entire class performance.

Each question is hyper-linked to a more in-depth analysis of the classes overall statistical outcome of the assessment question.

About the question section in the assessment summary

The questions table provides analysis statistics for each question in the assessment. After you use the graphs to filter the questions table, you can view and sort the results.

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 fall in these categories. They may be of low quality or scored incorrectly.

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