Item analysis provides statistics on overall test performance and on individual test questions. This data will help you to recognise questions that might not adequately discriminate between students who understand the material and those who do not. You can use this information to improve questions for future tests or to adjust credit on current attempts. Ineffective or misleading questions are identified easily, may be corrected in Test Canvas and re-graded automatically.

**Item analysis may be accessed from:**

<table>
<thead>
<tr>
<th>The page where the test is displayed to student (click the down pointing arrow next to the test name)</th>
<th>The Grade Centre column for the test</th>
<th>The Control Panel &gt;&gt; Subject Tools &gt;&gt; Tests and Surveys &gt;&gt; Click the down pointing arrow next to the test name.</th>
</tr>
</thead>
</table>

Before the test may be analysed a report must be run. Ensure the test name appears in the drop down and click Run. Reports are very fast to generate (often less than 1 minute) and a confirmation email will be sent to you when it is complete.

![Item Analysis: Animal behaviour](image)

Note: Reports cannot be run on tests that have zero points, or if they contain question types that require manual marking and have not been marked.

Click the title – date of a report to open it and display the test summary, discrimination, difficulty and a breakdown of the test by question.
Discrimination

Discrimination indicates how well a question differentiates between students who know the subject matter those who do not. A question is a good discriminator when students who answer the question correctly also do well on the test.

Discrimination scores range between -1 and +1. Any question that gets a discrimination score above +0.3 is considered Good. Good and Fair questions may be used to help determine student knowledge levels.

Discrimination cannot be calculated for questions where everyone receives the same score (everyone gets a question right or wrong).

Difficulty

Difficulty shows the percentage of students who answered the question correctly. If >80% of students get a question right it is listed as easy; if <30% of students get a question right it is listed as hard.

Review questions

Questions that rate poor in discrimination, or easy or hard in difficulty are automatically marked for review (pink dot to the left of the question title).

Click on a question title to review and display details of that question.

Note: Not all question types are able to display details. For example, the Hot Spot question type cannot display a breakdown of the student selections.
For this multiple answer question example you can see the two correct answers shown on the left. The total number of times an answer was selected is shown along with what level of students selected each answer. In the example above, one student who is in the top 25% of scorers for the test selected the Pelican answer, but four students in the bottom 25% also picked Pelican. This indicates that the Pelican answer was the more obvious easy answer. Conversely, the Seal answer was selected by one student in the top 25%, but only by one student in the bottom 25%, indicating that the Seal answer had a higher level of difficulty or less obvious than that of the Pelican answer.

**Edit Test**

If you realise at this stage that an incorrect answer was set for the question, or that a modification needs to be made to the question, you have the **Edit Test** option at the top of the screen.

If you edit the test you will be notified at the top of the screen if there have been attempts on this test. If an attempt is in progress you will receive notice of this also.

If you choose to edit a question, the Submit button changes to **Submit and Update Attempts**. This means that students who have already attempted the test will have their test remarked for the edited question and mark updated as necessary.

For more information see: [http://lms.unimelb.edu.au/user_guides/tests_surveys_workshop.pdf](http://lms.unimelb.edu.au/user_guides/tests_surveys_workshop.pdf)

Please report any errors or omissions in this guide to lms-guides@lists.unimelb.edu.au