Improving Security of Online Assessment

Summative assessment is frequently delivered online through Moodle. While this may provide a number of benefits it also introduces issues that are not present during invigilated exams including:

1. Cheating, through access and reference to study aids
2. Collusion
3. Identity verification.

This document lists several strategies that can help minimize the first two points noted above.

Application of all or most of these settings is expected where online assessment is undertaken through Moodle.

Further help or assistance can be requested from the Faculty eLearning Services Unit. Email med-elearning@monash.edu.

Recommendations

1. Use random questions

Moodle provides an option to add questions selected randomly from a pool of questions to a quiz. Using this feature means that each student is likely to get a different selection of questions to other students and can help minimise collusion.

The random questions feature is available when questions are added to the quiz. Refer to the relevant section at the following link for detailed instructions

The following options are available from the quiz Settings menu and can be accessed by clicking on the quiz and selecting Edit settings from the Administration menu.

2. Restricting availability

Restrict the availability of the quiz to reduce chance of cheating. Reducing the availability can help minimize incidents where students attempt the quiz early and share questions with others who have yet to take the quiz. The availability can be set in the **Timing** section of the quiz settings as shown below.

3. Apply a time limit to the quiz

By default Moodle does not apply a time limit to a quiz. Enabling this setting minimizes the opportunity students have to consult external sources or study aids.

4. Shuffle the order questions are presented

In the **Layout** section set the **Question order** to **Shuffled randomly**. Students will receive the same questions but in a different order.
5. Display each question on a separate page

This will make it more difficult for students to copy or print the entire quiz. Refer to the figure for point 4 above.

6. Control navigation through the quiz

Set the **Navigation method** to Sequential (refer to the figure for point 4 above). With this option enabled students progress through the quiz in the order the questions are presented and cannot return to a previous question or skip ahead.
7. **Shuffle the order answer options are presented**

Set the **Shuffle within questions** option in **Question behaviour** to **Yes**. For multiple choice questions the answer options will be randomised for each attempt at the quiz.

Note that this option should not be used for questions which include an “All of the above” or “None of the above” option.

![Question behaviour table]

8. **Minimize the number of attempts**

Allow a single attempt at the quiz in the **Grade** settings.

![Grade settings](image)

9. **Restrict the feedback to students**

By default Moodle allows students to review their own answers as well as the correct answers once they have attempted the quiz (refer to the figure below). To prevent collaboration and minimize cheating set only the options required in the **After the quiz is closed** column and uncheck all other options.

In order for this to work correctly an end date and time must be set for the quiz as described in the **2. Restricting availability** section above.
10. Set a password

In some circumstances it may be useful to set a password for the quiz. This can be distributed to students immediately before the quiz is due to commence and can help prevent unauthorised access to the quiz ahead of time.