



## **Report for 2008 Pilot of Online Practical Component in the Essential Secondary Science Assessment (ESSA)**

This report refers to the pilot of the Online Practical Component (OPC), held on 5 November 2008 and completed by 9613 students in 62 NSW metropolitan and regional government schools.

### **Introduction**

The OPC is an interactive computer-based system that enables the simulation of what would normally be laboratory experiments. Assessment of the knowledge and skills tested in the OPC currently occurs through the ESSA pencil-and-paper test however this has limitations. A preliminary trial of the OPC was conducted in twelve government schools in 2006 and the enhanced materials were trialled in March 2008 in preparation for the November pilot.

The ESSA team is currently adapting the pencil-and-paper style of test to an online environment and trial online tests were undertaken in November 2008. ESSA online is anticipated to replace the current ESSA test in the future. It will be an integration of the current mandatory pencil and paper test and the OPC referred to in this report.

### **OPC pilot setup**

Over the last three years, schools have been asked for expressions of interest to participate in online components of the ESSA program. In early 2008, schools that had shown an interest were approached to participate in the November OPC pilot. Seventy one schools were invited and sixty four chose to participate. The schools were supported by officers from the Information Technology Directorate (ITD) of the Department of Education and Training (DET) in testing student access to the DET portal. The schools were further supported with manuals of procedures and advice from the ESSA unit.

More detail about the OPC materials can be found on ESSA's webpages ([www.schools.nsw.edu.au/learning/7-12assessments/essa/essatests.php](http://www.schools.nsw.edu.au/learning/7-12assessments/essa/essatests.php)), in Volume 13 No 2 Curriculum Support, Science, and at: [www.curriculumsupport.education.nsw.gov.au/secondary/science/index.htm](http://www.curriculumsupport.education.nsw.gov.au/secondary/science/index.htm)

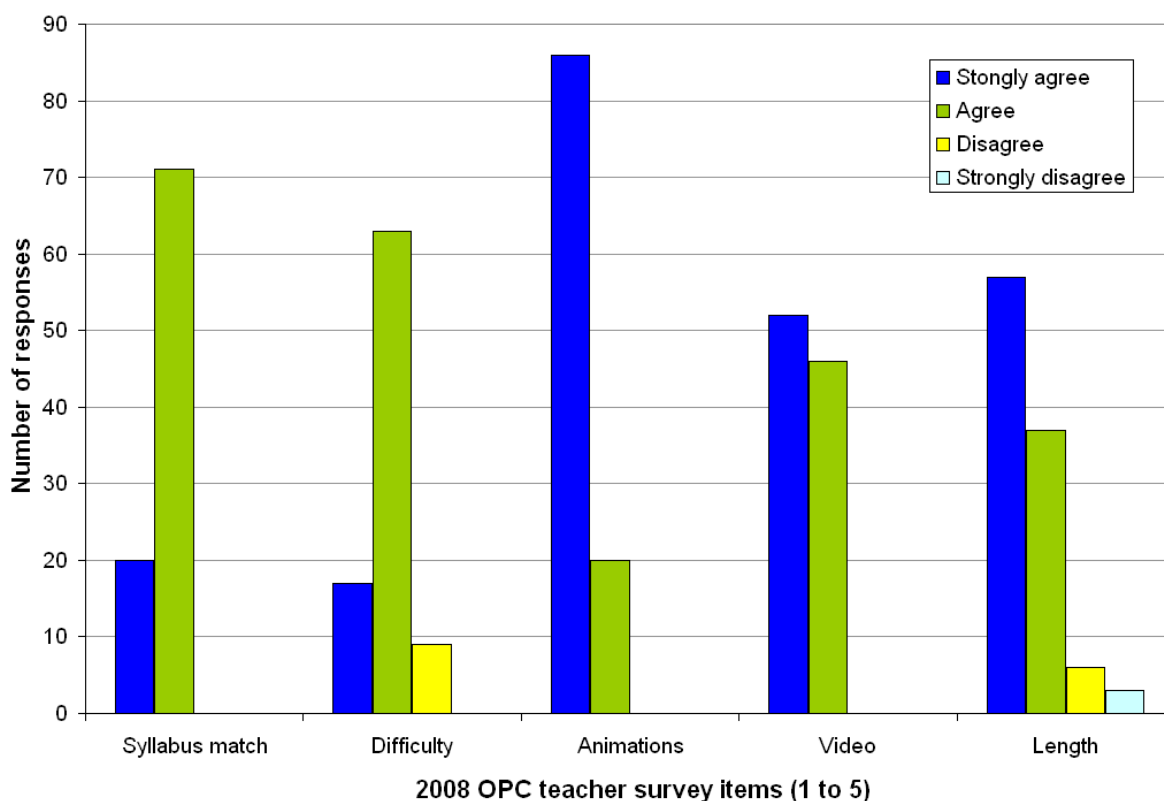
## Results of the teacher survey about the 2008 OPC pilot

Schools participating in the 2008 OPC pilot were asked to complete a survey about the OPC. The survey contained five items, to which teachers responded using a four point Likert scale, and three open-ended items. A summary of teacher responses follows the list of survey items.

### OPC teacher survey

- 1 The OPC related to Stage 4 of the *Science Years 7–10 Syllabus*.
- 2 The OPC covered a range of difficulty appropriate for Year 8 students.
- 3 The animations helped students engage in the investigation.
- 4 The video provided a suitable context for Year 8 students.
- 5 The test length of 30 minutes was appropriate for Year 8 students to complete the tasks.
- 6 Did you experience any administrative and/or technical difficulties in preparing for and administering the test?
- 7 Do you think this is an appropriate way of assessing student achievement in planning and conducting investigations?
- 8 Any other comments relating to the OPC?

This graph provides a summary of responses for the first five items on the survey.



The following are summarised responses for the open-ended survey items.

- 6 Did you experience any administrative and/or technical difficulties in preparing for and administering the test?
- A small number of students (in almost every school) had forgotten (some ‘aged out’) their passwords.
  - Test log-in was not always possible leading up to test, as testing requires computer room availability.
  - Very few computer rooms hold 30 computers.
  - Very few if any computer rooms have every computer functional.
  - Careful organisation is required to have all the Year 8 cohort sit the test in one day.
  - All computers need testing to ensure software (Flash, media player) is installed.
  - School organisation for the test needs the support of the computer coordinator.
  - Not all students have headphones.
  - Students do not usually have access to audio or are unfamiliar with sound controls.
  - Recent enrolments may not be on the ITD school list (and cannot do the test).
  - Extra staff are needed to supervise.
  - One of the multiple choice items was discussed by students between test sessions.

ESSA’s responses and/or solutions to the issues raised include:

- a) As the use of computers for testing becomes more commonplace, we might predict that:
  - school computers will become more reliable and their functionality more predictable
  - the requirements for an online test will become more familiar to teachers and the organisation less burdensome.
- b) As the number of computers in schools increases, we might predict that:
  - staff supervision will become less of a problem
  - students will use their portal log-in more often and passwords may become even less of a problem
  - students will use headphones on a day-to-day basis and will have their own.
- c) Log-in testing will still be advised for schools, particularly so that students who are new to the school are identified prior to the test
- d) The ESSA test program will endeavour to ensure that test items within online tests appear more randomised.
- e) The ESSA test program will discuss with ITD a possible shift in the time when passwords are ‘aged out’ to further reduce password difficulties.

7 Do you think this is an appropriate way of assessing student achievement in planning and conducting investigations?

- Yes, it was very engaging. Students reported that it made them think. It related to real-life science and provided a context for the assessment.
- Students seemed to greatly prefer this method. A common comment was, 'If you didn't get what it was about by reading it, the other stuff helped it to make sense.' We will be interested in seeing how this relates to results and feedback.
- Yes, within the framework of standardised testing across the state. That is, the OPC is second best to students actually planning and performing a first-hand investigation.
- Most students enjoyed and embraced the test due to the animations. The headsets enabled total quiet in a perfect assessment environment.
- Yes, but students need to practise first. Perhaps if they could do a virtual experiment and collect results beforehand, it would be more meaningful. It was good for kids to visualise scenarios. Students said they would like to do more tests this way.
- This is a great idea but must cater for all students, including students with visual disabilities.

8 Any other comments relating to the OPC?

- Several of my students would have found the context of the reef quite foreign as they have not been to a beach.
- It was also good as the Barrier Reef is being covered in Social Science at the moment.
- Kids need a good understanding of scientific terminology for the test.
- Teachers want the ability to review the test to be able to talk to students.
- All students should be forced to do the surveys.
- The school and region codes should be in locked fields and the school name should be pretyped.
- Some students were confused with 'draw conclusions'. They thought they had to actually draw.
- Supervisors cannot answer questions 1, 2 and 4 because I have not and cannot see the test without looking over a student's shoulder, which I wasn't prepared to do. Can you provide access to the test so that I can view what the test was?
- Will we get to see our students results?

