

# The NSW Department of Education re-engages Year 6, 8 and 10 science students with its online VALID exam.

The NSW Department of Education (NSW DoE) broke new ground in 2010 when it shifted its annual Year 6, 8 and 10 science test from paper to online. At the time, delivering a large scale online school assessment was unprecedented. **Janison Insights** successfully did so – and transformed the test into an engaging experience that students actually look forward to.

## The Brief

Janison's remit was to host and deliver what was then recognised nationally and internationally as the world's first online multimedia interactive whole cohort test to schools across the state. The test, then called the Essential Secondary Science Assessment (ESSA), is now known as the *Validation of Assessment for Learning and Individual Development (VALID)* and is mandatory for Year 6, 8 and 10 students.

As part of a wider commitment to improving science results under ACARA's national School Science Education Action Plan, the Department also wanted to give students authentic, interactive test experiences, acknowledging science as a "dynamic, forward-looking, collaborative human endeavour". The plan made it a key national priority for the Australian science curriculum to "ensure international competitiveness" and "meet the needs of those students who, as citizens in a global world... will become the future research scientists and engineers".



**We are delighted with the results. Janison are great to work with and are really leading innovation in this space.** 

**Eric Jamieson**  
Former Director of Education  
Management, NSW Department of Education



# 40,000

students from 650 schools sat the test in one day in 2010



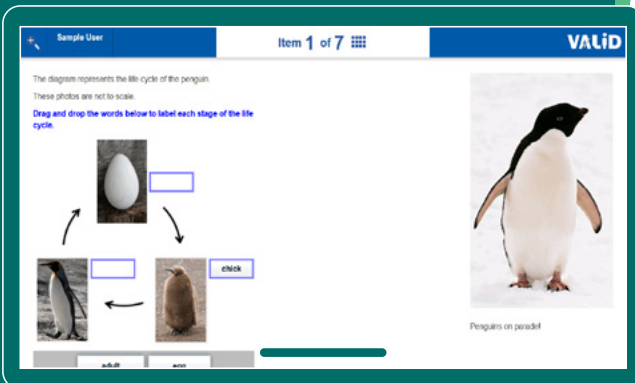
# 81,300

pupils took the exam in 2016 – double the pilot number



# 20,000

students can be supported on the platform concurrently



## The Challenge

At the time, delivering a large scale online school assessment to tens of thousands of test-takers was unprecedented. Supporting such large numbers on the platform posed a variety of technological challenges, particularly managing data loads. Stable, consistent delivery was vital. The platform would also need to meet the Government's strict data sovereignty requirements. At the time, the NSW DoE's technical team faced major challenges of cost and limits of scalability: about 100 servers would be required to deliver and support such a large load of test-takers.

## Our Solution

For the platform, Janison addressed key scalability, delivery and security challenges by taking an innovative approach to services and architecture – commencing an award-winning partnership with Microsoft's then newly-released cloud service environment, Azure. It addressed data sovereignty by designing the application so that all student data was stored in this on-shore cloud server environment.

The actual amount of data processed at peak times required an innovative design approach. Janison built in a sophisticated multi-tiered cache architecture and the extensive use of cloud entity storage, which needed to support up to 6,000 data transactions every second.

It also built multimedia tools into the exam authoring features. These allowed educators to author questions using animation that simulates practical classroom exercises, allowing students to work with virtual beakers, test tubes and measurement tools on the screen; performing experiments, taking measurements and creating conclusions.

## The Result

In October 2010, Janison delivered what was then a world-first: the first standardised, successful, large scale online assessment to nearly 40,000 students from 650 schools in one day. Following the success of the pilot, the NSW DoE asked Janison to broaden out the methodology for all Year 8 students across the state, with 60,000 students taking the exam. In 2015, more than 100,000 test attempts were delivered and marked. By 2016, the test program had doubled to 81,300 students.

The online VALID exam efficiently provides high quality syllabus-based assessment frameworks that pinpoint students' levels of achievement against defined standards. Online multimedia assessment tools give diagnostic data and time-efficient reports – all valuable information which assists with planning, programming and assessment across students' learning stages.

Feedback from teachers involved in the early stages of the project was that VALID had transformed from being seen by students as a dull and dreaded exam into a test that pupils now actually looked forward to. Teachers report that they've never seen some of their students as engaged in a classroom activity as they are when they're participating in VALID.



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