Digital exams pass student test

NZQA has announced that digital exams could be the norm in 10 years. Auckland's Sacred Heart College, however, is already successfully developing and using this type of assessment, write Louise Oliphant and Ross Forrester.

As part of our Digital Learning Programme, Sacred Heart College has been trialling digital assessments and examinations since 2005. We've successfully developed the process of administering these to the point where earlier this year 22 special needs students – with learning challenges like Dyslexia – digitally sat their mid-year exams in English, Social Studies, Science, Religious Education and Maths. And we are now confident we publish accurate useable examinations that test all students across Years 7, 8, 9, and 10.

The examinations in every way mirrored those set in mainstream classrooms. The students, who would normally require a reader and/or writer to assist, took the exams using a combination of text-to-speech and word prediction software. The digitised papers on the computer have also been modified to include content controls, such as drop down lists, option buttons and text boxes.

The results speak for themselves with students achieving similar grades to their mainstream counterparts – to the surprise of all.

The norm rather than unusual

It was only in 2007 that Dyslexia was formally recognised by the Government as a term relevant to those who experience communication persistent difficulties related in particular to reading and writing. Completing digital examinations and assessments this way, however, has been an option not only for those students who are Dyslexic but has included those who have a variety of communication difficulties.

Some of our students have participated in this programme since Year 7 and now, approaching Year 11, it has become the norm rather than the unusual. This has created somewhat of a problem as NZQA has not yet approved this variation of assessment delivery. Students must then undergo training in order to employ the reader/writer option which, to them, is comparable to being forced to use a landline telephone rather than a smart phone. Better the process is accelerated by those who have the ability to do so.

Several prototypes along the way

Exactly how has this come about and what happens? In collaboration with local company Speaking Solutions, we have developed a sophisticated process whereby students are presented with a digitally modified paper, which has identical content and looks exactly the same as that presented to their peers. It's been a long process, with several 'prototypes'. Along the way, every step has been carefully researched, discussed and negotiated to the point where now, the only difference between the digital paper and the paper presented by the bulk of other students is that the digital paper has typed responses. This is 'digital inclusion' at its best.

We're now at the point where we've held, in one room, using a maximum of two invigilators, multi-level assessments for more than 30 students. That is, students who have exams scheduled in the same time slot and from any year level in the school, have participated in their examinations without readers/writers, yet still took best advantage of their allocated special conditions. This does allow the locus of control as to how the assessment will proceed firmly with the student, excluding any subtle unconscious communications which may be emanated from a reader/writer.

Savings to the school

Once in the examination room, each student is assigned a computer with a headset and their examination is loaded from a secure space on the server. Using personal combinations of text-to-speech software and Microsoft Office products, they then proceed. If required, the examination is read to the student using the text-to-speech software. Responses to examination requirements may be made by recording their data in special macro-enabled text boxes or drop-down lists. Using the text-to-speech software, the student can have their answer read back to them to edit and finalise.

Sacred Heart College is a Catholic boys' school. Founded in 1903, it moved to its current location in Auckland's Eastern Suburbs in 1955. The school has a roll of approximately 1,260 students.

sacredheart.school.nz

The advantages to students and markers are obvious. Exam candidates can present responses reflective of ability and teachers have well-presented, typed papers to mark. However, these are not the only advantages, fiscal implications are significant, too. Our analysis of the cost savings of carrying out digital examinations versus using reader/writers shows that there is an 80 per cent saving to the school in terms of wages, room costs and administration. This should appeal to NZQA authorities who carry the cost of employing an army of reader writers and other support personnel during exam periods.

Positive effects

The results from digital examinations have been astounding. For the majority, academic profiles have positively changed and many say having been included in the Digital Learning Programme has been 'life changing'. A student who was perceived to be academically challenged being judged by the standard of illegible work presented, once in the programme, was able to express his true potential and became a 'leading light' in his year group. Students who preferred reader/writer options considered it more 'helpful ', while others did not like typing or simply preferred the human element. On the other hand, many students from the wider school population, having heard about digital exams,

wanted the same for themselves, since in this digital age they found typing much faster and more efficient than their ability to write!

Fair and equal test

For students at Sacred Heart College digital examinations have proven not only flexible but also a fair and equal way of testing their abilities (where assessment is not tested on ability to read and write but on topic knowledge). For example, a group chose to sit their mathematics examinations digitally. This enabled them to have the questions read to them and they then used the standard printed examination paper to write equations. This highlights facility to test on knowledge of mathematics rather than test on whether a candidate could read the questions.

Overwhelmingly , the research and experience at Sacred Heart College demonstrates that all students – not just those who have special learning needs – should be extended the opportunity to choose a digital format as an option to complete examinations, thus expressing true subject competency, rather than their ability to read and write. ⟩

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WHAT DO STUDENTS THINK?

Feedback from students, parents and teachers has been mostly positive. Students have commented they can now express what they really want to say, forever free of the 'Billy T James' syndrome of using a word they can spell, rather the one they want to use.

Additional comments include:

- "I feel much more confident in the exam room using my computer"

- "Having the questions read to me enables me to understand what the teacher is asking"

- "Using word prediction means I am concentrating on the answer not my spelling"

- "I can listen to the question as many times as I like without worrying what someone will think of me"

- "I can chop and change between questions when I like. I don't always feel comfortable doing that with a writer"

EXAMS ONLINE, ON-DEMAND IN 10 YEARS

Speaking at the SPANZ (Secondary Principals' Association of New Zealand) Symposium in March, NZQA Chief Executive Dr Karen Poutasi admitted that digital learning "is something that NZQA must respond to from an assessment perspective".

"We can reach a position within eight years where most students will be sitting examinations using a digital device."

The move towards online and on-demand assessments was a response to the technology shift already happening in schools, she explained, before outlining the three phases of NZQA's 10-year 'Future State' programme:

- **Phase 1:** Years 1-3 will involve concept development and refinement, planning and design and implementation of ICT changes;

- **Phase 2:** Years 4 and 5 will focus on ensuring that NZQA optimises its processes, decommissioning some of its legacy systems and simplifying existing systems; and

- **Phase 3:** Years 6-10, NZQA will deliver assessment to anyone, anywhere, anytime, online and on demand.

"This timeline may not be quick enough for some but NZQA is very conscious that it needs to take a very cautious approach to the use of technology within external assessment," said Poutasi. "I can well understand the nervousness the education sector has with technology at present and given the status of external assessment in particular, you will appreciate that caution must be exercised if we are to make changes to the examination system.

"Having said that, one aspect we are looking at seriously is the notion of dual assessment for an interim period. This is where we could have the same examination available as computer-based or paper-based options and students would be able to opt for one or the other."

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