



APPROACHES

Sheldon College's world beating tech teaching

A Brisbane school shows how technology teaching should be done, *ET staff*

They don't just give out Microsoft Innovative Educator Expert badges, you need to be very good at integrating technology with teaching to get one, and recipients join a global elite of 7600 outstanding tech educators.

Sheldon College in Brisbane has seen two of its teachers receive the Educator Expert accolade this year, Year 4 Teacher Vanessa Tierney and STEAM Coordinator Years 1–6 Jade Frewin.

Frewin has earned close to 60 Microsoft badges, more than 40 Microsoft Certificates online and accrued more than 30,000 points in the Microsoft Educator Forum, while Tierney has supported students to gain around 40 Microsoft Certificates and has earned 40,000 points in the Forum.

He says that the short course format suits his to need to balance work, ongo-

ing learning and the demands of a young family.

The College introduces technology early and technology is used to enrich and inform the curriculum throughout the students' journeys, with Sheldon's youngest students exhibiting a command of the material beyond their years.

"We start coding with our preps and Year 1s using age-appropriate coding tools. In the early years, much of their learning is based around block code and by the time they are in Years 7 and 8 we have students producing line code in Python," Frewin says.

"A measure of our success is when we enter STEAM competitions and evaluate what our Year 6 students can do with five years of coding knowledge compared to other schools.

"This year, the Year 1s have researched high and low modality community spac-

es where they feel playgrounds should be positioned, based upon where high population areas are. It's crazy to think that Year 1s are looking at demographics.

"Year 2 students have looked at animal classification in the context 'animals have disappeared from the earth's surface and we need to create new ones that will be able to cope with the environment'; they created two shoebox sized creatures with integrated electronics, so they've worked through the design thinking process."

Students are taken through the school's Living Museum project in Year 4. While it might seem like a humanities activity, and it is to some degree, the College views humanities as the 'A' or arts element in the STEAM acronym.

The project starts with a museum tour, which feeds into a bigger idea about how information from the past is communicated to present and future generations. After



the students have spent several weeks researching the great periods of exploration they are ready to curate their museum.

Frewin says: “It’s based around the big history inquiry question ‘What leads humans to explore their environment?’. They research the great explorers, Christopher Columbus, Marco Polo ... it’s not really about what they are producing or the Living Museum, what we’re looking at is their ability to act within roles; as a historian in research and as curator of what they are going to assemble to communicate their knowledge and understanding.

“We use OneNote to facilitate their research and we set up our learning management system – a variation of Schoology – so they can access teacher course information and don’t have to trawl the internet to find what they need.”

Underpinning STEAM teaching at the College is the LINQ Precinct which houses an extensive armoury of equipment and maker facilities.

“We are fortunate that we have every form of technology,” Frewin explains. “Over the years, we’ve gone from the teachers suggesting which technologies to work with, to the point where students make their own decisions.

“They make demands of us; they know which technologies they want to use to assemble displays ... they could be generating 3D artefacts using Paint 3D, or creating holograms using PowerPoint, or using



Illustrator to laser-cut pyramids.

“Our multi-touch screen allows up to 120 users to work on our ‘giant wall-sized iPad’, they learn to use projectors and the integrated sound system to create light and soundscapes.

How does the College assess how students are doing in their technology education?

“Assessment of learning in project based learning provides a more accurate diagnostic of student achievement than any other traditional form. It’s not about providing feedback, it’s about providing feed forward,” Frewin asserts.

“Maths and English are content heavy subjects but that is not what we’re doing in STEAM learning. Our focus is on plan-

ning and thinking about skills, that’s the 21st century learner skillset.

“We have a philosophy that if you set the bar high the students will try and reach it. We shouldn’t be surprised by what they are able to achieve but we are, constantly,” he says.

“We try and impress upon teachers that STEAM is not something that sits on top of the curriculum, it’s really a component of project-based learning. STEAM is just a name that is given to the context in which students are learning otherwise predefined subjects.

“Because the College has dedicated technology teachers, our students are learning the design and digital technologies curriculum with people who are experts.”