

Learning with digital technologies to support sustainable outcomes

Rolleston College has been using project-based inquiry to support their learning and understanding of the new digital technologies curriculum content, specifically the new technological area: Designing and Developing Digital Outcomes.

15 LIFE ON LAND

Sean Bennett
KNG3
Year 9

Life on land is a goal that interests me because I have always liked watching animals, birds in particular. So when I was looking at the different goals my first pick was obviously life on land. In this there was two main focuses, deforestation (what or who it affects) and poaching/hunting (how to stop it and what animals are affected the most), I picked deforestation and its effects. I hope that people will share my love of nature and will see what is happening to our world and do what they can to help with.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Your name: Paige Stephens
Class: KNG3
Year: 9

I chose this goal because in my personal opinion peace, justice and strong institutions is a really important goal because without peace we're never going to be able to end wars and have a fair world. I believe this because currently there are so many major battles/fights and wars happening around the world, this is because we do nothing to help nor prevent it. For my results I made a reasonably successful instagram page and a video to go along with it.




Students in Year 9 at Rolleston College are experiencing digital technologies learning in authentic contexts and through a cross-curricular approach. Their objective was to work through a design thinking (inquiry) process to design and develop a digital outcome to create awareness around a sustainable development goal of their own choice.

At Rolleston College, 'Ako learning groups' help support students with their personalised learning. Through Ako learning students focus on their individualised research topics enabling teaching and learning to be cross-curricular. At the end of each term, each learner presents their progress to family and whānau. The Ako learning groups also demonstrate the school's development focus on understanding authentic, needs-based differentiated learning.

The digital technologies curriculum content learning started with having an authentic context. Each student identified their own sustainable development goal, a challenge of local, regional or global significance, such as poverty, inequality, climate change, environmental degradation, peace and justice.

The challenge was then to design and develop some kind of 'digital outcome' or 'artefact' to inform others about their sustainable development goal and describe why the goal

was important to them. As students defined their goal, their understanding and what potential digital outcomes could be developed; they also had to refine their ideas, seek feedback from peers, and record their changes and why.

Information gathering

To explore the complexities of their sustainable development issue, students heard from a variety of speakers from their community. They were also able to gather information from a number of existing digital sources.

To support this learning, students were given a defined design process to use, as well as evidence templates to help them gather information and support them to form their ideas. Students were also given a rubric to follow, helping them to identify what stage they were at in the process. Their Ako learning group teachers supported students to understand and explore design principles as they developed their digital outcome.

Rolleston College Ako learning group coach Dan Hunter was impressed with the student learning in this process.

"What surprised me was their ability to develop something out of nothing, and develop their understanding from very little – and be engaged to design and develop a digital outcome from that."

Examples of digital outcomes the students created included scratch games, comic books, Instagram accounts showing the action and student interviews expressing their opinions on YouTube. Some students also developed Google sites incorporating a range of their digital outcomes.

"The majority of the students could bring the digital outcomes together in different ways, which meant there were a range of ways to show the different projects," says Dan.

Sharing the work

At the end, students were required to present their digital outcome to their whānau group – and make sure that people could easily access it through their own device. This then led their learning development to be around understanding how to share their work and create a QR code.

"There were a lot of challenges – learning flip-grid, and learning different skills within tools. However, these new problem solving and technical skills can be transferred to other projects within the school and their connected option classes," notes Dan.

"I didn't feel like I had to teach them everything they had to know; they were able to go down a path they wanted to go down and discover," he says.

What did the students think?

"I enjoyed this project because I got to come up with my own ideas and then learn how to edit the video clips. I think it was really good that the project was around the sustainable development goals because I didn't know there was such a big problem and now I have a much better understanding." – Yana

"I like that you had to be creative and that we couldn't do just slides. I like how I can go up to other people's artefacts and scan the QR code to see what they did and learn about their project. It was good to raise awareness about the issues in our environment that I feel I can make a difference." – Ezra

How to do this at your school

- » Be open to new ideas
- » Students may struggle to see success at the start of this; working in pairs or groups and offering differentiated learning may support them to see success through this
- » Have a range of teachers available to offer different perspectives and understandings of the authentic context
- » Involve the community where appropriate to offer perspectives about what is happening at a local or regional level
- » Investigate what Designing and Developing Digital Outcomes are through the National Digital Readiness Programme, Kia Takatū ā-Matihiko
- » While this may be new territory, teachers can guide students to show what they know and what they can do
- » Use a defined design process. If you don't have one already, investigate a range of design processes and work out which one will work for your students.
- » Visit the online version of this article at gazette.education.govt.nz for more information on Digital Technologies: Designing and Development Digital Outcomes; Leading Local Curriculum guides; and Sustainable Development Goals.

Ako learning in action

In Ako learning groups, students and their learning coach meet each day for 100 minutes for a check-in, to connect and receive coaching and pastoral care. The learning coach will monitor their progress in literacy and numeracy, and help develop the students' personalised inquiry programmes.

The Ako learning groups contain mixed year levels, enabling role-modelling for the younger students under the principle of tuakana-teina. Ako learning provides a great vehicle for cross-curricular learning.

Rolleston College has developed this teaching and learning experience with Professional Learning Development support. Other schools are welcome to take any helpful ideas and use them at their own schools.

This story has been provided by Gerard MacManus, president of the NZ Digital Technologies Teachers Aotearoa

"What surprised me was [the students'] ability to develop something out of nothing, and develop their understanding from very little – and be engaged to design and develop a digital outcome from that."

Dan Hunter

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