

NAO brings sleeping language back to the future

ET Staff



The Narungga people of the Yorke Peninsula in South Australia, at one time a vibrant four clans, the Kurnara in the north of the peninsula, Windera in the east, Wari in the west and Dilpa in the south, declined as the world sped up around them, but while their culture did fall silent it never truly went away.

Looking at the students at Maitland Lutheran School you can still appreciate the tribe's presence in their faces, around a quarter have some Aboriginal heritage. As time passed though, much of the language and culture of the peninsula's original people subsided into what is there today; some words in the local slang, coastal campsites long abandoned, memory.

As is true of about half of the Aboriginal languages in Australia, Narungga has been resting, cooling its heels in Maitland Lutheran School's unused Narungga dictionaries and notes left by missionaries. But remarkably, it is again being spoken on the Yorke Peninsula with some encouragement from the language's sole fluent speaker Tanya Wanganeen, and a little lady robot called Pink

Maitland Lutheran School wanted to improve the pride of its Aboriginal students in

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their heritage and took a number of different paths towards that, one of which was including Narungga in teaching and its inclusion in the digital technologies curriculum. Pink has been front and centre.

The Narungga language, recovered from dictionaries and writings, has had its pronunciation and structure clarified through Tania Wanganeen's conversations with linguists – the majority of Aboriginal languages, at least those spoken in the southern part of the nation, have some affinity.

Monica Williams, a researcher at the South Australian Independent Schools Association, is the lead in a three-year project investigating the use of humanoid robots in teaching and has been monitoring the progress of learning Narungga at Maitland.

"Tania worked with the school to revive the

Narungga language, the students then had the opportunity to work with the NAO robot Pink and learn how the words were spelled, their exact pronunciation and the grammar."

It isn't about learning a lost language simply for the sake of it, using the Nao, students touch upon linguistics, structure, grammar, programming, computational thinking, and algorithms.

"At the same time the students were thinking about English grammar and phonetics. They were not only learning one of the oldest languages in the world, they were also learning the new language of computing.

"It's a lovely juxtaposition between cutting edge technology and reviving one of the languages of the world's oldest living culture. It has created real pride among not just the indigenous students but the school in general about our country's culture and heritage," Ms Williams says.

The sight and sound of Pink speaking Narungga rarely fails to make the students burst out laughing, hilarity aside the robots offer a cross disciplinary, student-driven and focussed method of teaching which has proven to be effective in boosting engagement and retention.

The project involved one whole Year 4 class and a number of Aboriginal students in junior primary and upper and middle primary. Tania Wanganeen came into the classes and taught students the grammar and vocabulary of Narungga, pointing out the differences to English, so there was a lot of thinking about how language is constructed and the culture that created and used that language.

The students programmed the robots to speak Narungga and make appropriate gestures indicating body parts. Very quickly students learned the necessary vocabulary and indicated that after some initial hesitation the task became easy and a lot of fun.

The students had a variety of tasks including learning heads, shoulders, knees and toes in Narungga. They also had the robot perform the Acknowledgement to Country in the language of the Yorke Peninsula.

"Pink has taught us a lot about what students are capable of in the digital curriculum. What we're finding is that you're only limited by your imagination in terms of what you can embed. I can see a time when the most creative curricula

include aspects of digital learning across all subjects.”

“The staff said the project showed them how much they could do to build Aboriginal pride in the school. It has encouraged them to look at what other types of technology they can use to build on the momentum around students’ love of learning about the Narungga culture and also about digital technology,” Ms Williams says.

“There was a wonderful effect of strengthening the ties between the school and the local community. This language had been forgotten by the Narungga people so there was a connection between what was happening at school and re-ignition of the culture in the community. Some of the students would go back home, share the words they had learned only to have their parents tell them that they had used those words.

“The robots gave the students an authentic reason to learn the language, it’s a very different way of learning to than to learning vocabulary by heart.

“It was almost like the robots became an extension of themselves, when the robot spoke back to them they could more easily appraise how accurate their use of the Narungga language



was and how accurate their pronunciation was,” Ms Williams says.

This project is part of a much bigger three-year research project where the Association

of Independent Schools of South Australia has partnered with Swinburne University, the Queensland University of Technology and the University of Queensland to understand how cutting edge technology works in the classroom.

Narungga and NAO as this aspect of the project was titled is one part of investigating and learning how humanoid robots can affect learning and pedagogy and what difference they can make to engaging teachers and students in the digital technology curriculum.

“The teachers and the principals report back to us that it has had a very significant effect on engaging teachers and helping them understand the incredible opportunities that digital technologies curriculum opens up for them. The teachers are telling us it gives them an opportunity to investigate the types of teaching approaches that bring out the very best learning in students.”

Teachers report that having open ended tasks that allow for creativity and innovation in students is important to achieving real progress in coding and computational thinking

“The remarkable thing is that with the right pedagogy, students become self-directed learners,” Ms Williams says.

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