

Programs nurturing a sense of wonder

Hands-on projects spark curiosity in the classroom, writes Beverley Johanson.

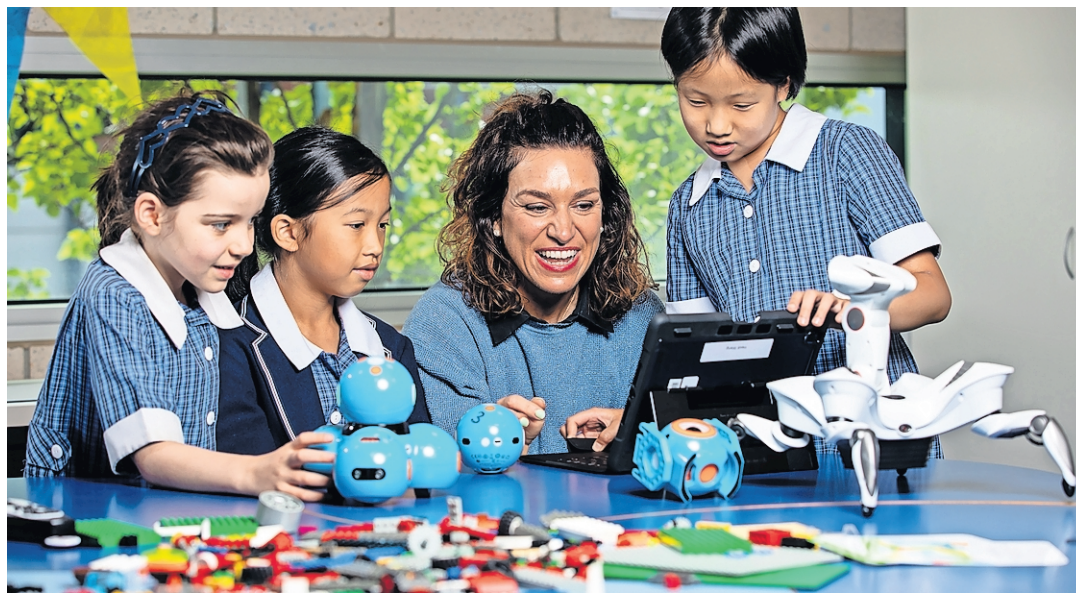
At Lauriston Girls' School, STEM learning begins at kindergarten and embraces elements beyond science, technology, engineering and maths. "Our program is founded on the belief that imagination makes empathy possible and is often more important than the acquisition of knowledge. Knowledge can be limited to what we know now, whereas imagination embraces the entire world and all there ever will be to know," says Emily Connor, the school's head of digital learning.

By placing imagination at the core of STEM, the school believes students find joy in learning and are more comfortable taking risks rather than fretting about "getting the answer right". "This approach helps empower our students to seek opportunities to make a positive impact in the world," Connor says.

In a year 1 engineering project, students design a sustainable fairy house using a graphics app.

They use FabLab, a collaborative setting for open-source technology developed in partnership with Stanford University Graduate School of Education. Here, they have the thrill of seeing the models they created come to life as they are printed on a laser cutter.

Year 5 girls use Google Sites to design



Emily Connor, head of digital learning at Lauriston Girls' School, with year 4 students.

a website as a key component of launching an imaginary smoothie bar business. They also create a 3D model of their smoothie truck.

Research indicates that girls are more likely to opt for STEM careers if they are exposed to STEM practitioners and role models. Lauriston has several clubs where girls participate in mixed-year, self-directed STEM projects and participate in competitions.

"Visits by female engineers and scientists, and programs such as Robogals, and scholar-in-residence virtual reality artist Susannah Williams, help girls to understand the variety of STEM-related career paths that are available," says Connor.

At Brighton Grammar School, the boys' STEM program builds on their natural curiosity, nurtures their sense of wonder and develops their passion for exploring how the world around them works.

"STEM is taught explicitly and implicitly through the school curriculum. Depending on the topic and year level, we teach through play and real-world applications that occur when the boys explore their topic outside the confines of the classroom," says Brighton Grammar School's headmaster, Ross Featherston.

A significant portion of STEM familiarity at Brighton Grammar comes from working to a brief to design and

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Emily Connor

create a product, usually with a partner or collaboratively in a team.

"The boys are taught how to use the tools and taught about the characteristics of materials before being presented with the design challenge," says Featherston.

"Once a product is created the boys race their device, which could be a model catamaran boat [prep], a model solar car [year 2], a glider [year 4], or a fully operational billycart [in year 6].

"This leads into our F1 in Schools program in early secondary school where the boys design and race a model Formula 1 sports car. Brighton Grammar teams won both classes of the F1 in Schools Australian Championships in 2022 and will compete at the world finals," he says.

The challenge – the world's foremost student competition for science, technology, engineering and mathematics – sees more than 17,000 schools from 51 nations compete.

"The boys respond well to all forms of healthy competition, and real-world applications are essential for them to apply their skills," Featherston says.



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