

Media Release

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Questacon gives students an adventure in 3D

Students from three secondary schools have experienced the cutting-edge of design technology through an innovative, videoconference-based project delivered by Questacon – The National Science and Technology Centre, with support from Raytheon.

In a three-month project concluding today, Questacon's 3D Design *Virtual Excursion* saw 46 students from schools in Western Australia, the Australian Capital Territory and Victoria use 3D design and printing to create body parts for a figurine.

The groups were provided with a torso with snap-in sockets and a blueprint ball-joint design to build upon. Using 3D design and printing, the teams created heads, arms, legs and even wings for the torso to complete the figurine. Schools were able to set their own parameters for the challenge, such as creating functioning limb prototypes for amputees.

"All of my students valued the open-ended nature of the task and relished the opportunity to explore the possibilities of prosthetics or robotics. Designing the parts to be 3D printed was a great incentive for the students to challenge themselves, and the extra challenge of creating captured or movable parts allowed differentiation of ability levels," Marist College Canberra teacher Dean Moran said.

Throughout the three-month project, students shared their progress on the task and were guided by Questacon facilitators and Raytheon mechanical engineer, Dallas Roderick, via interactive videoconference workshops connected through Questacon's Schmidt Studio and an online network.

The Schmidt Studio, supported by Raytheon, enables state-of-the art videoconferencing to students in classrooms across Australia, providing them with the opportunity to engage in face-to-face interaction with local and international scientists, including NASA astronauts, Nobel Laureates, polar explorers and CERN physicists.

Through this facility, more than 13,000 students nationally have been able to expand their learning within science, technology, engineering and mathematics disciplines, such as manufacturing.

"Additive manufacturing, including 3D design and printing, is revolutionising manufacturing across many industries worldwide. This project has given students an insight and hopefully motivated them to find out more about the increasing application of this technology and potential careers on offer," Questacon's Director of Science and Learning, Dr Stuart Kohlhagen said.

"These students have had the opportunity to explore design, engineering and modern manufacturing techniques. They've gained practical skills and experience in computer-aided design and manufacturing, measurement, geometry and communication.

“Importantly, they’ve also experienced the process of innovation; that the path of turning ideas into reality often requires perseverance and creative problem-solving.

“These are important skills—not only for life—but also foundation skills for careers in science, technology, engineering and maths (STEM).”

Raytheon Australia’s managing director, Michael Ward, said programmes such as 3D Design *Virtual Excursion* are crucial to inspire Australia’s next-generation of scientists and engineers.

“It is therefore vital we encourage and provide every learning opportunity and resource to aid their development. On behalf of Raytheon, I congratulate these students on the innovation their designs reflect and wish them all the best for their future studies,” Mr Ward said.

Media contact: Annie Harris, Senior Communications Advisor – Media, 0439 399 912