

Students from R-6 participated in a STEM video produced by DECD in Term 2. This description of the day features the STEM work that students have been focusing on this year.

Building work will commence shortly at Paralowie R-12 on the STEM Initiative which will enable students to access the latest technology equipment and resources to support their STEM learning into the future.

1. What is going on?

Today, the students were using different robots (Beebots, and Ozobots), iPads, and computers to engage with aspects of the Digital Technologies curriculum.

Students working with the Beebots, were programming their Beebot around a track, using sequences and specific directions. The students working with the Ozobots were designing tracks for their robot to follow; the aim being that students will later be able to integrate lines of code into their tracks that will change the speed and direction of their robots.

A few students were also looking at developing their ICT general capabilities by using the laptops and iPads and completing puzzles requiring problem-solving and computational thinking skills. Students using these devices are also learning how to use electronic devices ethically and using agreed upon protocols.

Finally, the students looking at the Meccano robot were exploring a robot that was built by upper primary students. The older students have built this robot and begun programming it using drag and drop commands to perform simple tasks and interact with various audiences.

2. What are students learning?

By engaging with the resources seen today, students are developing an understanding of how to program a robot using algorithms and also how to use visual based programming blocks to solve problems. Through this learning and using these resources, they are developing the following skills:

- Problem-solving skills as they solve challenges.*
- Creative design thinking skills – students experience the creative design process as they create and test solutions to challenges, design tracks for their robots to follow, etc*

- *General ICT skills/capabilities – students learn through exposure and explicit teaching how to use different ICT competently.*
- *Literacy skills - students expand their vocabulary and identify different ways of recording and communicating commands and instructions for their robots.*
- *Numeracy skills- students learn how to locate and navigate their robots using directions;*

3. What do students like about it?

Students enjoy having the opportunity to pursue their interests and interact with different technologies that they normally don't have the chance to use. They also enjoy challenging themselves by engaging in creative design processes and apply their problem-solving skills when working with robots and completing puzzles that require them to apply computational-thinking. The students also like it "because it's fun!"

4. What is planned for the STEM Works building?

The STEM Works initiative has allowed Paralowie to re-design a few current classrooms and transform them into one large, open learning space. The new R-6 STEM centre will be equipped with the latest technologies and fixtures to ensure students will be able to pursue their passions and learn skills needed for their futures in a flexible learning environment that will both encourage and facilitate students' growth and skills in this field in engaging, meaningful and hands-on ways. As part of the new centre, students will have more opportunities to:

- *code*
- *design and build prototypes like windmills, solar cars and toys using 3D printers*
- *explore, build and program different robots*
- *investigate the insides of computers and other electronic devices*
- *create animations and computer games*
- *explore how local industries, (e.g. farmers) use new technologies such as drones to fulfil tasks more effectively*
- *develop technical and engineering skills to troubleshoot the source of a problem, repair a machine and debug operating systems*
- *create animations and short films for audiences in our new media hub room*
- *learn outside*
- *conduct hands-on experiments and investigations.*