*Articles and opinions on primary teaching, with tips and ideas for the classroom*

# 21st century problem solving

As teachers we are all aware of the important role that play has in developing the inquisitive nature in children. In the recesses of our minds, and from our studies in initial teacher education, we may recall a quote from Jean Piaget: "Play is the answer to how anything new comes about".

The key pillars of 21st century learning: critical thinking, communication and collaboration occur quite naturally through play-based learning. It is with this in mind that the PDST Technology in Education has developed the '21st Century Problem Solving' summer course for teachers.
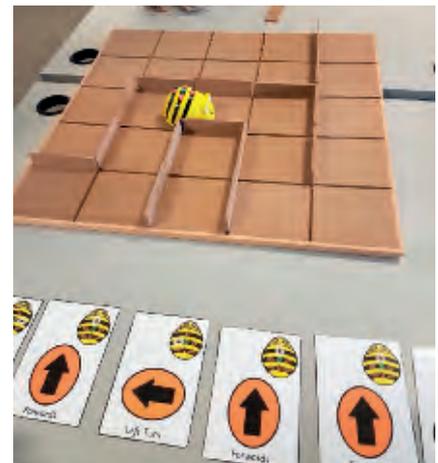
This course explores how a play-based or enquiry-based approach to teaching and learning can be enhanced through the use of digital technologies.

Through the use of a small robot called Bee-Bot, teachers can explore a range of methods that can enhance learning across the curriculum. From the development of spatial awareness in maths to engaging in oral language in the new Primary Language Curriculum, Bee-Bot can provide an enriching experience for children.

Lunar exploration, earthquakes, plant pollination and flood prevention are just a few of the topics that are explored through Lego WeDo in the middle and senior classes. On the summer course, teachers get hands-on experience with the Lego WeDo kits and explore the variety of ways that they can be used to support the SESE curriculum.

## Computational thinking

As well as building with the Lego, teachers are introduced to basic coding that can develop computational thinking and problem-solving skills for pupils. Seymour Papert from MIT in Boston, who is largely recognised as one of the godfathers of ICT in education and built on the work of Piaget, is quoted as saying: "The role of the teacher is to create the conditions for invention rather than provide ready-made



knowledge." Any teacher that has used Lego WeDo or coding in the classroom will be able to attest to the fantastic inventions and ideas that pupils dream up and it this project-based approach that is explored on the summer course.

Moving into the senior classes, the '21st Century Problem Solving' course explores the concepts of computational thinking in more depth. Teachers will be introduced to 'offline' concepts such as



Bebras challenges to develop problem-solving skills. This leads onto some basics in computer coding through Scratch. Teachers will explore simple examples of the ways in which coding can be used as a methodology and can reinforce the skills of communication, collaboration and critical thinking.

For further details and to book a place on the '21st Century Problem Solving' course please contact your local Education Centre.

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**Find out more**

To see how Lucan Community NS are using Bee-Bots to support learning in their school, why not take a look at the PDST Technology in Education Good Practice video that can be found at www.pdsttechnologyineducation.ie/en/Good-Practice/Videos/#216470159

150