The place of Beebots and Roamers in developing mathematical thinking

A staff development workshop on using digital technologies for a group of teachers

This resource looks at how the digital technologies can support the cross- curricular maths rather than looking at how to develop the cross-curricular mathematics. The examples all come from '[Maximising the mathematical learning across the primary curriculum]' NCETM microsite.

What I did
I chose these resources as they gave us an opportunity to consider the mathematical possibilities available to delegates when using a common digital technologies resource available in most primary schools.

What happened
Delegates found that actively engaging in tasks that enabled them to practise using the digital technologies resource enabled them to consider more fully some of the mathematical opportunities provided by Roamers and Beebots. In doing this it enabled them to unpack some of the mathematics and link them to the classroom activities.

Reflection
It is important for the delegates to have enough time to consider the possibilities for mathematical thinking being developed when engaging with the activities.

Outline

Aims for the session	*This workshop aims to enable delegates to:* • *consider how to programme Floor robots* • *engage with activities to develop children's awareness of Directional language, Visualisation of direction - Encouraging sense of spatial awareness and Introducing the notion of turn and of angle being dynamic*	
Resources	• *Roamers, Beebots, Skittles and art materials*	
Session description	*This session focuses on the development of children's ideas in shape and space using floor robots (Roamers & Beebots). We will look at how children's learning can be developed in such areas as directional language and visualisation, leading to a greater understanding of angles using this technology.*	
Who is session aimed for?	***Primary:*** *ITE tutors and LA consultants / advisors who will be leading similar sessions for trainees and teachers. The focus will be on primary classrooms and activities.*	
Time	**Activity** *i.e. what are the workshop delegates going to be doing?*	**Key questions to ask** *i.e. what is the workshop leader going to be doing/saying?*
14:00-14:10	**Overview of the workshop** Introduction to the technology and the focus on developing mathematical language with Directional language Intro activity: Blind leading the blind	What kind of language is being developed through this activity?

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14:10-14:30	**Introducing a Beebot** Basic commands Give pairs of delegates a Beebot send them off to explore ...	Make your Beebot move and turn. Can you enter a sequence of commands? Challenge each other – navigation. Successful arrival (1 point) Fewest commands (2 points) One successful sequence (5 points) What maths is being developed?
14:30-15:15	**Introducing a Roamer** Basic commands. Links with non robot activities Developing directional language. Links to other mathematical thinking. **Possible activities** Mats, mazes, slaloms, 10 pin bowling. Extending its use to investigate 2D shapes. Engaging with angles in a more complex manner. Topical items: strictly "roam" dancing!	How is their maths being developed by using a Roamer rather than a Beebot? What aspects of maths are being developed now?
15:15-15:30	Plenary – next steps	What are the advantages and disadvantages of using floor robots?
Follow up	Create your own projects and try more activities based on the NCETM portal.	