

How does the learning environment help students to develop as mathematicians?

Research taster

Teachers can create holistic learning environments by considering all features of the environment that may affect students and their learning of maths. These environments can help students to develop their mathematical skills including their use of mathematical language and questioning. To plan to maximise the learning benefit of the environment teachers need to consider:

- the design of the learning environment;
- their use of language;
- time for individual investigation;
- time for whole-class work;
- the nature and extent of the use of non digital tools (e.g. paper and pencil).

Your evidence

Would you find it useful to examine the learning environment you offer your students in their maths lessons? You might like to consider:

1. Design. How do you organise the tables? Does the design work in a way that facilitates both group and independent work? How do you use mathematical displays to support students' learning?
2. Language. How do you make use of a range of mathematical language with your students? Is this vocabulary displayed around the classroom?
3. Activities. How do you make sure that you offer students a variety of activities including whole class, small group paired and individual work?
4. Resources. How do you offer students the opportunity to use a variety of tools including information technology?

(Adapted from Reflective Activity 10-1a on the Reflective Teaching website at:
<http://www.rtweb.info/ch10/ra10-1a.html>)

Moving forward

Now you have considered the learning environment that you currently offer to your students you might like to consider how to enhance some or all of the design features. Could you develop games like taboo for individuals, groups or pairs that make mathematical language visible and familiar?

Find out more

The full project is InterActive Education: teaching and learning in the information age set out to answer a big question lead by Prof. Rosamund Sutherland, Prof. Susan Robertson, and Prof. Peter John. The project website is at: <http://www.interactiveeducation.ac.uk/>

Find out more by reading about which aspects of mathematics teaching promote effective student learning and which tend to prevent it on the GTC Research for Teachers site at:
<http://www.gtce.org.uk/tla/rft/math0905/>