

## **Keynote – Mathematical Resilience – Dr Clare Lee (Open University)**

This was a passionate presentation by a researcher who believes, despite the views so prevalent in society today, that everyone can learn mathematics.

Here are some examples of negative influences and perceptions of mathematics.

- People leave their maths resilience at the classroom door. “I have to do maths. I don’t own it, I will memorise it to get through the exam and then have nothing to do with it for the rest of my life.”
- 50% of a sample of primary teachers are frightened of maths and they pass this on to the children.
- Mathematics anxiety/phobia are prevalent and a result of the way in which maths is taught. “You don’t have to understand it, just remember it.”
- Learners assigned to lower sets deduce that they must not be good at maths. Why should they bother with it if they have been told that they will fail if they try? The intelligent choice is not to try.

Mathematical resilience is a concept derived from a series of ideas based on evidence from research. Learners will be mathematically resilient if they . . .

- know they have the right to understand
- feel a valued part of a mathematical community
- know the personal value of mathematics
- know that with appropriate support and work from them they CAN understand
- refuse to just accept
- refuse to feel mathematically stupid
- refuse to feel mathematically isolated and are willing to share their energies
- know that learning mathematics will involve struggle
- can access support as and when they actually need it

The ability to learn mathematics is not fixed. All can learn provided they have a growth mindset and are prepared to put in the effort. They may decide that they no longer wish to put the effort in to learning more maths which is not the same as not being able to learn it.

This session left me with the impression that our first job as mathematics teachers is to help our learners to believe in themselves and their capacity to learn.