

# Synaesthesia: the implications for Montessori schools

In light of research which suggests that at last half a million British children could have the relatively unknown condition synaesthesia, **Wendy Fidler**, in the second part of her series on this subject, considers the implications for children's education in general and Montessori schools in particular.

Wendy talks to Eva Salvi, a photographer and synaesthete who describes her blend of sensory sensations around numbers (for background information about synaesthesia and Eva Salvi, see *Montessori International* 98, pp 38-39).

**Eva:** Each number, each letter and each word has a colour and I visualise time in space, like the days of the week or the months of the year. They're all visualised in space.

**Wendy:** Let's talk about numbers this week. In Montessori schools we use a short bead stair made up of coloured bead bars, with a different colour representing each number. Shall I show it to you?

**Eva:** OK

**Wendy:** Each bead bar has a different colour; number one bead is red, number two is green, three is pink, four is yellow, five is blue....

**Eva:** It's not right.

**Wendy:** It's not right?

**Eva:** It doesn't feel right.

**Wendy:** How does it make you feel?

**Eva:** Hmm... two is alright because I see two as green.

**Wendy:** So that's comfortable...

**Eva:** And it's about the same shade as well so that one's good but the others are completely different and I don't like it very much...

**Wendy:** In what way don't you like it?

**Eva:** It just doesn't feel right.

**Wendy:** Like you've got a shoe on the wrong foot?

**Eva:** Exactly, kind of like that. It's like being forced to work with something that doesn't feel quite right to me.

**Wendy:** I'll cover them up right away.

**Wendy:** What colour do you see number 0?

**Eva:** It's white.

**"...I don't see the number itself, I visualise the colour more than the number or the actual shape of the number so I kind of use colours to calculate really."**

**Wendy:** So when you were at school and you had a maths book and you had some numbers in your book, how did you see the number zero?

**Eva:** Ah! There are two types of number-colour synaesthesia; some people actually project the colour onto what they see on paper, so I don't know if they would not see number 0 because it's white on white but personally I know the colour is there, I can feel it, it's a very weird sensation I can't really explain. I visualise it. I know it's always the same colour but I don't see it on the paper.

**Wendy:** You're not seeing a white 0 in your mind's eye, you're having an experience of white.

**Eva:** Yes, kind of. But some people actually see the colour on the number.

**Wendy:** And they might actually miss seeing, say, white on white, for some of those numbers? It's a scenario I think, as an educator, I'd like to explore.

**Eva:** Colours help me calculate.

**Wendy:** Tell me how you calculate.

**Eva:** Because colours are so closely related to numbers, although if I see the colour green I'm not necessarily going to think of the number 2 or the number 9 because both are green but if I see number 2, the colour green is there in my mind, always. So I know that green + green = purple for example because  $2+2=4$ . But when I say "green", it's a certain shade of green because 9 is green and 2 is green as well but I know this shade of green.

**Wendy:** So in what way does it help calculate then? Does it help you multiply?

**Eva:** Yes it's just that I don't see the number itself, I visualise the colour more than the number or the actual shape of the number so I kind of use colours to calculate really. Or if I had to remember  $3+3$  for example, the colour comes to my mind first before the actual number. So I know that red + red = yellow, because  $3+3=6$ , and 3 is red and 6 is yellow so that's how I visualise it.

**Wendy:** That's absolutely fascinating, thank you Eva. ■

If you would like to contribute to this research by joining the Montessori Synaesthesia Focus Group please, contact Wendy Fidler at [wendyfidler@eight29.com](mailto:wendyfidler@eight29.com)

## SUMMARY

- Children with number-colour synaesthesia may perceive numbers as colours on the page, or they may have a sensation of the colour for each number.
- They may use the colours to aid their calculations.
- In the case of children with dyscalculia we must check to see whether the numbers are 'invisible' for the child because of the combination of the colour of the number and the colour of the paper.
- Something similar might be happening for children with dyslexia who find relief when using coloured overlays when reading.

