

# The pupils with a hidden intelligence

Children thought to be backward are often highly gifted — and a new set of puzzles can prove it, writes **Karen Gold**

**I**s your child spatially gifted? A new test published this week will, for the first time, enable parents and teachers to identify children who seem ordinary or even backward in the classroom, but who have exceptional ability to perceive shape, pattern and space.

Spatial ability is “the hidden intelligence in our schools”, according to Dr Tandi Clausen-May, one of the education researchers whose work with spatially aware children has led to the new test.

“The school environment is loaded towards language and analytical ability,” she says. “I have worked with children for whom writing was just meaningless squiggles on a page, but who could do things with puzzles and shapes that the adults running the school couldn’t do.”

Some of these children go on to be highly successful in fields such as engineering and design, where spatial ability is crucial, — the architect Lord Rogers, for example, did not learn to read until he was 11 — yet at school they feel failures.

“I used to aim to be one above the bottom at school; that was my main ambition,” Rogers recalls. “Quite a few architects have some form of dyslexia or other learning difficulty.” Rogers was even assumed to be incapable of passing the common entrance exam — the passport to public school.

Experts believe that we needed spatial awareness when we were nomadic hunter-gatherers, to find our way around, and to remember in which direction fresh water could be located. It’s an intelligence that’s dropped out of use.

The new Spatial Reasoning Test is based on 15 years’ research and trials with hundreds of children. It uses pencil and paper puzzles and diagrams but very few words, to enable teachers to test children

from the ages of six to 14 on their ability to visualise shapes and think in 3-D. It contains 70 to 100 questions (more for older children), and takes 30 to 40 minutes (see below for example).

When The Sunday Times gave a copy to Kevin Osmond, 34, an award-winning sculptor with a mas-

ters degree from the Royal College of Art, his spatial reasoning test score turned out to be the equivalent of a super-brain IQ.

Yet at school he achieved nothing. “I found school very very difficult. I found it very alien. I just wasn’t interested in books,” he says. “I needed to pick things up and literally touch them to understand them.”

Researchers expect the test to reveal that a high proportion of dyslexic children are spatially gifted, and probably a higher number of boys than girls. They also expect it to lead to new kinds of teaching, where teachers explain ideas using flow-charts and 3-D models as well as words.

For example, spatially aware children can “see” a pattern of five dots or beads much better than they can understand the symbol 5 or the sequence 1, 2, 3, 4, 5. So, according to Clausen-May, schools should be introducing children to



the number five through an abacus — as teachers in Japan and eastern Europe do now — as well as through counting and writing.

Teachers currently miss the talent of at least one child in every classroom, she says. “They’re the children who sit at the back and seem to switch off. This test will give us more information about them.”

Parents, on the other hand, often spot their children’s ability — as they load a car boot with huge amounts of luggage, build a go-kart or absorb a map at a glance — but don’t necessarily see it as educationally valuable.

Emil Mniszko, 10, made complex Lego models from plans when he was three. His artist mother Barbara says: “We never had to explain it to him, he just did it.” Yet when he started school, they were both confused to find his talent considered irrelevant to learning.

“All morning he would be doing the reading and writing, and he would be hanging on for the afternoon when he could ‘play’ with the construction materials,” she says.

Today he shines in technology lessons and does fine in others, but still considers the extraordinary models and maps he makes — villages with 10 houses; a bird’s-eye-view mural of an imaginary city — as “playing really”.

Having his gift validated by a test would be important to him, believes Barbara Mniszko. Just as sculptor Osmond believes it would have made a huge difference to him, too. “If I had had something like this test then, it would have given me confidence and it might have stimulated me to be interested in school. I would have had a whole different way of looking at myself,” he says.

Pauline Smith, the author of the Spatial Reasoning Test, said: “Describing someone with excellent spatial ability as being poor at reading and writing is like saying David Beckham is a poor pianist — it misses the point.”

It is the teaching methods that need to be changed to boost spatial thinkers’ performance at school, she argues.

“Spatial thinking can be used to acquire literacy and numeracy. A person should feel free to use whatever thinking processes they find easiest. These tests will bring spatial ability out into the open at last.”

*The Spatial Reasoning Test is published by nferNelson, for sale to schools, price £12.40 for pack of 10 and £10.50 for a teacher’s book and one copy of the test. For details contact the nferNelson customer care line: 0845 602 1937*





Space explorer: Emil Mniszko has been making complex models since he was three, but at first, says his mother, teachers considered his talent irrelevant to learning

**How good are you at spatial thinking?**

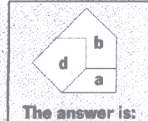
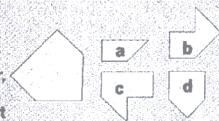
1. If the folded-out cube were folded up, which of the cubes would be created?



The answer is: b



2. Three of the shapes labelled a to d can be arranged in a jigsaw, without flipping them over, to make the large shape. Which three and how must they be arranged?



The answer is: a, b and d