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Research shows benefits of Montessori education

Staff and agencies

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A method of schooling that focuses on personal development rather than exams produces more mature, creative and socially adept children, scientists have found.

Psychologists in the US found that across a range of abilities, children at Montessori schools out-performed those given a traditional education.

Five-year-old Montessori pupils were better prepared for reading and maths, and 12-year-olds wrote "significantly more creative" essays using more sophisticated sentence structures.

Some of the biggest differences were seen in social skills and behaviour.

Montessori children displayed a greater sense of "justice and fairness", interacted in an "emotionally positive" way, and were less likely to engage in "rough play" during break times.

The schooling system was invented in the early 1900s by Maria Montessori to educate poor children in her native Italy.

There are more than 5,000 Montessori schools in the US, and around 600 in the UK, where they are privately funded.

The method discourages traditional competitive measurements of achievement, such as grades and tests, and instead focuses on the individual progress and development of each child.

Children of different ages share the same classes, and are encouraged to collaborate and help each other. Special educational materials are used to keep children interested, and there is an emphasis on "practical life skills".

The researchers, who reported their findings in the journal *Science*, compared children aged three to 12 at a Montessori school in Milwaukee with those at other schools in the same area.

Parents won places for their children at the unnamed Montessori school by entering a "lottery" run by the local education department.

All parents of pupils at the schools studied, had similar incomes of between \$20,000 (£10,500) and \$50,000 (£26,000).

Children were tested for mental performance, academic abilities, and social and behavioural skills.

Angeline Lillard, from the University of Virginia, who co-led the study, said: "We found significant advantages for the Montessori students in these tests for both age groups.

"Particularly remarkable are the positive social effects of Montessori education. Typically the home environment overwhelms all other influences in that area."

Not only were five-year-old primary school children better prepared for the "three Rs" at primary level, they also had higher scores in tests of "executive function". This is the ability to adapt to changing and complex problems, and is seen as an indicator of future school and life success.

Although the Montessori children were not regularly tested or graded, they did just as well in spelling, punctuation and grammar exams as those given conventional lessons.

Older Montessori pupils were more likely to choose "positive assertive responses" when dealing with unpleasant social situations, said the researchers.

They also displayed a "greater sense of community" at school.

The scientists concluded: "Montessori education fosters social and academic skills that are equal or superior to those fostered by a pool of other types of schools."

Dr Lillard plans to continue the research by tracking students from both groups over a longer period of time. She also hopes to repeat the study at other Montessori and traditional schools, and assess specific Montessori techniques.

The Montessori method has had its share of criticism. Some parents believe the classroom environment is "too free", while others question Montessori teaching priorities, or the fact that children are not normally assigned homework.

In Britain, the government is funding a joint project with the Montessori Schools Association to develop the teaching practice in a state primary school for the first time.

The aim is to raise standards at the 350-pupil Gorton Mount primary school in inner-city Manchester. The school, where 36 different languages are spoken and 71% of children have free meals, has had seven headteachers in six years and was placed in special measures.

The association will hold its annual conference in London tomorrow. The Conservatives' education spokesman, David Willetts, is due to address the conference, which will look at preventing exclusion in Montessori classrooms.