Small steps and giant leaps provide insight into our brains

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Methodical Frog Hopping was part of this year's Edinburgh International Science Festival.

Heriot-Watt scientists looked at how primary school-aged children use their interactive Methodical Frog Hopping game at Summerhall during the Edinburgh Science Festival (April 5-20).

To test the theory that a brain works better when combined with physical activity, the scientists devised a problem-solving game that asked participants to navigate a frog across an increasingly difficult route to his final destination.

Lilypads for dancepads

Suitable for children aged five years upward, they swapped lilypads for dancepads, as the computer game read the children's movements to manoeuvre the frog character.

Psychologist, Dr Thusha Rajendran, designed the activity. "Good problem-solvers tend to be the people who succeed in life, so we are testing whether a physical game can literally 'jump start' a brain's ability in this area.

"With an array of sensors to pick up movement and specific actions required to move our frog character to his journey's end, it will be great fun but has a serious intention as well. A lot of my research at Heriot-Watt focuses on ways to combine technology with learning that can clear obstacles to learning for all children, including children with autism or attention-deficit disorders.

"If combining physical actions focuses problem-solving ability, which we hope Methodical Frog Hopping will show, this might provide a means of enhancing learning possibilities for all sorts of children."

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Provided by Heriot-Watt University