Education and Neuroscience (closed)

Education and Neuroscience is a £6 million funding scheme, launched by the Wellcome Trust and the Education Endowment Foundation (EEF) in January 2014. This one-off scheme aims to develop, evaluate and communicate the impact of education interventions grounded in neuroscience research.

We funded interventions and approaches that use understanding from neuroscience research about the mechanisms of learning to improve education.

We funded the following six projects:

- **Teensleep**: Professor Russell Foster, Director of the Oxford University Sleep and Circadian Neuroscience Institute and Professor Colin Espie, Professor of Sleep Medicine, will lead a trial of later school start times, along with a sleep education programme, to assess their impact on teenagers’ educational achievement. Some participants will wear non-invasive bio-telemetric devices to provide additional physiological data.
- **Learning counterintuitive concepts**: a study from Birkbeck, University of London and the Institute of Education, led by Professor Denis Mareschal, aims to test the benefit of training pupils to suspend their pre-existing beliefs when it comes to solving mathematical or scientific questions, for example correcting the seemingly logical notion that a heavy object will fall faster than a light one.
- **Fit to study**: Professor Heidi Johansen-Berg from the University of Oxford will lead a study to look at the effect of medium to high cardiovascular activity on academic attainment, using brain imaging to investigate the correlation between them.
- **Spaced learning**: a trial on the effectiveness of repetition and spaced learning, a method of teaching that delivers a unit of work three times interspersed with alternative activities. This will be led by Alastair Gittner from the Hallam teaching School Alliance in partnership with Stocksbridge High School.
- **Engaging the brain’s reward system**: Dr Paul Howard Jones will be leading a team from Bristol University and Manchester Metropolitan University on a project to examine the effect of uncertain reward on attainment. It is proposed that an element of chance in the anticipation of a reward is highly engaging and will help people learn – an interesting contrast to the traditional emphasis on consistency when using rewards and incentives in education.
- **GraphoGame Rime**: Professor Usha Goswami, Director of the Centre for Neuroscience in Education, will lead a project that will look at how developing phonological awareness through ‘rhyme analogy’, using the GraphoGame Rime computer game, can affect how children learn to read.

Supporting documents

- a literature review, examining the impact of educational interventions that are, or claim to be, based on neuroscience.
- a survey of teachers and parents to understand their perspectives on education and neuroscience and the types of approaches they are already using.
- a series of expert opinions from neuroscientists about the readiness of their area of research expertise to yield testable and fruitful education interventions. These reviews can be found on the Wellcome Trust’s ThInk blog.

In addition to these supporting documents the Royal Society’s 2011 publication *Brain Waves 2: Neuroscience: implications for education and lifelong learning* also provides some helpful background reading.