

How 'The Gruffalo' helped academics boost youngsters' motor skills and language ability

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Combining movement and storytelling activities boosts pre-school children's key motor skills and language ability, according to Coventry

University experts who used bestselling book *The Gruffalo* during their research.

Academics carried out a six-week study on three groups of youngsters, aged three and four. One group took part in a series of movement [activity](#) sessions and another group concentrated on [language](#) activities.

The third group took part in a combination of both activities, which were based around Julia Donaldson and Axel Scheffler's popular [children's](#) book *The Gruffalo*.

And the researchers found the group which took part in combined movement and storytelling activities showed a huge improvement in their [motor skills](#) - their ability to run, jump, catch and throw - as well as in their vocabulary.

The experts from the university's Centre for Applied Biological and Exercise Sciences say their research could have potential benefits in physical activity and academic achievement for children and should prompt nursery and primary school teachers to consider combining the two elements into structured activities for their pupils.

The study - published in the *European Physical Education Review* - involved 74 pre-school children from three nurseries in the Midlands.

The group of youngsters who took part in the combined movement and language sessions joined in activities involving fundamental movement skills - such as jumping, leaping, hopping, sliding, galloping, sipping, throwing and catching.

These activities were based on the different characters in the book - a mouse, owl, fox, snake and the Gruffalo.

They also took part in sessions discussing the story which were designed to enhance their use of descriptive language regarding the characters, their movements and their emotions.

The rest of the children took part in either sessions that only involved the story-telling and language aspect, or just the movement activities without reference to The Gruffalo.

The children were assessed before and after the six weeks, and also eight weeks later, with a series of tests on their motor and language skills.

Motor skills were scored out of 32 based on video of the children's technique in throwing, catching, running and jumping.

The combined group's scores leapt by 10 points over the six weeks, while the other groups' increases were between three and six points.

Language ability scores jumped by 13 points over the six weeks for the combined group, while the other groups' scores increased by between four and five points.

Tests carried out eight weeks after the project, found all groups had returned to an expected rate of development.

The academics say this is due to what is known as a 'schooling effect' - normally seen when children start formal school education.

A 'schooling effect' is where children advance quicker when a stimulus or structure activity is in place, but then return to normal development when it has been removed.

The academics believe the reason for the improvement is due to [physical activity](#) increasing the amount of oxygen that circulates in the brain,

resulting in better academic performance when movement and language sessions are combined.

The research team will present their findings at the European Congress of Sport Sciences on 6 July.

Professor Mike Duncan, said:

"This study is the first that has investigated the potential of integrating movement and story-telling into a way of teaching that is practically useable by pre-school teachers.

"We think this is a novel approach and gives an innovative and useful way of improving physical and cognitive performance in young children, which is practical for pre-schools and nurseries to carry out.

"It shows the huge benefits in combining storytelling and movement activities early in a child's development, before they start school."

"We chose the Gruffalo as it's a very popular book with that age range, but the storyline and the characters within it gives great scope for both movement and language activities. The story acts as 'mental anchor' for children taking part in the [movement](#) activities."

More information: Michael Duncan et al, A combined movement and story-telling intervention enhances motor competence and language ability in pre-schoolers to a greater extent than movement or story-telling alone, *European Physical Education Review* (2017). [DOI: 10.1177/1356336X17715772](https://doi.org/10.1177/1356336X17715772)

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