

Incorporating physical activity in curriculum can boost academic performance, research finds

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(Medical Xpress)—Every teacher knows elementary students have energy to burn, but given the increased focus on meeting specific test scores and the challenges of the school day it's not easy to fit in enough time for physical activity. Joseph Donnelly, professor of internal medicine at the University of Kansas Medical Center, is leading a study that helps teachers incorporate physical activity into their existing curriculum. The findings show students who get more motion in their day are achieving better educational outcomes than their peers who do not.

Leon Greene, associate professor of health, sport and exercise science, has worked with several Kansas school districts and nearly 1,000 [elementary students](#) over the course of eight years. With his colleagues and [students](#) he presents teachers with a manual that has suggestions for ways they can add [physical activity](#) to their lesson plans. The program started as a way for researchers to examine activity's effects on [body mass index](#), weight, [blood chemistry](#) and other aspects in young students.

After a three-year study was completed, it was found that some children in the groups who incorporated physical activity were outperforming their peers. That led to funding from the National Institutes of Health to study the connection further. The study, led by nationally acclaimed obesity researcher Donnelly, is in the second of three years.

Greene recently made a presentation at the Hawaii International Conference on Education on how teachers can add physical activity to the curriculum without losing instructional time. Education officials in the United Kingdom have expressed an interest in collaborating on research and potentially adding physical activity to curriculum in their schools.

"I think physical activity is a good component of learning in any environment," Greene said. "All of our teachers get specific recommendations on how they can add activity. They're free to create their own, but they all tie in with the curriculum. We don't tell them when they have to use it, or what they have to use it with, that would be a mistake, because no two classrooms are the same."

An example of how a second-grade teacher can use physical activity to deliver a math lesson is when teaching students to count by twos, the students stand and jump every time they count. By performing the activity, the children are learning how to count by twos and receive physical activity at the same time

"If you count to 100, that's 50 jumps," Greene said. "The teacher doesn't lose any time. You don't have to get out any equipment. The kids exercise in the space that is available."

The program is also adaptable for students with disabilities. If a child is not able to jump, he or she could still take part in the previous example by crossing arms in front or above their head at each number. If that's not possible, he or she could simply lean forward or make any other sort of motion they are capable of.

While the findings thus far that increased activity can lead to better [educational outcomes](#) are not absolute, Greene and colleagues are optimistic about the connection. They compare cognitive function data

tests, state [test scores](#) and tests on attention to task each year among students who do and do not get the incorporated physical activity.

Scores aside, increased activity has tremendous potential for health benefits as well. And Greene notes the connection between fun and learning inherent in the program. He's noticed students focusing more, enjoying the class material and being more engaged, both while observing elementary classrooms and when using physical activity as part of the curriculum of the college classes he teaches.

"I can honestly say I've not seen one child that didn't seem to enjoy the physical activity when I observed them moving in a classroom setting," Greene said.

The students have also demonstrated the tendency to help each other and assist students who may be struggling when activity is incorporated into a lesson. And the children may not just be learning a book lesson; they're also making memories, which in turn help reinforce the educational themes.

"We hope that children find these kinds of activities enjoyable. When they do these activities, they seem to be having fun," Greene said. "In my estimation, whether you're a child or an adult, if you're having fun you're going to learn more and it will be more memorable."

Provided by University of Kansas

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