

## Nintendo Wiimote, now a tool for psychological studies

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Washington, March 5 (ANI): University of Memphis researchers say that the Nintendo Wii, a popular source of videogame entertainment, can be used for psychological experimentation too.

In a study, psychologist Rick Dale and his student collaborators integrated Nintendo Wiimote with a laboratory computer, which enabled them to extract rich information about a person's reaching movements while performing a learning task.

The researchers have revealed that they took up the study, published in the journal PLoS ONE, to determine how the dynamic characteristics of arm movement change as people become better at a task.

They say that data from the Wiimote showed them that body movements change systematically along with change in mental processing.

According to them, the results provide new evidence that cognition and action systems, which are generally considered to be relatively separate subsystems in the human mind, are actually deeply intertwined.

"The Wiimote is in fact the perfect interface to perform these kinds of experiments. As the game itself is already designed to absorb a person's body into the videogame experience, we just have to hook the Wiimote into a lab computer, and we can enjoy the rich streaming data that videogames typically use, but this time track them in experiments," Dale said.

During the study, the researchers continuously tracked the position and acceleration of participants' choices as they learnt to match unfamiliar symbols into pairs. As the participants progressed into the learning process, their bodies reflected the confidence of that learning.

The subjects started to move the Wiimote more quickly, more steadily, and also pressed on it more firmly as they became familiar with the symbols.

While everyone knows that you get better at moving in tasks that require intricate movement, the findings of the new study suggest that your body movements are related to learning other information as well.

The researchers say that their findings indicate that the body can richly reflect that underlying process of learning when it accompanies more complex learning experiences in school or at work.

They believe that this idea may help adaptive computer interfaces and learning technologies extract information about a user or learner, by paying close attention to their body dynamics.

While existing technology to track three-dimensional movement typically costs many thousands of dollars, the Wiimote may provide an accessible and enjoyable alternative.

"One reason the Nintendo Wii is so wildly successful is that it integrates natural bodily movements with the mental processing involved in gaming. Our results offer further testament to this. Your body and your mind are really one system, naturally changing with each other in all our daily learning and other cognitive experiences," Dale says. (ANI)