Robots in the classroom!

A team from the UPPA computer science lab participates in the PERSERVERONS project which brings together different resources in the Aquitaine region to use digital tools to encourage school perseverance and prevent school failure.

The concept of *school perseverance* was introduced in Quebec in the 1950's. The fundamental idea is to provide assistance to students so that they can finish their education. In France in 2015, for example, 107,000 children left the educational system without a diploma or certification. In other words, school perseverance is a response to the drop-out rate. In practice, school perseverance means the use of appropriate teaching techniques and the use of new models for learning.

This question is at the center of the work of researchers at the UPPA Computer Science Laboratory (LIUPPA) on the Mont de Marsan campus, as part of the Ministry of National Education's ASTEP program. This program is intended to encourage the involvement of scientists to help primary school teachers and their students. "Since 2014, our experiments in five schools in the Landes show that robotics can be effective in facilitating and improving knowledge acquisition, and in helping children understand the world around them”, explain Laurent Gallon et Vanea Chiprianov, both LIUPPA researchers. An introduction to computer programming, which is then used to program little robots, seem to play a decisive role in motivating students. Robotics open up the possibility of hands-on experimentation, which boosts the children's learning pleasure. They are able to self-evaluate and self-correct without feeling as though they are failing. At the same time, the robots themselves combine programming, electronics, mechanics, design,
mathematics, physics and even life and human sciences, which is a way of strengthening the children's interest for and interaction with these subject areas.

The PERSEVERONS project (School Perseverance through Digital Objects) began in September of 2016 and is sponsored by the Aquitaine ESPE. The LIUPPA and an associate professor from the PASSAGES laboratory, Jean-François Ceci are also part of the project, which will now be able to further pursue the exploration, first by launching a program in five middle schools in the Landes and Pyrénées Atlantiques départements, and at two high schools in Mont de Marsan. The LIUPPA will become the official educational resource for providing computer science training to schoolteachers. The researchers will create turnkey teaching modules adapted to each level. Four different robots will be used, depending on the level and type of class. A doctoral dissertation is in preparation that explores the development of multi-robot and multi-competence software that will be able to individualise its responses for each child.

For more information: http://perseverons.iutmdm.fr