



Teacher - Scientist - Partnerships (TSP): A Tool for Professional Development in Science Education[#]

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Abstract: Teacher-Scientist-Partnerships have been established in a European project as an innovative systemic approach to teaching and learning science. In view of life's complexity in science and technology based societies, it will be crucial that students as the future citizens are capable of understanding science, and will be able to cope with a fast changing world. Traditional teaching methodology and dissemination of factual knowledge is not sufficient. Instead, TSP has been designed to improve student learning by involving them in practical tasks in authentic research environments. Professional partnerships between teacher education, scientists at research institutions and teachers at school have been established. Learning activities were devoted to the general topic "carbon dioxide and climate change" in Europe. School projects started as bottom-up approaches according to teachers' and students' needs. Concepts, learning environments and activities within TSP are described, and appropriate measures for improving teacher education at university will be outlined.

Key words: *Science learning, understanding science, systemic approach, teacher-scientist-partnership*

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