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Robotics Education Continuity from Diaper Age to Doctorate

Authors : Vesa Salminen, Esa Santakallio, Heikki Ruohomaa

Abstract : Introduction: The city of Riihimäki has decided robotics on well-being, service and industry as the main focus area on their ecosystem strategy. Robotics is going to be an important part of the everyday life of citizens and present in the working day of the average citizen and employee in the future. For that reason, also education system and education programs on all levels of education from diaper age to doctorate have been directed to fulfill this ecosystem strategy. Goal: The objective of this activity has been to develop education continuity from diaper age to doctorate. The main target of the development activity is to create a unique robotics study entity that enables ongoing robotics studies from preprimary education to university. The aim is also to attract students internationally and supply a skilled workforce to the private sector, capable of the challenges of the future. Methodology: Education instances (high school, second grade, Universities on all levels) in a large area of Tavastia Province have gradually directed their education programs to support this goal. On the other hand, applied research projects have been created to make proof of concept- phases on areal real environment field labs to test technology opportunities and digitalization to change business processes by applying robotic solutions. Customer-oriented applied research projects offer for students in robotics education learning environments to learn new knowledge and content. That is also a learning environment for education programs to adapt and co-evolution. New content and problem-based learning are used in future education modules. Major findings: Joint robotics education entity is being developed in cooperation with the city of Riihimäki (primary education), Syria Education (secondary education) and HAMK (bachelor and master education). The education modules have been developed to enable smooth transitioning from one institute to another. This article is introduced a case study of the change of education of wellbeing education because of digitalization and robotics. Riihimäki's Elderly citizen's service house, Riihikoti, has been working as a field lab for proof-of-concept phases on testing technology opportunities. According to successful case studies also education programs on various levels of education have been changing. Riihikoti has been developed as a physical learning environment for home care and robotics, investigating and developing a variety of digital devices and service opportunities and experimenting and learn the use of equipment. The environment enables the co-development of digital service capabilities in the authentic environment for all interested groups in transdisciplinary cooperation.

Keywords : ecosystem strategy, digitalization and robotics, education continuity, learning environment, transdisciplinary co-operation
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