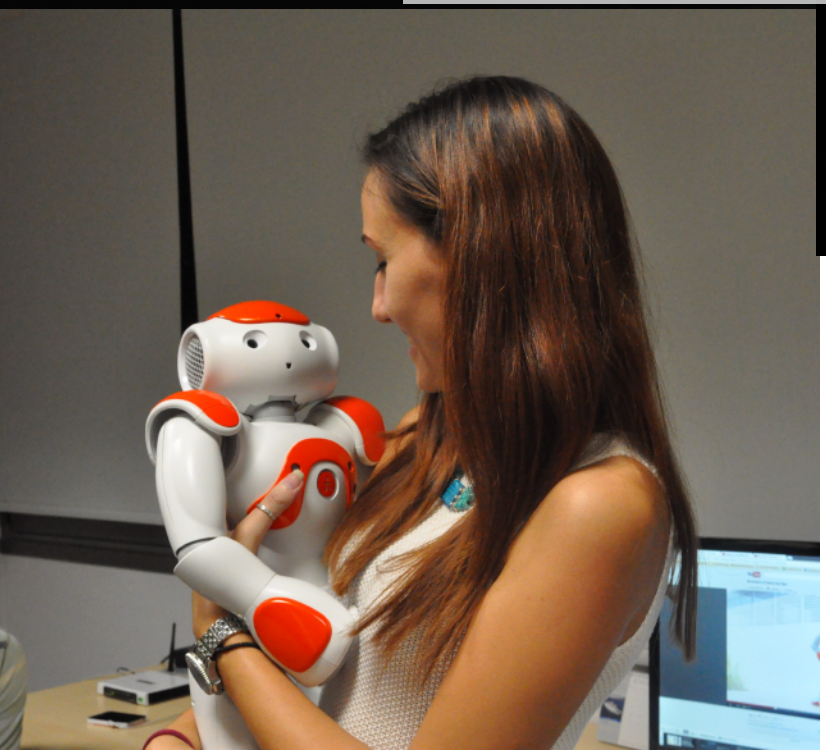
CYPRUS INTERACTION LAB

www.cyprusinteractionlab.com



The Cyprus Interaction Lab (CIL) of the Department of Multimedia and Graphic Arts of the Cyprus University of Technology is an interdisciplinary research lab which specialises in Educational Technology and Human Computer Interaction. The lab was co-founded in 2011 by Panayiotis Zaphiris and Andri Ioannou and is the first of its kind in Cyprus. Even though it is relatively new, it already stands out with high-quality research and facilities.

We design with people and the community in mind, aiming to produce research with real-world impact. We seek to understand the significant supportive and mediating role of technology in promoting learning, communication and collaboration, social change and inclusion in varied circumstances and contexts. Research at the CIL aims towards theoretical and practical frameworks in three thematic areas:

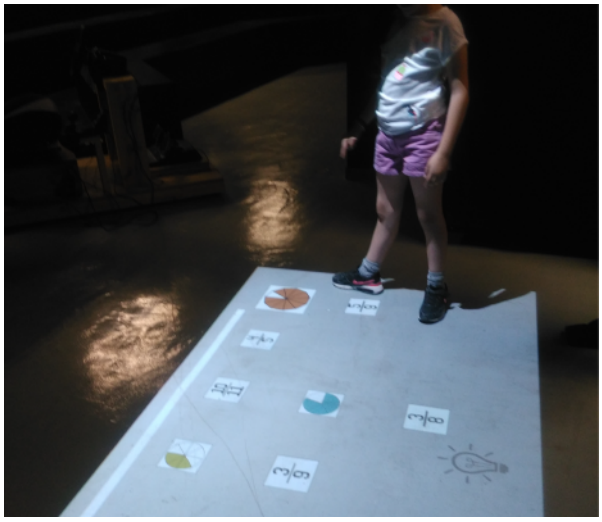
> Embodied Play and Learning using Technology
> Interaction Design and Creative Collaboration Spaces
> Inclusive Design and Social Change using Technology

Inside This Issue:

CIL research draws on:

> Constructivist and constructionism pedagogy
> Co-design with educators and stakeholders
> Human-centered design
> Authentic learning environments and real-world settings

Welcome note from the lab director



Assistant Prof. Andri Ioannou
Lab Co-founder & Director

The Cyprus Interaction Lab is the only research facility in Cyprus conducting interdisciplinary research in the areas of Educational Technology and Human Computer Interaction. We are now a team of 18 members and we carry complementary expertise in these areas.

Year 2018 has been a very productive year with numerous new publications and projects in these areas of research.

The CIL has a state-of-the-art technology which allows research and consultancy services in areas of EdTech and HCI (http://cyprusinteractionlab.com/facilities). This year we have invested on the purchase of various motion-based technologies for research in the area of embodied learning.

CIL instigates interdisciplinary work and promotes collaboration between industry, academia and research organizations in research areas of global importance. We are proud to engage in research that helps unpack the potential of emerging technologies to positively influence our society.

We hope you will enjoy reading our newsletter which highlights our major achievements of the year 2018.

The Director,
Assistant Prof. Andri Ioannou

New Postdoctoral Researchers

Since January 2018, the lab has welcomed a new Postdoctoral Researcher Dr. Yiannis Georgiou. Yiannis has earned his PhD in New Technologies for Learning and Communication from the Cyprus University of Technology. He holds a MA in Learning in Natural Sciences and a BA in Primary School Teaching from the University of Cyprus. His research interests focus on the investigation of immersive and embodied educational environments grounded in emerging technologies for supporting students' learning.

Dr. Panagiotis Kosmas has recently joined the Cyprus Interaction Lab as a post-doctoral researcher. Panagiotis has earned his PhD in Educational Technology from CIL of the Cyprus University of Technology. He has a M.Ed in Pedagogical Sciences (Universita Degli Studi Roma III - Italy), a MA in New Technologies in Learning and Communication (Cyprus University of Technology) and a BA in Classical Studies (National University of Athens - Greece). His research interests include teaching methodologies mediated by emerging technologies, child-computer interaction, instructional design, language teaching and learning.

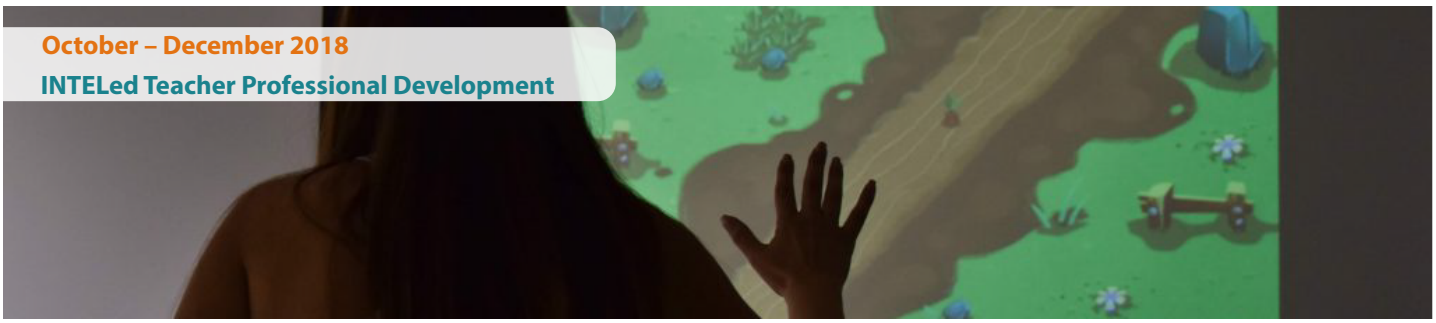
More information at:
www.cyprusinteractionlab.com/people

news, events, highlights

December 2018
UBER at Cyprus University of Technology:

In a packed amphitheater, Cyprus University of Technology welcomed Saswati Saha Mitra, as the keynote speaker at the annual World Usability Day. Saswati Saha Mitra leads Uber's Global UX Research team. Spread across 5 continents, her team keeps Uber accountable to its global user base.

The event was organized by the Social Computing Research Centre (https://www.socialcomputing.eu/) and the Network for Social Computing Research (NOTRE, http://notre.socialcomputing.eu/). The event was attended by more than 300 attendees, including many undergraduate and postgraduate students, researchers, academics, educators and professionals.



October – December 2018
INTELed Teacher Professional Development

As part of the INTELed European project, which is coordinated by the Cyprus Interaction Lab (CIL), a Teacher Professional Development (TPD) programme was organized and delivered successfully by the members of the CIL research group Dr Andri Ioannou, Dr Yiannis Georgiou, Mrs Nicoletta Pantela and Dr Panayiotis Kosmas. The main aim of the INTELed project (www.inteled.org) is to support Special Education (SEN) and general teachers in acquiring knowledge and skills about the use of embodied and interactive multi-sensory techniques for learning for addressing the needs of SEN children. In turn, the overarching goal of the project is the integration of these techniques in the school classrooms, thus contributing in students' academic, social and emotional development.

The INTELed TPD programme was composed by three face-to-face workshops which took place on October 6th, November 3rd and December 1st, each one each one lasting five hours. The three workshops were attended by 30 in-service primary education teachers working either in mainstream schools or in special schools. During these workshops the in-service teachers, had the opportunity to familiarize themselves with various embodied learning environments and work for the development of different lesson plans focusing on the integration of embodied learning environments in the school classroom. From January 2019 onwards, the teachers will have the opportunity to implement the embodied learning approach in their school classroom, while also reflecting on its impact on their SEN and general education students.

news, events, highlights

October – December 2018
ENGINITE Vocational and Educational Training

As part of the ENGINITE European project, which is coordinated by the Cyprus Interaction Lab (CIL), a postgraduate Vocational Education and Training (VET) programme based on a Problem-based Learning (PBL) pedagogy was organized by the CIL research members Dr Andri Ioannou, Dr Yiannis Georgiou, and Mrs Nicoletta. The programme was composed by 8 weekly courses which aimed at endorsing the knowledge and skills of graduate engineers, preparing them for the industry of the 21st century. The courses were delivered successfully by nine ENGINITE trainers, as follows: Dr Stylianos Yiatros, Dr Ioannis Vyrides, Dr Orestis Maragkos, Mrs Elpida Georgiou, Mrs Maria Andronikou, Mr Charis Samanides from the Cyprus University Of Technology, Mrs Christina Achilleos from GrantXpert, Mr Panayiotis Andreou, Mr Andreas Andreou from CUBEIE L.LC. .

The VET programme was attended by 15 post-graduate engineers. As part of the ENGINITE training courses the participating engineers had the opportunity to improve their career and employability skills– among others: innovation, entrepreneurial skills, efficient quality, health and safety management, problem solving, communication and presentation skills – while also enhancing their technical knowledge in critical fields of engineering. From January 2019 onwards, the participating engineers will have the opportunity put in praxis the knowledge and skills they have gained during the ENGINITE training, via their participation in structured internships at companies/industries related to their background and specialization.

October 2018
Design Sprint for Safe and Responsible Gaming

A two-day design sprint workshop took at the Youth Makerspace Larnaka on Friday and Saturday, 12-13 October. During the workshop, participants discussed, explored, proposed solutions and developed prototypes (applications, systems, etc.) with a goal of providing useful information for responsible gaming, as well as information for the risks posed by non-responsible participation.

The prototypes developed by the teams followed the theme of the Responsible Gaming campaign as part of the Responsible Gaming Awarness Week (http://responsiblegamingweek.gov.cy/) of the National Betting Authority: (1) Learn before you play, (2) Set limits, (3) Self-evaluation, (4) Be brave when addressing the problem, (5) It's a game, do not forget it. The interactive workshop was hosted by Prof. Panayiotis Zaphiris and Andreas Papallas from the Cyprus Interaction Lab.

news, events, highlights

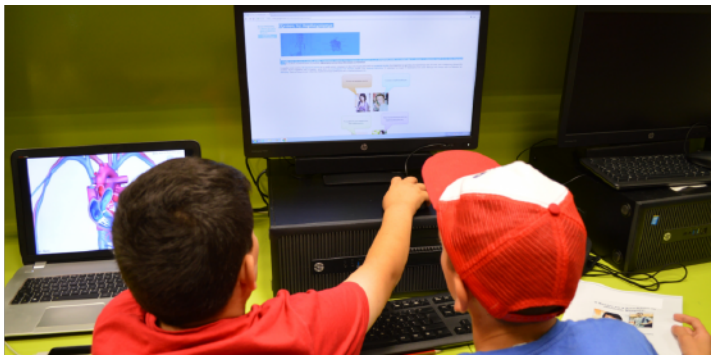
August 2018

Workshop for children 11-14 years old on Micro:bit using E-textiles

On August 31st 2018, the Cyprus Interaction Lab in collaboration with the Research centre on Interactive media, Smart systems and Emerging Technologies (RISE) and the MakerSpace Larnaka of the Youth Board of Cyprus, have organized and delivered an innovative workshop for an innovative workshop for children entitled: "Exploring Gender Identity and Micro:bit using E-textiles". The workshop took place at the MakerSpace Larnaka of the Youth Board of Cyprus and hosted 24 children. The workshop was successfully delivered by Dr. Jennifer Rode (Senior Lecturer, UCL Institute of Education, UCL Knowledge Lab), Dr. Andri Ioannou (Assistant Professor, CIL Director, Cyprus University of Technology), Dr. Yiannis Georgiou (Post-doctoral researcher at CIL and RISE), Mrs. Stella Timotheou (PhD Candidate at CIL) and Mr Michalis Hadjitofas (4-year student from the Department of Multimedia and Graphic Arts).During the workshop, the children had the opportunity to study and code the Micro: bit, for the creation of e-textiles crafts. The Micro: bit is a small, portable programmable computer which can be stitched into a stuffed animal or piece of clothing, as part of e-textile activities. Prior research has shown that e-textile activities can help children to develop their creativity, self-expression and innovation, while also fostering children's collaboration and productive interactions.

July 2018

Workshop on Embodied Learning Applications for 5-15 years-old children



From 9th-18th July 2018, the Cyprus Interaction Lab delivered two innovative educational workshops in the context of the annual summer school of the Cyprus University of Technology for 5-15 years-old children. The educational activities were developed and implemented by Dr. Andri Ioannou, Yiannis Georgiou, Panayiotis Kosmas, Anna Magidou.

The workshop aimed at providing young children the opportunity to use two cutting-edge learning applications, grounded on the theory of embodied cognition and adopting a set of interactive technologies and motion trackers. In particular, the digital application "The Angle-makers" was addressed to 7-10 years-old children and aimed at promoting their conceptual understanding in Mathematics education about topics related to the angle formation and measurement. On the other hand, the digital application "Young cardiologists" was addressed to 11-15 years-old children and aimed at promoting their conceptual understanding in Science Education about topics related to structure and function of the human circulatory system. The educational activities were deemed as highly interesting and engaging for all the participating children. According to the participating children, these educational activities were not only novel and interactive, but also amusing, thus contributing to the acquisition of new knowledge.

news, events, highlights

June 2018

3rd Youth Leadership Summer School

The Youth Board of Cyprus organized the 3rd Youth Leadership Summer School, which aimed to empower young people to visualize positive change and progress of society. The program aspired to introduce young people to creative ways of design thinking and to seek out opportunities for leadership that will lead innovative ideas to their implementation. The instructors this year were Prof. Panayiotis Zaphiris and Andreas Papallas from Cyprus Interaction Lab.

February 2018

Workshop on Educational Robotics for Women – mothers and daughters

A Workshop on Educational Robotics successfully took place on 24th – 25th February 2018, by the Cyprus Interaction Lab in collaboration with the Forum Private School (Nicosia) and the support of ACM – Women. Women of all ages and girls over 8 years of age participated in the workshops that took place at the Forum Private School.

The workshops were implemented in two full days, including introductory presentations on Educational Robotics and several hours of hands-on per day by Mrs Vaso Constantinou,PhD candidate at CIL. Female participants of all ages, mostly mothers with their daughters came together and had the opportunity to participate and program Educational Robots in all three workshops.

WeEdR
an ACM Celebration

research projects (selected)

Let us know what you are working on!
If you wish to help out or collaborate with the Cyprus Interaction Lab feel free to email us at:
info@cyprusinteractionlab.com

YOUTH MAKERSPACE LARNAKA 2018-2019

The Youth Makerspace in Larnaka is the first of its kind to be established in Cyprus. The Makerspace has been established by the Youth Board of Cyprus in collaboration with Larnaka Municipality.

The Cyprus Interaction Lab received funding to manage the Makerspace and provide academic and research direction/guidance to the project. Through the Youth Makerspace young people will have access to free and specialized know-how, information and advice in their fields of interest, but also will find the support to venture in new and alternative paths for professional rehabilitation in order to bring out new business opportunities.

More information:
https://www.cyprusinteractionlab.com/projects/youth-makerspace-larnaka/

ERASMUS+ KA2: OPEN LANGUAGE NETWORK 2018-2021

The aim of the OpenLang project is to develop an Open Language Network to connect and support all Erasmus+ KA2 participants (HE students and staff, VET, Adult, and School education staff, Youth learners, Youth Workers, Youth Entrepreneurs) during their mobilities increasing their language proficiency and also developing their intercultural and digital skills. This project is a collaboration between the Cyprus Interaction Lab of the Cyprus University of Technology-CY, the University of Macedonia - GR (project coordinator), the Open University-UK and PIXEL Associazione Culturale-IT.

H2020 ITN: INNOVATIVE TRAINING NETWORK ON PARTICIPATORY MEMORY PRACTICES [POEM] 2018-2022

European Commission | Horizon 2020 European Union funding for Research & Innovation

The Horizon 2020 Innovative Training Network POEM trains future experts for the heritage sector and studies participatory memory practices and digital heritage in Europe. POEM starts in April 2018 with the recruitment of early stage researchers for 13 projects. Two of the 13 projects are being led by the Cyprus University of Technology. The project receives funding from the European Union's Horizon 2020 research and innovation programme under the Marie Sklodowska-Curie.

More information:
https://www.cyprusinteractionlab.com/poem/

research projects (selected)
ongoing projects

H2020 TEAMING: RESEARCH CENTRE IN INTERACTIVE MEDIA, SMART SYSTEMS AND EMERGING TECHNOLOGIES [RISE] 2015-2016; 2017-2024

RISE | Research Centre on Interactive Media Smart Systems and Emerging Technologies

The Centre on Interactive Media and Smart and Emerging Technologies (RISE; http://www.rise.org.cy) was funded by EU through the TEAMING program of HORIZON 2020. The project aims at the establishment of an interdisciplinary Research Centre in Cyprus to integrate research in the Visual Sciences, Human Factors and Design, and Communications and Artificial Intelligence. The grant awarded was 0.5 million EUR in Phase 1 (2015-2016) for the development of the business plan for the Centre. In Phase 2, the grant awarded was over 30 million EUR (2017-2024) for the establishment of the Centre. RISE brings together the three state universities in Cyprus (several research labs; four from CUT) together with two leading foreign Universities (UCL in UK and Max Planck Institute in Germany) which are supporting us in setting up the Centre.

Members of the Cyprus Interaction Lab have an active role in RISE. The EdMedia MRG is aiming towards applied research and innovation on interactive media, education and edutainment with emphasis on serious games.

More information:
https://www.cyprusinteractionlab.com/edmediarise/

ERASMUS + KA2: INNOVATIVE TRAINING VIA EMBODIED LEARNING AND MULTI-SENSORY TECHNIQUES FOR INCLUSIVE EDUCATION [INTELED] 2017-2019

inteled

INTELed aims to support special and general education teachers in acquiring knowledge and skills about the use of multi-sensory technology for learning and assessment, for addressing the needs of SEN children in inclusive education contexts. This will be obtained through an innovative training method, driven by theories of embodied cognition, research on embodied learning, and the premise of multi-sensory technologies. The method will be accompanied by evidence of its effectiveness through pilot studies in schools at the four partner-countries. The partners will work on presenting the pedagogical framework, the training model and instructional materials, and the procedures for implementation and evaluation. The project aims to form a sustainable Community of Practice (CoP) around the INTELed method.

More information:
https://www.cyprusinteractionlab.com/projects/inteled/

ERASMUS + KA2: ENGINEERING AND INDUSTRY INNOVATIVE TRAINING FOR ENGINEERS VIA PBL [ENGINITE] 2017-2019

enginite

ENGINITE (Erasmus + KA202 – Strategic Partnerships for vocational education and training) project aims to develop an innovative vocational training programme which will use synchronous methods aiming to set a higher standard level for engineering training. ENGINITE focuses on the design, development and establishment of a new industrial-oriented postgraduate vocational training programme that aims to bridge the gap between academia and industry and is targeted for graduate and junior engineers by integrating 'theory' with 'practice' using the Problem Based Learning approach to teaching and learning.

More information:
https://www.cyprusinteractionlab.com/projects/enginite/

new publications

IN 2018, THE CYPRUS INTERACTION LAB HAS PUBLISHED A TOTAL OF 21 PAPERS IN PROMINENT JOURNALS AND CONFERENCES. FOR A FULL LIST OF OUR PUBLICATIONS, PLEASE VISIT OUR GOOGLE SCHOLAR PAGE https://tinyurl.com/jb4efd9, BELOW YOU CAN FIND DETAILS OF A SELECTION OF OUR 2018 PUBLICATIONS.

MOVING BODIES TO MOVING MINDS: A STUDY OF THE USE OF MOTION-BASED GAMES IN SPECIAL EDUCATION

From an embodied learning perspective, the active human body can alter the function of the brain and therefore, the cognitive process. In this work, children's activity using motion-based technology is framed as an example of embodied learning. The present investigation focuses on the use of a series of Kinect-based educational games by 31 elementary students with special educational needs in mainstream schools, during a five-month intervention study. Results based on psychometric pre-post testing in conjunction with games-usage analytics, a student attitudinal scale, teachers' reflection notes and teacher interviews, demonstrated the positive impact of the games on children's short-term memory skills and emotional stage. Overall, the study improves our understanding of embodied learning via motion-based technology in teaching and learning with children with special educational needs.

Kosmas, P., Ioannou, A., & Retalis, S. (2018). Moving Bodies to Moving Minds: A Study of the Use of Motion-Based Games in Special Education. TechTrends, 1-8.

A MODEL OF GAMEFUL DESIGN FOR LEARNING USING INTERACTIVE TABLETOPS: ENACTMENT AND EVALUATION IN THE SOCIO-EMOTIONAL EDUCATION CLASSROOM

Building on established pedagogy and technological advancement, this article presents a model of gameful design for learning using interactive tabletops, enacted and evaluated in the context of socio-emotional education. Based on the proposed model, we detail the design of a technology-enhanced learning experience in which a series of traditional lessons are enriched by collaborative work on interactive tabletops; four gameful activities are used which may be directly linked to a school curriculum. We conduct a qualitative case study with the participation of 86 fifth grade students across two elementary schools which have a significant minority enrolment. We demonstrate the ways in which the students draw on recently-acquired knowledge, engage in dramatic play, share the digital space and collaborate intensively to achieve a new and refined understanding of concepts and behaviours linked to perspective-taking. We discuss how tabletops, in synergy with constructivist pedagogy and principles of gameful design, allow researchers and practitioners to promote communication, collaboration and perspective-taking in ways that were hitherto difficult to enact in traditional lessons. Gameful design for learning is seen as a multilevel endeavour, which involves the selection of tasks and tools as well as the behaviour of the learners and the instructor as participants in the learning environment.

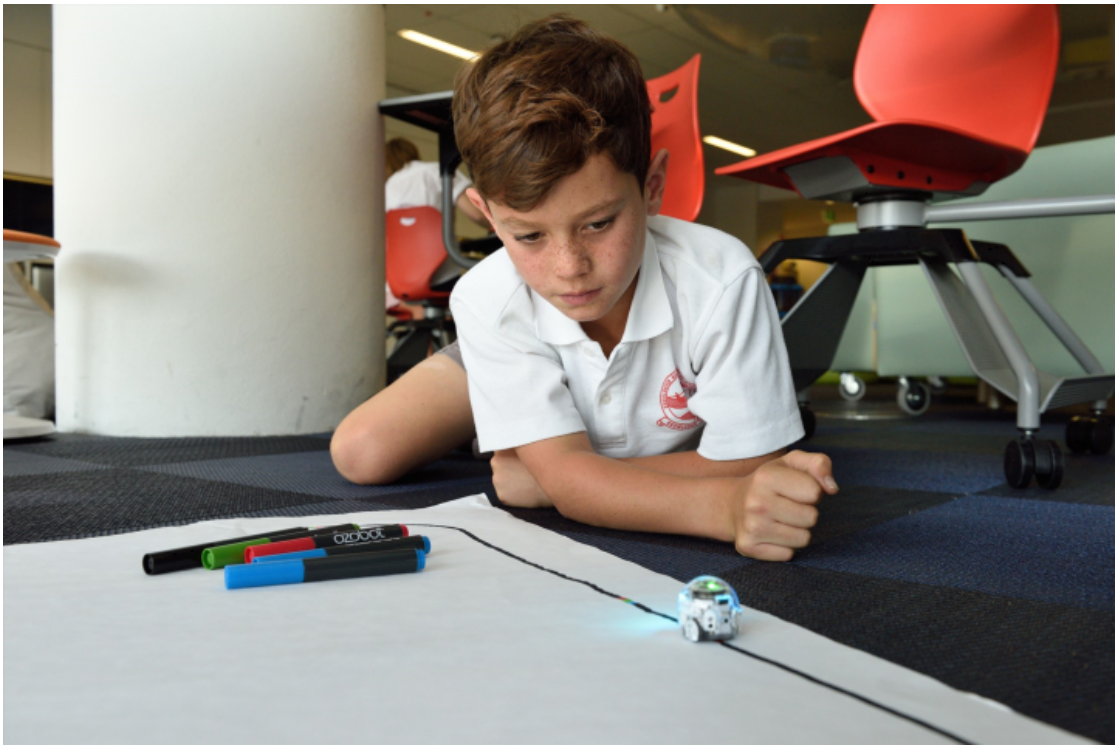
Ioannou, A. (2018). A model of gameful design for learning using interactive tabletops: enactment and evaluation in the socio-emotional education classroom. Educational Technology Research and Development, 1-26.

new publications

EXPLORING THE POTENTIALS OF EDUCATIONAL ROBOTICS IN THE DEVELOPMENT OF COMPUTATIONAL THINKING: A SUMMARY OF CURRENT RESEARCH AND PRACTICAL PROPOSAL FOR FUTURE WORK

Educational robotics are increasingly appearing in educational settings, being considered a useful supporting tool for the development of cognitive skills, including Computational Thinking (CT), for students of all ages. Meanwhile, there is an overwhelming argument that CT will be a fundamental skill needed for all individuals by the middle of the twenty-first century and thus, should be cultivated in the early school years, as part of the child's analytical thinking and as a principal component of Science-Technology-Engineering-Mathematics (STEM) education. This study reviews published literature at the intersection of CT and educational robotics, particularly focused on the use of educational robotics for advancing students' CT skills in K-12. The reviewed articles reveal initial evidence suggesting that educational robotics can foster students' cognitive and social skills. The paper discusses specific areas for further inquiry by learning researchers and learning practitioners. Such inquiry should start from a widely agreed definition of CT and validated measurement instruments for its assessment. A practical framework for the development of CT via robotics is next in demand, so as instructional designers and educators can implement it consistently and at scale.

Ioannou, A., & Makridou, E. (2018). Exploring the potentials of educational robotics in the development of computational thinking: A summary of current research and practical proposal for future work. Education and Information Technologies, 1-14.



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Please use the map below for directions.