EARLY

EARLY
DISTANCE LEARNING MODEL
REINFORCED WITH ROBOTICS FOR
3-7 YEAR OLDS

Distance Learning Model Reinforced with Robotics for 3-7 Years Old Children

Welcome to the **second e-newsletter** of EARLY. In this issue, we present results from the **survey** from our research initiative. Find out how schools, teachers, future teachers, and families from the six partner countries experienced distance early childhood education and what support exists for the development of online education for children 3-7 years old.

Also in this issue, we report on the **meeting** held in Viseu where partners worked on the project together. Finally, this e-newsletter introduces the **website and social media** for EARLY – Distance Learning Model Reinforced with Robotics for 3-7 Years Old Children, a 2-year Erasmus+ funded project coordinated by Kocaeli University.

Funded by the European Union

TÜRKİYE ULUSAL AJANSI
TURKISH NATIONAL AGENCY

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VISEU MEETING

At the Polytechnic of Viseu

SOCIAL PROGRAMME

IPV organised a social dinner in Viseu offering delicious food and traditional fado music.

The team also visited the Museu de História de Viseu and the Museu Nacional Grão Vasco. A quick guided walking trip complemented the information about the rich history of the city and showed some of its most beautiful and intriguing spots.

The second in-person Erasmus+ EARLY Transnational Project Meeting was held in Viseu, Portugal, hosted by the Polytechnic Institute of Viseu (IPV) on the 17th and 18th of November 2022. Nine delegates from the 6 partner organisations joined the IPV team. Other 4 delegates attended virtually, including the project coordinator Tuğba Konaklı. All team members contributed to the fruitful discussions, in-person and online.

On the first day, all partners gave an update about project activities carried out so far within the partner countries. Simone Davi (SDR) explained the structure of the MOOC platform and answered partners' queries. Partners tackled the curriculum modules and their design and development on the proposed template. Some of the survey results were discussed as basis for future decisions on the curriculum and the MOOC. Partners further developed the video tutorials. Important quality management issues were discussed.

On the second day, Mary O'Reilly (EY) gave detailed information about the sharing and promotion plan. The LTT in Italy was sketched. Finally, Tuğba Konaklı (KOU) revised the project plan and future meetings and workplans were set.

The meeting was a good opportunity to deepen the discussion on the main themes of the project. It was also important to share and debate common threads, as well as differences, between countries regarding Early Childhood Education and teacher education.

Walking in the city center

Questions about Cava do Viriato

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SURVEY RESULTS

As part of the EARLY research initiative, the partners collected feedback from schools, teachers, future teachers, and families on strategies and challenges to support the development of a methodology for online education for children 3-7 years old. For structuring the data collection, a survey was created, piloted, and then translated for all partner languages. Through the associated partners and several media channels, the survey was distributed and answered by diverse stakeholders.

The study results are being used to support decisions of the EARLY project and will be available for dissemination in scientific events and publications/journals.

The survey consisted of three sections. The first block was about experiences of remote learning during the COVID-19 pandemic. Questions in this block asked for a description of several learning situations that happened during the emergency period and about strategies used and difficulties experienced.

The second block focused on what was learned from the experience, in terms of the future relevance of resources, policies, and methodologies. A particular highlight to the question about situations for which the experience gained with remote teaching in Early Childhood Education could be useful.

Finally, the third section asked about interest and training needs on the main topics of the project: computational thinking and educational robotics. The survey combined Likert scale items with open-answer questions for allowing the participants to fully express their views.

TURKEY

The study conducted with the teachers and family members of children aged 0-7 who experienced a lockdown during the pandemic period revealed that most children stayed at home for more than 2 months during that period. Teachers' interaction with children was provided through the channels of Zoom (35.39), EBA (Education Information Network of Ministry of National Education) (25.28) and WhatsApp (17.42).

Early Childhood Education teachers recommended home activities at least once a week during the lockdown period. Research revealed that the main challenges related to too many suggestions to families/caregivers, lack of time due to remote working, families/caregivers not knowing about the topics of activities, and lack of experience, such as families/caregivers using digital education platforms. Based on these results, it is seen that informing the families about the content of the activities, the educational platforms used and the educational content before the process will contribute to the education process. Moreover, the use of accessible

materials at home and providing education for families to involve children in the process will improve the process. In synchronous processes that are held at least once a week, it is recommended to plan activities where the children will not be dependent on the family due to the lack of time of the families and they are not used to technology. The result of the limited resources such as websites and e-books suggested by the teachers during the lockdown supports the necessity of the free portal (MOOC) designed by the EARLY project.

Distance education portals, which are an option for children who cannot reach school for various reasons, will contribute to families, children and teachers who have a positive perspective on distance education. It was observed that most of the participants were interested in computational thinking and educational robots. These findings suggest that focusing on computational thinking and activities with educational robots for the EARLY project can be beneficial for teachers, children, and families.

Difficulties that impacted the experience for children regarding activities sent by teachers to be developed by families/carers
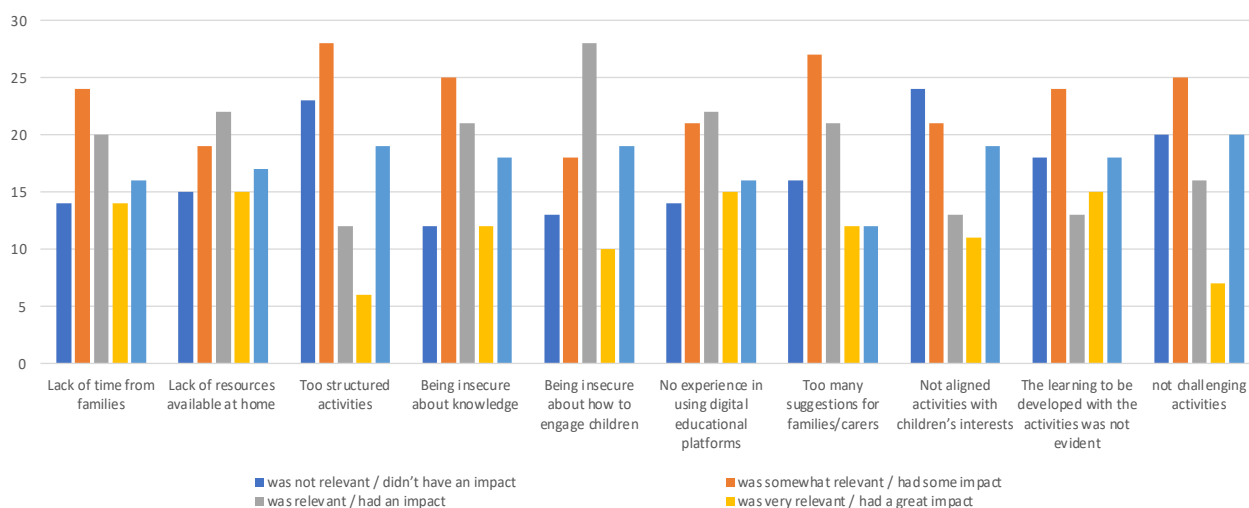
ITALY

In Italy, from 2022, coding in schools is part of teacher training, with the aim of promoting the development of digital skills in the national education system (Decree Law No. 152 on the implementation of the 2021 National Recovery and Resilience Plan). In fact, from 2025/26 coding must be a reality in all Italian schools. A necessary intervention if we consider that in 2019 the OECD reported Italy in third-last place out of 29 countries for digital literacy.

Since 2014, the Ministry of Education, Universities and Research has started experiments to introduce coding in preschools and elementary school in our country, while other European countries have made them compulsory subjects. The Buona Scuola (The Good School, Law 107/2015), through the National Digital School Plan (PNSD), has placed computational thinking among the cultural tools that realize full citizenship. From 2022, coding will be mandatory in all preschools and primary schools (Motion No. 1-00117, 2019), in accordance with the National Curriculum Directions.

The Survey was administered in Italy by Scuola di Robotica to about 60 preschool and primary teachers and parents, obtaining 33 responses. Of respondents, 67% were preschool support staff and the rest preschool and elementary school teachers. Regarding gender, 93.9 of the responses came from women. This reflects the general situation of the teaching and

support staff in preschool and primary, which consists of mostly women. Regarding the age group of children, 97 % of the respondents were from the 3-6 age group, which seems to us indicative of the interest in coding and educational robotics in this age group.

Especially the early 2020s saw all Italian schools on lock down for several months, and after June 2020, periodically on lock down again. This highlighted for all schools the need for a remote education strategy for early ages as well. While schools with pupils 8-18 got organized after a few weeks with online lessons and the use of platforms, preschools had more problems and children stayed at home with parents, brothers, or other relatives. Recently, the Ministry issued Guidelines for what they call Integrated Teaching with online classes.

All respondents stated that:
• preschool teachers and support teachers are not trained to be able to use instructional technologies, to teach coding and educational robotics;
• training is not provided remotely on platforms.
All expressed the need for training courses on STEM and digital technologies.

In conclusion, all expressed great interest in following the EARLY project and considered it necessary.

Platforms reported for supporting communication between ECE and families/carers

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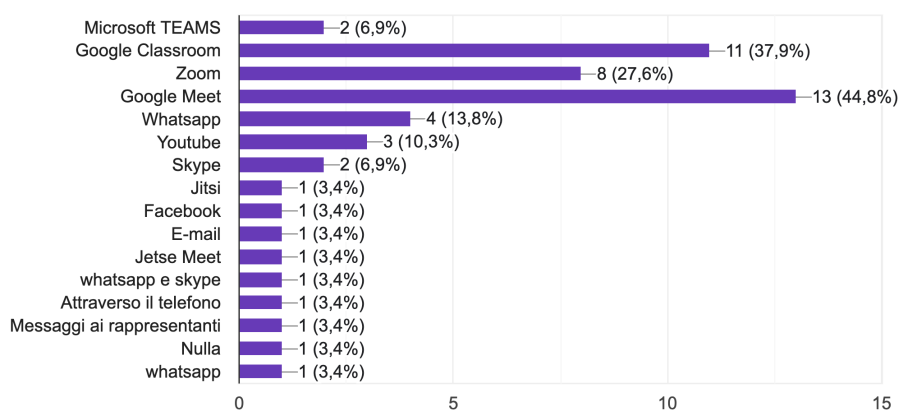
LATVIA

In this highlights overview, we present the descriptive analysis of the survey sent out to initial teacher education students, teaching staff of children 0-7 years old and wider public, on social media.

Analysis of the survey data suggests that preschools did not experience general lockdown (128N) or there were only one or two general lockdowns during the Covid pandemic. The period that the children spent at home is not clearly even, but in any case, mostly it was two weeks or not longer than a month. During this time, preschool educators mostly kept communication with families but not with the children directly (47N). Preschool teachers recommended home activities once per week (33N) or more than once per week (13N). This communication was provided through the channels of WhatsApp (63N), Zoom (28N) or E-mail (24N).
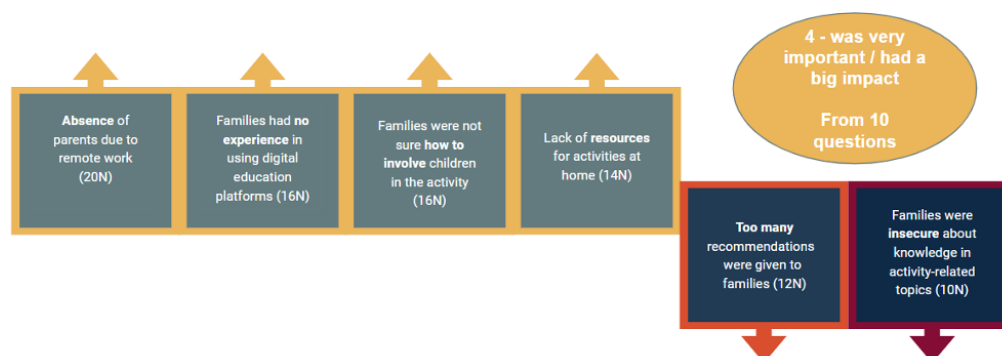
Survey data shows that the biggest challenge was the difficulty of being fully present during distance learning, as parents had to work themselves (20N). Families also faced difficulties because they had no experience in using digital education platforms (16N). Parents' third challenge during distance learning was the lack of confidence and knowledge about how to involve children in the activity (16N). These results suggest that parents and caregivers of preschool children would benefit from quality materials that offer both theoretical and practical support for the

distance learning process and a platform where they can access the necessary materials for this process.

Although the majority of respondents answered that there was no synchronous learning, other respondents admitted that difficulties that affected children's experiences during synchronous learning were that families had no experience in using digital education platforms (15N), as well as the absence of parents due to remote work (14N) and lack of resources for activities at home (12N). These responses indicate that parents and caregivers need sources of knowledge and training to support distance learning at home. In questions related to attitudes towards distance learning, respondents stated that they mainly see the distance learning opportunities in preschool education very positively, mostly in situations where a child cannot attend an educational institution for various reasons.

Most parents and teachers or caregivers expressed an interest in learning more about robotics in the preschool activities and the development of computational thinking in preschool age. The materials and the MOOC's open access resources developed in the EARLY project would be very useful to educate children who, due to various circumstances, are not able to attend face-to-face preschool classes and are in need of distance learning.

Difficulties regarding activities sent home

Absence of parents due to remote work (20N)

Families had **no experience** in using digital education platforms (16N)

Families were not sure **how to involve** children in the activity (16N)

Lack of **resources** for activities at home (14N)

4 - was very important / had a big impact

From 10 questions

Too many recommendations were given to families (12N)

Families were **insecure** about knowledge in activity-related topics (10N)

NORTHERN IRELAND AND REPUBLIC OF IRELAND

The Erasmus+ EARLY survey was distributed by Early Years over May and June 2022 and targeted primarily to in-practice Leaders/Teachers of preschool settings in both Northern Ireland and Republic of Ireland. Overall, 15 responses were received which included one parent and one member of the management board – 14 of the respondents were female.

Respondents indicated that during the pandemic, children remained at home for more than 2 months at a time. There was general guidance available for preschools rather than a national strategy being implemented. However, Early Years Leaders/Teachers remained in contact with families throughout the period of lockdown with limited interactions with the children individually. The most popular forms of communication took place over WhatsApp and email, with Zoom and Facebook following, and gradually the use of Seesaw became more prevalent. Respondents indicated that Early Years Leaders/Teachers provided suggestions for activities at home at least once a week.

The main difficulties experienced by families and carers were lack of time and lack of resources available at home. Also, teachers recognised that a large proportion of families and carers were insecure in strategies that they could use to engage the children more effectively, were unfamiliar with digital educational platforms in general and felt that they were receiving too many suggestions to put into action. The results of the survey and in particular the indicated topics for future learning clearly demonstrate the need for the EARLY Project in addressing areas of distance learning, the value of promoting computational thinking skills for young children and educational robotics with preschool children. It is evident that Early Years Preschool Leaders/Teachers would benefit from further professional development in computational thinking and educational robotics which will be provided by the Erasmus+ EARLY project.

Topics for further learning

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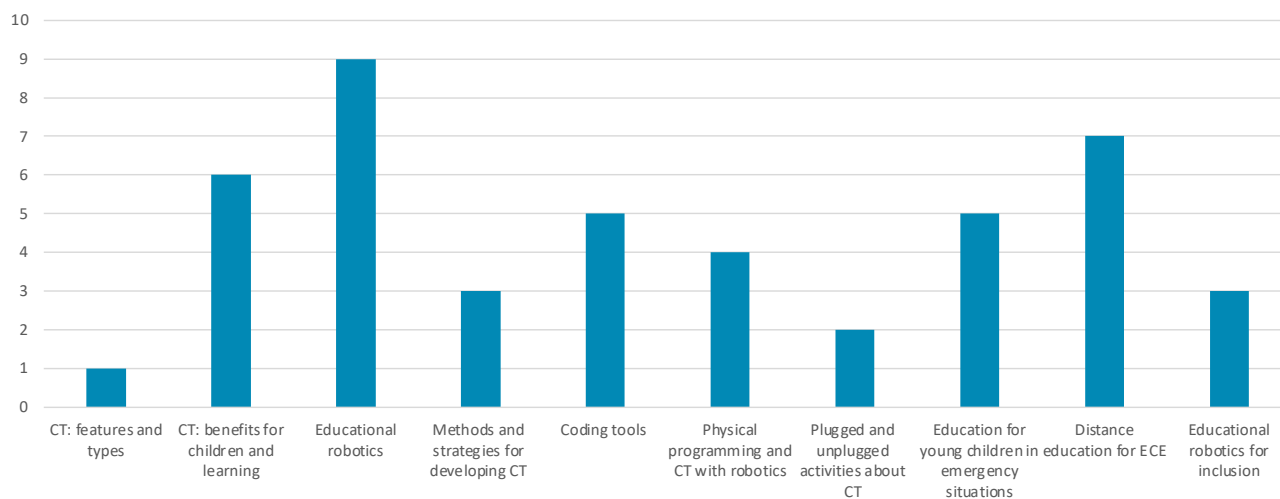
PORTUGAL

The survey was distributed through the associated partners – Early Childhood Education (ECE) centers of the region of Viseu. The 57 answers were collected between 6th May and 5th November 2022. From the ECE centers, leadership (5%), support staff (4%), teaching staff (39%) and families (42%) answered. Some future teachers (10%) were also included.

During the pandemic, Portugal experienced more than one national lockdown. During these periods, ECE teachers kept in touch with children and families, through several platforms. This contact included suggestions of activities sent home once or more per week (79%) and synchronous moments (72%). Still, difficulties were felt in terms of lack of time and resources of the families/caregivers to support the dynamics. The technological side was not perceived as a problem: the technology was available, parents/caregivers were confident, and children managed to use it. Participants also report that the activities were aligned with children's interests and the learning was evident which made the proposals and moments relevant for all.

Many important lessons stemmed from the experience of lockdown. In the survey, answers highlight the importance of social interaction, the missing experience for children during the lockdowns. It was also felt that the experience of distance education could be useful for several situations like long stays in hospital, chronic health problems or frequent travelling.

Regarding computational thinking and educational robotics, participants shown great motivation to learn more. Although not confident about it, there is enthusiasm regarding the opportunity of introducing it in ECE.

Overall, these results signal good things for EARLY. Distance education in ECE is felt as possible and manageable, and still relevant. Robots and computational thinking are welcomed as part of children's experiences and adults are willing to dive in the experience of suing them pedagogically.

Perspectives about **computational thinking** in Early Childhood Education	Average (1 to 4)
I believe children in ECE should have experiences with computational thinking.	3.04
I am enthusiastic about computational thinking in ECE.	2.96
I think that it is helpful to have activities connected to computational thinking in ECE.	3.02
I feel comfortable promoting activities for children with computational thinking in ECE.	2.26

| Perspectives about **educational robotics** in Early Childhood Education	Average (1 to 4)
children in ECE should have experiences with educational robotics.	3.06
I am enthusiastic about educational robotics in ECE.	3.08
I think that it is helpful to have activities connected to educational robotics in ECE.	3.09
I feel comfortable promoting activities for children with educational robotics in ECE.	2.40

EARLY ONLINE

One of the aims of the Erasmus+ EARLY project is to raise awareness about the importance of distance education for 3-7 year old children and how robotics can be a support for relevant learning. EARLY is developing that approach and will involve future teachers, teachers, families, and other stakeholders in the process.

As a way to share information about the project, a multilingual website was created and is now available in https://www.earlyeu.org/. The website presents the project, with particular highlight for the project results and the partners. It also showcases news about the ongoing activities.

There is also a more dynamic channel to keep updated about EARLY: our Facebook page. EARLY has been posting about computational thinking and robotics in Early Childhood Education. It is also possible to follow how the teams in the different countries are working for the good outcomes.
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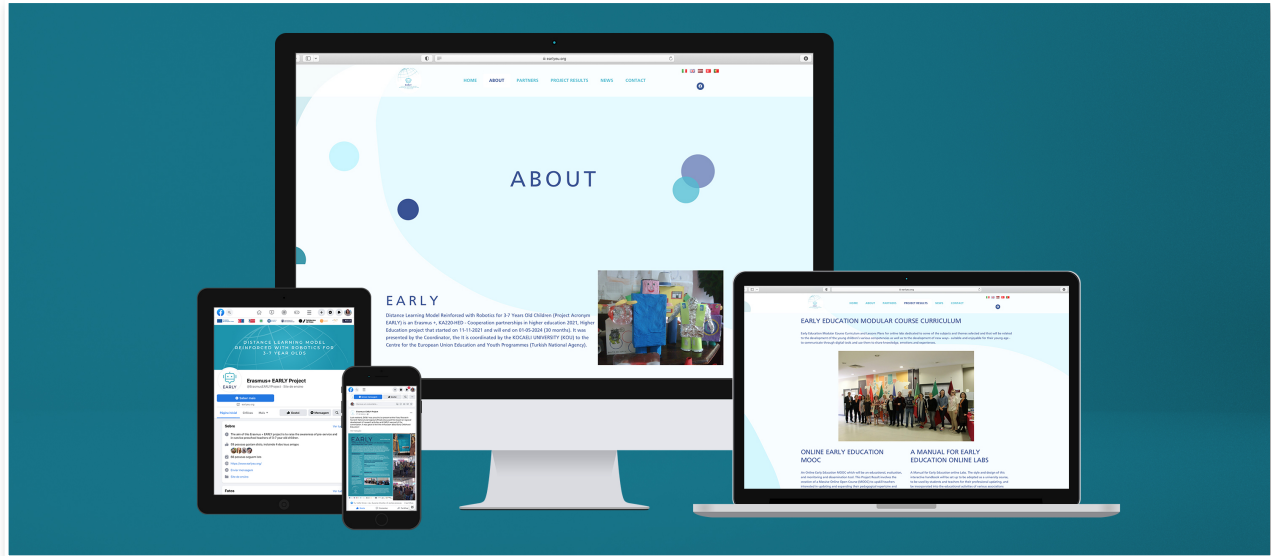
Mockup image by CosmoStudio on Freepik

Kocaeli Üniversitesi
Address:
Umuttepe Kampüsü
Kabaoğlu, 41000 İzmit/Kocaeli
Tel: (0262) 303 10 00
Web: https://www.kocaeli.edu.tr