

PATHWAYS

Impact Assessment Report





Professionals and parents to Act Towards a Holistic or Whole Approach for early YearS education

Assessment of Pathways Compendium of Learning Activities to Promote Cooperation with Parents and Inclusive, Green and Digital Environments in ECEC Services

Catarina Leitão, Maria João Seabra-Santos, Maria Filomena Gaspar, & Pathways team



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EXECUTIVE SUMMARY

The Pathways project team developed a compendium with 40 learning activities to promote inclusive, digital and green environments and cooperation with parents in early childhood education and care services. Preschool teachers/educators in Italy, Lithuania, Romania, and Serbia were invited to implement at least three of these activities between October 2023 and June 2024. The potential impact and implementation of the compendium activities were assessed. The current report describes the assessment design and timeline, methodology and results.

Although some challenges were identified regarding the activities' implementation, such as a lack of resources or time, the results suggested that, overall, they were perceived as helpful in promoting teacher-parent cooperation and inclusive, digital, and green environments in ECEC. Positive aspects participants highlighted about the activities included their relevance and novelty, the interest shown by children, parents and professionals, as well as the positive interactions created among them. Perceived benefits included promoting children's learning and socioemotional wellbeing, parents' understanding of child development, professionals' knowledge or skills, and positive family-school relationships.

The findings underscored the relevance of creating opportunities to promote the involvement of families and inclusive, green and digital environments in ECEC. Guidelines at the organisational, regional and/or national level should be developed to support the participation of children and families, together with ECEC professionals, in developing shared visions of these environments.

1. INTRODUCTION

Pathways aims to foster a holistic or whole approach to children's wellbeing through high-quality early childhood education and care (ECEC) services¹ that work with parents/guardians² in supporting children's learning and create inclusive, digital and green environments. The project team developed a compendium of learning activities focused on promoting cooperation with parents³ and the mentioned environments in ECEC services. These activities were piloted during the academic year 2023/24 in Italy, Lithuania, Romania, and the Republic of Serbia. The current report describes the methodology and results of the assessment conducted during the piloting.

European policy asserts the need to support education professionals in promoting cooperation with families and inclusive, digital, and green environments (Council of the European Union, 2021). The European Quality Framework for ECEC highlights the importance of promoting inclusion and support for staff working with families (European Commission, 2014). The LifeComp - Framework for Personal, Social and Learning to Learn Key Competence recognises the relevance of supporting educational staff in implementing competence-based teaching in diverse contexts. The DigCompEdu - Framework for the Digital Competence of Educators acknowledges the need to support educators in being digitally competent. The GreenComp - Sustainability Competence Framework addresses the relevance of developing the sustainability competences of all learners, including through guidelines for educators.

Cooperation between ECEC professionals and parents can promote inclusive, digital and green environments in educational contexts through the development of a shared vision. This cooperation can enhance the continuity of children's learning between the ECEC service and the home, and

¹ Early childhood education and care (ECEC) services refer to regulated arrangement that provides education and care for children from birth to compulsory primary school age, including centre-provided and family day care, privately- and publicly-funded, pre-school and pre-primary provision.

² Parents herein refer to the primary carers and legal guardians of children.

³ Cooperation between ECEC professionals and parents can be understood as working together to support children's learning, development, and wellbeing.

positively impact children's academic readiness, later achievement and social-emotional development (Barnett et al., 2020; OECD, 2020; Sylva et al., 2004; Voorhis et al., 2013). However, ECEC professionals can experience uncertainty about how to promote cooperation with parents (Murphy et al., 2021).

A survey shared by the Pathways team in the same four countries, replied to by 189 ECEC professionals⁴, reinforced the relevance of developing activities on the mentioned topics (Leitão et al., 2024). Considering all countries, 46% of participants indicated low familiarity⁵ with the Quality Framework for ECEC, and most reported low familiarity with the frameworks LifeComp (58%), DigCompEdu (61%) and GreenComp (63%). In terms of cooperation with parents, most participants indicated they would like to learn about meaningful engagement and communication (67%), cooperation or co-construction of the implementation of activities (54%), and building parents' capacity/supporting parenthood (51%). Concerning circumstances in daily practice related to inclusiveness, 74%, 37% and 35% of participants indicated additional/specific needs, socio-economic difficulties, and diverse cultural backgrounds, respectively. Regarding digital tools, 12% of the participants responded that they never used them, and 35% indicated they did not use them to communicate with parents. Concerning activities related to green/natural environments and sustainability, 47% of participants indicated they organised them with children and parents, 45% only with children, and 7% never organised them.

The development of the Pathways compendium began with the team establishing a framework to describe each activity, including the topic (inclusive, green and digital environments, and cooperation with families), objectives, type of activity/tasks, necessary materials, and participants (children, parents or both). Then, each project partner in Italy, Lithuania, Romania, and Serbia formed institutional-level working groups. These groups identified and defined two to three activities per topic, considering their context's resources and needs. Finally, the descriptions of the diverse activities were adapted by the Pathways team to ensure consistency throughout the compendium.

Teachers⁶ in the four mentioned countries were invited to implement at least one activity related to each topic during the academic year 2023/24. In Italy and Romania, the participating ECEC services were project partners: one in Italy⁷ and one in Romania⁸. In Lithuania and Serbia, the project partners worked in collaboration with participating ECEC services: three ECEC services in Lithuania⁹ and one ECEC service in Serbia¹⁰.

The compendium activities were assessed regarding their implementation and potential impact. The study of the implementation aimed to explore participants' responsiveness, satisfaction, perceived quality and perceived changes and benefits related to the activities. The study of the potential impact aimed to explore whether there were differences in teachers' and parents' perceived capability to promote teacher-parent cooperation and inclusive, digital and green environments following the implementation of the compendium activities. The ultimate goal was to generate recommendations that can inform future policy and practice aiming to promote cooperation with

⁴ Among the participants, 75% were educators/preschool teachers; 11% other Education professionals (who were not core teachers of the children's groups, setting managers or auxiliary staff), 5% ECEC setting managers, 1% auxiliary staff, and 9% selected the option "other" (e.g., nurse educator, speech and language therapist, educational advisor, administrative staff).

⁵ On a 5-point Likert scale, ranging from 1=*not familiar at all* to 5=*very familiar*, where low familiarity was considered to include answers 1 or 2.

⁶ Teachers herein refer to preschool teachers or educators of children from birth to the start of primary school.

⁷ The ECEC service in Italy includes three nurseries.

⁸ The ECEC service in Romania includes three kindergartens.

⁹ Two of the settings in Lithuania have merged near the end of the academic year in which this assessment occurred.

¹⁰ The ECEC service in Serbia includes three settings where the project was implemented.

parents/families and inclusive digital and green environments in ECEC. This report describes the assessment timeline, methodology, results and related recommendations.

The compendium activities identified as implemented are described next by topic (for a full description, please see the Pathways Compendium). The activities focused on inclusive, digital, and green environments also aimed to promote cooperation with families as a transversal topic. These activities are the focus of the assessment described in detail in this report¹¹.

Inclusiveness

- Kindergarten Transition Model - Support for children transitioning from nursery to kindergarten, including assessments of each child's needs, parent-teacher meetings, visits to familiarise younger children with the kindergarten environment, and group activities with parents.
- Inclusion - participation of musically gifted children - A music workshop where children and parents partake in rhythm creation, dance, movement and role-playing activities.
- The Special Guest - Meetings between parents and specialists on additional or special needs.
- We Celebrate the International Day of Tolerance - Activities with children and parents to promote tolerance and respect among children (e.g., reading culturally enlightening stories, creating drawings, collages, or paintings, participating in role-playing games and collective artworks).
- We are celebrating International Autism Awareness Day - Activities with children and parents to raise awareness about autism (e.g., creating collages, posters, paintings, role-playing, playing themed games and reading stories).
- Beyond us, not behind the wall - Creation of badges with children and distribution of leaflets among parents and professionals in recognition of World Autism Awareness Day.

Digital environments

- Padlet in Kindergarten - Using the Padlet platform for real-time teachers-families communication (e.g., on current events and children's learning progress).
- Jigsaw Planet - Involvement of parents and children in creating digital puzzles on the Jigsawplanet platform to foster problem-solving and creativity.
- Explore.org - Role-playing of the story "Brown Bear" by Vladimir Colin and introduction to the Explore.org platform, which features live camera feeds capturing animals in their natural environments.
- Wordwall - Involvement of parents and children in creating and playing games on the Wordball platform to strengthen familial bonds and skills in digital tools for learning and play.
- Social to Shorten Distances - Using the digital platform Canva, teachers and parents can share photos or videos of activities with children at the service or home.
- Digital education with parents - The Reflektus app provides families with weekly reflective questions or assignments to explore personal experiences, emotions and interactions.

Green environments

- Let's clean the place we love - Celebration of ecological dates (e.g., Earth day) and preservation of diverse spaces to enhance awareness about the environment. Parents' involvement is encouraged through the Padlet platform to share ideas.
- Mind up and feel the nature - Activities to emphasize nature conservation, including camps for children that parents help prepare, workshops with natural materials and an exhibition.
- "Nature Watchers" - Weekend explorers - Children and parents spend weekends engaging with nature; then, children are invited to share their experiences in the classroom to promote a commitment to protecting the environment.
- Let's Protect the Nature! - Involvement of children and parents in storytelling, sorting waste and crafting toys/games from recyclable materials to promote environmental stewardship.

¹¹ Except for Halloween, as data collection started after that date (as described in the Data Collection section).

- Winter garden with families - Children and caregivers plant various crops, discuss environmental topics, and share gardening tips.
- We and Nature - Children are involved in planting activities to foster knowledge about plant care and their ecological responsibility.
- Kindergartens' trip to Kazlų Rūda State Forest Enterprise - An educational excursion to a forest enterprise to foster awareness about environmental protection, resource management and safe conduct in nature.
- Small Steps to the World of Eco - Various educational activities to immerse children, parents, and the school community in eco-friendly practices (e.g., educational outings to explore local flora and fauna).

Cooperation with parents/families

- Together for a Better Education! - Parents and teachers create areas prepared to support activities focused on promoting children's learning and relaxation within the ECEC service.
- Read Me a Story! - Parents participate in reading sessions at the ECEC service to promote children's learning and a stronger bond between the service and the families.
- Parental Educator for a Day - Parents lead an activity in the ECEC service (e.g., craft project, music session, storytelling). The aim is to foster children's learning and a stronger bond between the service and the families.
- Halloween -Involvement of families, children, and ECEC staff in a collaborative cooking project (Halloween-themed cookie dough) to foster creative expression and bonds among families and staff.
- Christmas Workshop - Parents are invited to create Christmas presents for their children using recycled/simple materials to foster collaboration among the families and sustainable practices.
- Carnival Workshop - Parents are invited to prepare a children's play to foster stronger connections between ECEC staff and families and interaction among families.

2. TIMELINE

Figure 1 shows the assessment timeline for the Pathways compendium of learning activities.

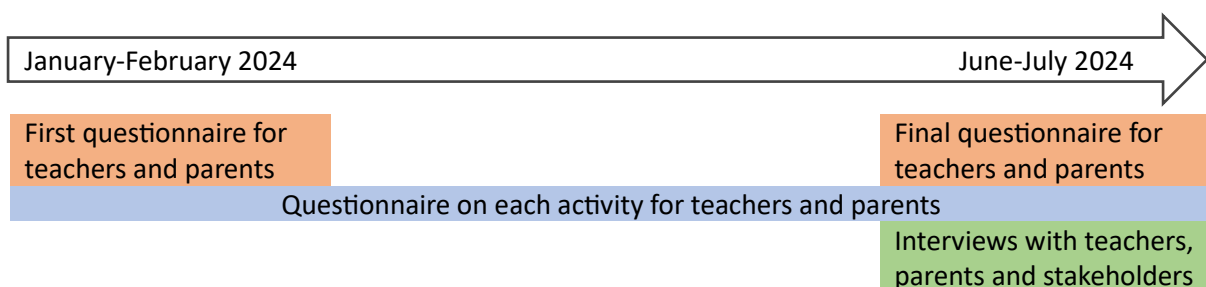


Figure 1. Assessment timeline for the Pathways compendium of learning activities.

The study of the implementation of the activities regarding participants' responsiveness, satisfaction, and perceived quality, changes and benefits involved: i. a questionnaire for teachers and parents on each compendium activity they participated in¹²; ii. questions on the implemented activities in general (not regarding a specific one) in the final questionnaire for teachers and parents; and iii. interviews with teachers, parents and stakeholders (i.e., professionals working or collaborating with

¹² The initial plan was to collect children's views on how much they liked the activity by presenting three images - a green, a yellow and a red smile - and inviting them to choose the one that better described how they felt during the activity. However, this analysis is not included in the current report due to the small number of cases collected.

the participating ECEC services other than the teachers implementing the compendium activities in the groups).

The study of the potential impact of the activities involved asking teachers and parents about their perceived capability to promote teacher-parent cooperation and inclusive, digital and green environments at two time points – evaluated through the first and final questionnaires - between which compendium activities were implemented. Potential differences between the two time points in participants' responses were analysed.

3. METHODOLOGY

A data collection manual detailing the methodology was developed and shared among the Pathways team members in the participating countries.

3.1. Participants

The inclusion criteria of participants in the assessment were: teachers in participating ECEC services working with groups of children between birth and seven years of age¹³; parents/guardians of children in the groups of the participating teachers; and stakeholders working with the participating ECEC services.

3.1.1. Questionnaire on each activity

The Pathways team in each country invited teachers - and asked them to invite parents in their groups - to complete the questionnaire on each activity. It could be completed every time a compendium activity was implemented during the academic year. The invitation to complete the questionnaire on each activity was carried out when inviting participants for the first questionnaire, aimed at 60 teachers and 60 parents considering the sum of the four countries (as described next). Participants could complete the questionnaire on each activity for one or more activities, regardless of completing the first or final questionnaires.

Considering the total of the four countries, there were 101 responses from teachers about 25 compendium activities and 254 responses from parents about 22 of these activities (the same teachers and parents could respond regarding more than one activity).

3.1.2. First and final questionnaires

Considering the sum of the four countries, the aim was to recruit 60 teachers and 60 parents to complete the first questionnaire, following the initial Pathways proposal of having evaluations from 40 ECEC professionals and 20 parents plus possible attrition. For the first questionnaire, the Pathways team in each country presented the study to and invited teachers in the participating ECEC services; the team also asked them to invite the parents in their groups.

For the final questionnaire, the project partners invited the teachers contacted at the time of the first questionnaire and also asked them to invite the parents of their groups. Teachers and parents who did not reply to the first questionnaire could reply to the final questionnaire. Participants were not asked their names/contacts in the first questionnaire, so they could not be identified (see the Ethical considerations below for further details). The first and final questionnaires included the same three initial questions (the initials of two names and part of a date) to form a unique code for each participant and allow matching their responses between the two time points.

Although the analysis of the differences between the first and final questionnaires only included teachers and parents who participated in both, the views of those who only participated in the final questionnaire were considered helpful for analysing aspects related to the implementation of activities (e.g., through the questions on perceived changes in the ECEC service/group).

¹³ The highest age for entry into primary education in the included countries.

Considering the four countries, 50 teachers completed the first and 62 the final questionnaire. Both questionnaires were completed by 35¹⁴ teachers in all the participating ECEC settings. Table 1 shows characteristics of the teachers participating in the first questionnaire, final and both questionnaires, namely the mean number of children and adults (including themselves) in their group, the percentage of teachers working with children of each age group, and the mean number of years as a preschool teacher/educator.

Table 1. Characteristics of the teachers participating in the first, final and both questionnaires

Country	N	N children in the group		N adults in the group		Children's age in the group (%)			Years as teacher	
		M(SD)	Min-Max	M(SD)	Min-Max	<3	≥3	Both	M(SD)	Min-Max
First										
IT	11	15.1(3.6)	8-18	2.5(2.0)	1-8	100	0	0	14.9(8.5)	1-30
LT	10	20.6(7.4)	15-41 ^a	3.1(1.2)	1-5	20	70	10	18.2(15.7)	2-40
RO	18	22.3(3.3)	17-29	2.3(1.0)	1-4	0	100	0	14.8(13.7)	2-44
RS	11	25.2(1.4)	23-27	2.2(0.6)	1-3	27	73	0	15.5(7.5)	2-24
Final										
IT	10	15.2(3.9)	8-18	1.7(0.5)	1-2	80	0	20	17.4(14.1)	1-47
LT	31	19.3(4.5)	10-40 ^b	3.2(1.0)	1-6	13	84	3	22.2(13.0)	2-41
RO	15	21.7(2.3)	18-24	2.7(0.8)	1-4	0	100	0	17.1(14.5)	3-45
RS	6	25.7(1.0)	24-27	2.2(0.4)	2-3	17	83	0	19.7(3.4)	14-22
Both^c										
IT	9	15.1(4.1)	8-18	1.7(0.5)	1-2	78	0	22	18.1(14.8)	1-47
LT	5	19.8(0.4)	19-20	3.4(0.5)	3-4	0	80	20	19.8(15.1)	5-40
RO	15	21.7(2.3)	18-24	2.7(0.8)	1-4	0	100	0	17.1(14.5)	3-45
RS	6	25.7(1.0)	24-27	2.2(0.4)	2-3	17	83	0	19.7(3.4)	14-22

Notes. ^aOnly one case with more than 29 children; ^bOnly one case with more than 27 children. ^cThe characteristics shown in "Both" refer to those indicated by the participants in the final questionnaire. IT=Italy; LT=Lithuania; RO=Romania; RS=Serbia; M=Mean; SD=Standard Deviation; Min=Minimum value; Max=Maximum value; <3=Less than three years old; ≥3=Three or more years old.

Regarding the 35 teachers who participated in both the first and final questionnaires (cf. Table 1), all indicated feminine gender. They were working with eight to 27 children, and with 1 to 4 adults (counting with themselves). In Italy, most teachers were working with children up to three years old; in Lithuania and Serbia, most were working with children three or more years old; and in Romania, all were working with children of this second age group. Their years of experience ranged from half a year to 47 years.

Concerning the parents in the four countries, 169 completed the first and 172 the final questionnaire. Both questionnaires were completed by 44 parents (who were from the participating ECEC service in Italy, in Romania and in Serbia, and the two in Lithuania). Table 2 shows the percentage of parents by: age group of their children attending the ECEC service, and group from which they received the invitation to participate (considering the youngest if they had more than one

¹⁴There is the possibility that more teachers and parents completed both the first and the final questionnaire but could not be identified based on the questions used to form a unique code (the initials of two names and part of a date). For instance, in the case of two given names, the participants could have chosen different initials at different time points.

child in the same group); whether it was their child’s first year in an ECEC service; whether it was the first year the parents met the teacher; the highest education level completed; and work situation¹⁵.

Table 2. Characteristics of the parents participating in the first, final and both questionnaires

Country	N	Children’s age (%)		1st year ECEC (%)		1st year meeting teacher(%)		Education level (%)			Work situation (%)				
		<3	≥3	Yes	No	Yes	No	≤Secondary	Tertiary	NA	Student	Not employed	Employed	Other	NA
First															
IT	28	100	0	43	57	46	54	25	71	4	0	7	86	11	0
LT	11	0	100	0	100	18	82	18	73	9	9	9	73	18	0
RO	69	3	97	13	87	20	80	16	83	1	1	6	77	13	3
RS	61	15	85	16	84	28	72	53	48	0	0	5	95	0	0
Final															
IT	37	92	8	49	51	54	46	22	60	19	3	14	70	3	11
LT	31	10	90	26	74	26	74	32	52	16	7	0	90	3	7
RO	63	0	100	25	75	40	60	13	87	0	0	2	83	14	2
RS	41	0	100	7	93	15	85	44	56	0	0	10	81	7	5
Both^a															
IT	10	80	20	40	60	50	50	20	70	10	0	10	80	0	10
LT	4	0	100	0	100	25	75	0	100	0	0	0	75	0	25
RO	7	0	100	29	71	29	71	29	71	0	0	0	100	0	0
RS	23	0	100	9	91	13	87	48	52	0	0	9	87	4	4

Notes. ^aThe characteristics shown in “Both” refer to those indicated by the participants in the final questionnaire. IT=Italy; LT=Lithuania; RO=Romania; RS=Serbia; <3=Less than three years old; ≥3=Three or more years old; ≤Secondary=Secondary or lower; NA=Rather not to say; Not employed=Unemployed, retired, homemaker; Employed=in paid employment in full or part-time; Other (not specified).

Regarding the 44 parents who completed both the first and final questionnaires (cf. Table 2), 43 were mothers or grandmothers and one was a father. In Italy, most had children up to three years old; in Lithuania, Romania and Serbia, all had children who were three years old or older. In all countries, most parents indicated that their children were not in their first year in an ECEC service. In Italy, half of the parents indicated it was the first academic year the child was with that teacher, and the other half that it was not; in the other three countries, most parents already knew the teacher from previous years. In all the four countries, the majority had completed the tertiary level of education and were in paid employment.

3.1.3. Interviews

For the interviews, the aim was to recruit in each country between one and three persons from each of the following groups: teachers, parents and stakeholders. The Pathways team in each country invited teachers and asked for their support in inviting parents and stakeholders (following prioritising criteria to invite and select participants based on the number of compendium activities they participated in or knew about and order of interest manifestation).

Participants included: three teachers, three parents, and two stakeholders in Italy; one parent, one teacher and one stakeholder in Lithuania; two parents, two teachers and one stakeholder in Romania; and one parent in Serbia. Considering available data on the years of experience in the

¹⁵ When participants selected more than one work situation, each selection was counted within the respective category. For this reason, the sum of percentages exceeded 100%.

professional role, teachers had, on average, 20 years ($n=6$; $M=20.3$; $SD=10.4$; ranging from 9 to 40), and stakeholders had 13 years ($n=4$; $M=13.3$; $SD=7.8$; ranging from 2 to 20); all parents attended the current ECEC services at approximately two years. Participating stakeholders included a pedagogical coordinator, a speech therapist, a functional psychomotricist and a school counsellor.

3.2. Instruments

The Pathways team developed and translated the instruments into each country's language.

3.2.1. Questionnaire on each activity

Both teachers and parents were asked about the following topics (see Appendix A, Table A1 for the specific questions):

- Satisfaction with the activity (from 1=*not at all* to 5=*very much*)
 - *Teachers*. Satisfaction with the clarity of the information/materials on the activity, the accessibility to the resources, and the activity's duration.
 - *Parents*. Satisfaction with the overall activity and perception about whether it supported children's learning or wellbeing.
- Quality of the activity in terms of positive and challenging aspects (open-ended questions).

Teachers were asked about:

- Estimated number of participating children, parents/caregivers, ECEC professionals and stakeholders/other professionals in the activity (open-ended question).
- Responsivity of children and parents/caregivers to the activity (from 1=*low* to 5=*high*).
- Adaptations to the activity compared to the description in the compendium (open-ended question).
- Changes observed in children, parents, professionals, or the ECEC service the activity might contribute to.

3.2.2. First and final questionnaires

The first and final questionnaires included questions aimed at describing the participants. Teachers were asked about the name of the ECEC service, the years of professional experience, the number of children and adults in their classroom/group, and the age group of the children they worked with. Parents were asked about the name of the ECEC service, their child's age group and whether it was their child's first year in an ECEC service, whether it was the first year the parents met their child's teacher, their highest education level completed and work situation.

The same set of questions was included in both the first and final questionnaire to assess whether there were differences between the two assessment time points regarding teachers' and parents' perceived capability to promote teacher-parent cooperation, and inclusive, digital and green environments (see Appendix A, Table A2 for the questions). The questions addressing teacher-parent cooperation focused on communication between teachers and parents, parents' engagement in children's learning, and the development or implementation of activities in the ECEC service. The questions addressing inclusive, digital and green environments focused on the work with children and the work between teachers and parents to promote these environments. The questions were answered using a 5-point Likert scale (from 1=*not at all* to 5=*very much*).

The final questionnaire also included questions aimed at studying the implementation of the compendium activities in general (i.e., not about a particular activity; see Appendix A, Table A3 for the questions):

- Teachers and parents were asked about:
 - Satisfaction with the activities (from 1=*not at all* to 5=*very much*); and perceived benefits regarding how much the activities contributed to increasing teachers-parents cooperation,

inclusiveness of children, children's interest in exploring/learning about digital and green environments, and the engagement of stakeholders¹⁶ in the ECEC service (from 1=*not at all* to 5=*very much*). Of note, while teachers were asked about the compendium activities, parents were asked about activities in the ECEC service during the academic year, not specifically about compendium activities, as they could not have information to allow them to identify them.

- Perceived changes in the ECEC service or group during the academic year to improve teachers-parents cooperation and inclusive, green and digital environments (open-ended questions).
- Teachers were asked about the quality of the compendium activities in general in terms of positive and challenging aspects (open-ended questions).
- Parents were also asked about their preference regarding communication with the teacher (multiple choice question: in presence, online or both).

3.2.3. Interviews

The Pathways team created the interview protocol. It included initial questions on years of professional experience (for teachers and stakeholders) and time attending the ECEC service (for parents) and questions on perceived changes aiming to promote teacher-parent cooperation and inclusive, digital and green environments in the ECEC service or group; responsiveness to the compendium activities; related perceived benefits; and related positive and challenging aspects (see Appendix A, Table A4 for the specific questions).

3.3. Data collection

3.3.1. Questionnaire on each activity

The questionnaire was available on Google Forms¹⁷ and its completion was estimated to take up to 15 minutes. When recruiting participants, the Pathways team shared the respective links for teachers and parents (the same link allowed answering about different activities). The responses to the questionnaire on each activity were collected after each compendium activity (up to one month after its completion), between the first and final questionnaires, from January to June 2024.

3.3.2. First and final questionnaires

The questionnaires were available on Google Forms. Their completion was estimated to take up to 15 minutes. The sharing of the links to access the questionnaires was conducted at the time of the invitation of participants. Most responses to the first questionnaire were collected between January and February 2024 and some in March. The responses to the final questionnaire were collected between June and July 2024.

3.3.3. Interviews

The interviews were conducted by an element of the Pathways team in each country during June-July 2024, in person and online.

¹⁶Stakeholders were specified in the question as external professionals or organisations. This question on the stakeholders' involvement was only aimed at teachers.

¹⁷ The option to have any of the questionnaires - on each activity, first and final - in paper format in envelopes was also available on request by the participants (as informed in the consent forms). But, no participants used this option.

3.4. Data analysis

3.4.1. Questionnaire on each activity

Descriptive statistics were obtained concerning the number of participants in the activity, and satisfaction and responsivity regarding the activity. The responses to the open-ended questions were translated into English and analysed through content analysis as follows.

- *Adaptations in the activity.* A preliminary set of categories based on the compendium descriptions was developed as a starting point to analyse the adaptations made to each activity. Then, inductively, based on the participant's responses, the preliminary categories were adapted. The final categories were:
 - Persons involved (children, parents, practitioners)
 - Space/materials
 - Time (duration)
 - Tasks proposed to the persons involved
 - None - when there were no major adaptations or changes compared to the compendium description.
- *Changes the activity might contribute to.* The data were inductively analysed, with categories being created based on the participants' responses. The created categories were:
 - Children's outcomes - Socioemotional wellbeing, knowledge or skills
 - Parents' outcomes - Socioemotional wellbeing, understanding of child development
 - Professionals' outcomes - knowledge or skills
 - Relationship family-school
 - Space/materials of the service
 - No changes
- *Quality of the activity.* A preliminary set of categories was developed as a starting point based on instruments used to assess quality in ECEC (ITERS-R and ECERS-R; Harms et al., 2005, 2006; PERS; Russo et al., 2022). After reading teachers' and parents' responses on positive and challenging aspects, the preliminary categories were adapted and new categories were added based on the responses. The following final categories were created:
 - Activities' characteristics – Topic/tasks, space/materials, time, the composition of the group of persons included (e.g., only parents, or parents and children) and appropriateness to children's/parents' characteristics
 - Responsivity to the activity - involvement, motivation to participate, interest, curiosity and enjoyment from children, parents and professionals, or in general
 - Interactions - collaboration/teamwork, socialisation, communication, and relationships among children, parents and professionals, or in general
 - Outcomes - learnings by children, parents and professionals or in general; and improved parents-children and family-school relationships
 - Everything/Various
 - None/Do not know

Responses were analysed within each specific question¹⁸. Participants whose responses fit into a category were assigned a 1 for that category; otherwise, a 0. Participants could be assigned a 1 for more than one category when their responses fit into different ones. The results on each activity - sections 4.1.3 and 4.1.4 and Appendix B - present only the categories for which at least one participant was assigned with 1.

¹⁸ However, when positive aspects were mentioned in the challenges question, they were analysed within the positive aspects question, and vice-versa.

3.4.2. First and final questionnaires

Regarding the questions on the activities in general, the analysis included all teachers and parents completing the final questionnaire. Concerning satisfaction, perceived benefits and parents' preference regarding communication means, the frequency of participants within each country selecting each response option was calculated (sections 4.2.1 and 4.2.4).

The responses to the open questions were translated into English and analysed through content analysis as follows:

- *Changes in the ECEC service or group during the academic year.* Categories were inductively generated based on the teachers' and parents' responses. The next categories were created:
 - Activities/approaches with children, parents/families, or professionals
 - Space/materials used
 - Training for professionals (only identified in teachers' responses)
 - Responsivity and outcomes related to the activities proposed
 - No changes/do not know
 - Other – responses that indicate agreement without details, changes not being needed or desired changes (which suggest that the question might have not always been understood as perceived changes).

Responses were analysed within each specific question on cooperation, inclusiveness, and digital and green environments.

- *Quality of the activities in general (positive and challenging aspects).* Analysis as described previously in 3.4.1, plus a newly identified category: Training and networking within the Pathways project. This question was only asked to teachers.

Participants whose responses fit into a category were assigned a 1 for that category; otherwise, a 0. Participants could be assigned a 1 for more than one category. The Results sections 4.2.2 and 4.2.3 describe the categories created with examples of responses.

The Wilcoxon Signed Ranks Test was used to analyse whether there were differences in teachers' and parents' perceived capability between the first and final questionnaires, including only the participants who completed both (section 4.2.5).

3.4.3. Interviews

Qualitative data were analysed through content analysis using a deductive approach. The topics asked in the interview protocol were used as predefined categories to analyse the participants' views. These predefined categories were perceived changes aiming to promote teacher-parent cooperation and inclusive, digital and green environments in the ECEC service or group, responsivity to the compendium activities, related perceived benefits, and related positive and challenging aspects (Results section 4.3).

3.5. Ethical considerations

This study was submitted for consultation to the Research Ethics and Deontology Committee from the Faculty of Psychology and Education Sciences of the University of Coimbra (case of Portugal) within the scope of its competences, having obtained a favourable opinion (reference CEDI/FPCEUC:82/R_10).

Consent forms were presented to participants before data collection, providing information on the study and indicating that participation was voluntary and that they were free to decline or stop taking part at any time without any consequences. For the questionnaires, a consent form was presented when accessing the online links, where participants were required to check a box indicating they agreed to participate. No personal names or contacts were requested in the

questionnaires; only the initials of parents' first names and the day of the month corresponding to the participants' birthday were asked to create a code for each participant to link the data between the first and final questionnaires. All questionnaires could be completed at the participants' convenience. For the interviews, participants were required to complete a written informed consent form indicating if they agreed to participate and have the interview audio-recorded (if they wished to participate without being audio-recorded, the interviewer would take written notes).

The informed consent forms and the questionnaires were written in the countries' language. The collected data were treated confidentially and anonymised.

4. RESULTS

4.1. Questionnaire on each activity: Responsivity, satisfaction, changes and quality

A summary of results based on the information collected about each of the 25 implemented activities is presented next. Specific results per activity are described in Appendix B.

4.1.1. Responsivity towards the activities

- Among the seven implemented activities with children under three years old, five were rated by most participating teachers as having high responsivity from the children of this age (rated 4 or 5); two other activities were rated as having medium responsivity (a score of 3).
- All 23 activities implemented with children who are three years old or older were rated by most participating teachers as having high responsivity from the children of this age.
- Among the 24 activities with parents/caregivers, 21 were rated by most participating teachers as having high responsivity from caregivers. The teachers estimated that, on average, around eight mothers or grandmothers and around four fathers or grandfathers participated in each activity within the ECEC service, varying across activities¹⁹.

4.1.2. Satisfaction towards the activities

- Among 23 activities, 22 were rated by most participating teachers as satisfactory regarding the clarity of the materials (scores of 4 or 5)²⁰.
- Among all the 25 activities, 16 were rated by most participating teachers as satisfactory regarding the accessibility of the resources needed.
- All 25 activities were rated by most participating teachers as having a satisfactory duration.
- All 22 activities addressed by the caregivers in their questionnaires were rated as satisfactory and as contributing to children's learning/wellbeing by most participating caregivers.

4.1.3. Changes to which the activities contributed

As described in the Data analysis section, teachers' views about changes to which the activities contributed appeared to fit the following categories, presented here with examples of responses:

- *Children's outcomes.* Promotion of children's socioemotional wellbeing, knowledge or skills.
The well-being of the children, the satisfaction when they saw that what they planted grew, and enjoyed the new space, which they themselves called "home" (Teacher, Serbia).
Greater empathy (Teacher, Lithuania).

¹⁹Number of mothers/grandmother per activity: *Mean*=8.3; *SD*=8.1; Minimum=0; Maximum=40. Number fathers/grandfathers per activity: *Mean*=3.9; *SD*=5.4; Minimum=0; Maximum: 25.

²⁰ The other activity received a medium score by all the participating teacher. Teachers could skip this question if they had developed the materials.

- *Parents' outcomes.* Promotion of parents' socioemotional wellbeing and understanding of child development (e.g., by observing the child in the ECEC environment).
 - Parents are aware of the importance of reading at an early age* (Teacher, Romania).
 - Get parents to know each other better* (Teacher, Italy).
- *Professionals' outcomes.* Promotion of professionals' knowledge or skills.
 - Teachers can improve their professional skills and knowledge by implementing various activities and adapting them to the individual needs of children* (Teacher, Lithuania).
- *Relationship family-school.* Promotion of a positive relationship between services/practitioners and parents/families.
 - Greater inclusion of families* (Teacher, Italy).
 - Parents' participation through direct involvement in the reading activities organised in kindergarten contributed to strengthening the bonds between kindergarten and family* (Teacher, Romania).
- *Changes in the spaces or materials of the service.*
 - Forming a new spatial entity on the terrace of the kindergarten* (Teacher, Serbia).
- *No changes.* Based on responses in this category, the question might have been understood as being about suggestions for changes.
 - No changes. The activities have been well thought out and structured* (Teacher, Italy).

4.1.4. Quality of the activities

Positive and challenging aspects of the activities appeared to fit into the following categories, presented here with examples of responses.

Positive aspects:

- *Activities' characteristics.* The organisation, relevance or novelty of the topic/tasks, space/materials, and appropriateness of the activity to children's/parents' characteristics.
 - Watching the polar bear live on the explore.org app is an amazing experience! You can follow the polar bear in its natural habitat, see how it moves, how it interacts with its environment and learn more about its behavior.* (Teacher, Romania).
 - Create "objects" to enrich the school, furthermore* (Parent, Italy).
- *Responsivity to the activity.* Positive response or interest from children, parents and/or professionals.
 - The most positive aspects are the amount of positive energy that was felt in the process, the willingness to participate and the openness of the participants, the satisfaction of the children that was expressed* (Teacher, Serbia).
 - The children were very interested* (Teacher, Lithuania).
 - Being able to participate and see with your own eyes the daily life of our children* (Parent, Italy).
- *Interactions.* Positive interactions among children, parents and/or professionals, or general climate during the activity.
 - The collaboration between parents and children* (Teacher, Romania).
 - Children and parents socialising together* (Parent, Serbia).

The way in which the teaching staff got involved to make the activity pleasant and meaningful for the children (Parent, Romania).

- **Outcomes.** Learnings by children, parents and/or professionals; and improved relationships

Expansion of their [children] knowledge and skills (Teacher, Serbia).

The relationships that these events have contributed to creating, the sharing of common spaces, the fun, the establishment of an educating community (Teacher, Italy).

Many parents of the group got together, and this was the beginning of a friendship. We made friends (Parent, Lithuania).

- **Everything/various.** Some participants answered, for instance, “everything” or “all” (without further specification).

Challenging aspects:

- **Activities’ characteristics.** Challenges with some tasks (e.g., thinking about what to create), space and materials (e.g., having the resources needed), schedule or lack of time, the composition of the group of participants (e.g., activities only with parents could also include children) and appropriateness to children’s characteristics (e.g., finding suitable vocabulary).

Limited time can be a challenge, especially when designing and implementing complex activities (Teacher, Lithuania).

Organisation of the roles - facilitated by the availability of the parents who got involved. This is also important for the next workshops (Teacher, Italy).

To find ideas for using the materials made available (Parent, Romania).

- **Responsivity.** Challenges with keeping children’s attention on the activity, in involving parents (e.g., lack of time to participate; challenges with having an active role in conducting the activity), or other services.

It is difficult to agree on a time that suits everyone (Parent, Lithuania).

One difficulty is involving parents in these activities where they find themselves to be the protagonists, but thanks to the enthusiasm of the educators, it is easy to overcome it (Parent, Italy).

Keeping the child focused on the given topic (Parent, Serbia)

- **Interactions.** Challenges included children's response to having parents present (e.g., when parents leave or not all children have their parents/caregivers attending), group organisation during the activity, and interactions among children from different education levels.

To motivate the children of the daycare group to cooperate with preschool children and participate in joint activities (Teacher, Serbia).

The children being small, they associate the arrival of their parents with going home (Parent, Romania).

- **None/Do not know.** Some teachers’ and parents’ responses reported no challenges or difficulties.

4.2. First and final questionnaires

4.2.1. Satisfaction and perceived benefits regarding the activities in general

Satisfaction with the implemented activities and related perceived benefits were assessed through a 5-point Likert scale, from not at all to very much (see Appendix C, Table C1 for the percentage of

teachers and parents selecting each score within each country). The results indicated that most teachers and parents in the different countries were satisfied with the activities and perceived them as contributing to teacher-parent cooperation, inclusiveness, and children's interest in exploring digital and green environments (at least to some extent, considering the scores of 4 and 5). An exception was found in Italy regarding teachers' perception of the activities contributing to inclusiveness (40% answered 3 and 40% answered 4) and digital environments (50% replied 3, 20% replied 2 and 20% replied 4).

Regarding stakeholder engagement (question only answered by teachers), most teachers in Lithuania and Romania agreed that the activities contributed to it (scores of 4 and 5); in Italy, 40% answered 3, and 30% answered 4; and in Serbia, most (67%) answered 3. Concerning this last point, it is worth noting that the compendium activities could not involve stakeholders.

4.2.2. Changes in the ECEC service or group during the academic year

Details on the teachers' and parents' responses within the categories are provided next, together with examples of responses (except for the categories "other" and "no changes").

a) Teacher-parent cooperation

a.1) *Activities and approaches.* Based on the teachers' responses, the implemented activities or approaches to promote cooperation could be aimed at both children and parents/families (e.g., parents reading to the children) and particularly at parents (e.g., workshops with professionals other than the teacher).

Based on parents' responses, identified aspects included increased communication/information sharing with the teacher (e.g., about the child or activities) and parents' involvement in activities with children or aimed at them.

Providing parents with specific courses with specialists in the educational field (Teacher, Italy).

The workshops with educators and psychologists that were held are an excellent activity for us parents and mean a lot to us (Parent, Serbia).

a.2) *Space and materials.* Considering teachers' responses, digital platforms for communicating or sharing activities and informative brochures were materials used with parents; creating a space for parents in the setting was also an identified change. Parents also referred to using digital materials (e.g., to communicate with the teacher), natural materials with the children and outdoor spaces, and changes in the service space (e.g., carried out with children and parents).

Introducing new digital tools for communication with parents (padlet, mentimeter, video editor...) (Teacher, Serbia).

Together with the teacher and other parents, we set up the outdoor space of the kindergarten to carry out more outdoor activities (Parent, Romania).

a.3) *Training.* Training on approaching parents was an identified change in teachers' responses.

Training was organized for teachers on effective communication and the development of empathy (Teacher, Lithuania).

a.4) *Responsivity and outcomes.* Identified outcomes in teachers' responses related to higher teacher confidence in communicating with parents and involvement of parents in activities (including by providing suggestions). Based on parents' views, identified outcomes included increased parent-educator and child-parent cooperation.

I feel more confident in communicating with the parents (Teacher, Romania).

Communication with the teacher has become warmer because we create spaces together (Parent, Lithuania).

b) Inclusiveness

b.1) *Activities and approaches*. According to teachers, the identified activities/approaches could involve children (e.g., games to promote socialisation and respect for diversity) and parents (e.g., seminars, themed evenings and joint activities). Parents also mentioned activities/approaches with children (e.g., to promote inclusion by encouraging children's involvement and cooperation) and with parents/families referred (e.g., activities on diversity with children; training for parents on additional needs with specialists).

Many moments of sharing common spaces and collaboration between children of all groups to teach respect for diversity (Teacher, Italy).

Participation in groups, workshops and involvement of parents in projects (Parent, Serbia).

b.2) *Space and materials*. Teachers identified the use of materials reflecting diversity and inclusive play spaces. Aspects identified by parents encompassed education in “non-traditional spaces”, including using a sensory room.

We have introduced educational materials that reflect the cultural, ethnic and social diversity of the children in the group (Teacher, Romania).

I am happy about the sensory room (Parent, Lithuania).

b.3) *Training*. Teachers referred to training for professionals (e.g., pedagogues).

Training for pedagogues and projects together with parents are carried out (Teacher, Lithuania).

b.4) *Responsivity and outcomes*. Identified aspects in teachers' responses related to children reacting positively to changes and showing a more positive approach toward diversity. Successful inclusion, better socialisation, and cooperation between children were identified outcomes in parents' responses.

Thanks to the participation in the activities, they [children] became more empathetic and more tolerant towards children of other ethnicities or with additional needs (Teacher, Romania).

Better socialisation with those around (Parent, Romania).

c) Digital environments

c.1) *Activities and approaches*. Teachers' responses indicated activities with children to promote digital literacy. Both teachers and parents mentioned the use of digital tools in activities with children (e.g., interactive boards, educational games, videos) and to support teacher-parent communication. Activities identified in parents' responses also included learning about digital tools for educational purposes (e.g., using them at home).

Promoting the importance of digital literacy and the meaningful use of digital platforms (Teacher, Serbia).

We learned to use digitized tools for educational purposes (Parent, Romania).

c.2) *Space and materials*. Teachers and parents mentioned materials such as interactive boards, robots, online platforms and a sensory laboratory.

Use of computers and smartphones to document nursery activities (Teacher, Italy).

Using tablets for photography, and other various applications. Use of smart screens (Parent, Lithuania).

c.3) *Training*. Teachers referred to courses or training for professionals on digital tools.

Digital Environment Training (Teacher, Italy).

c.4) *Responsivity and outcomes*. Identified aspects in teachers' responses included parents, children and educators being receptive to digital tools and their use at home. Better online collaboration with the educator was acknowledged among parents' responses.

Parents, children and educators are open to new digital platforms and online educational games (Teacher, Romania).

Better collaboration with the educator online (Parent, Romania).

d) Green environments (no responses related to training were identified)

d.1) *Activities and approaches.* Both teachers and parents referred to activities focusing on learning about and protecting the environment, such as outdoor activities, sorting waste and recycling, and planting.

Participation in ecological projects, exhibitions and seminars (Teacher, Lithuania).

Dealing with topics related to nature and its preservation (Parent, Serbia).

d.2) *Space and materials.* Both teachers and parents referred to using outdoor space, recycled, natural and digital materials, and waste sorting containers in the ECEC service.

Setting up a green space, a relaxation space for children (Teacher, Romania).

Constant maintenance of the green area (Parent, Italy).

d.3) *Responsivity and outcomes.* Identified outcomes in teachers' responses included increased children's and parents' interest in green activities and cooperation with the local community. Based on parents' views, children enjoyed outdoor activities, and there were positive changes toward environmental protection (e.g., recycling was also done at home).

Enrichment of the cooperation with the local community (Teacher, Serbia).

Children love to play outside (Parent, Serbia).

4.2.3. Quality of the activities in general

Details on the teachers' responses within the categories are provided next, together with examples of responses.

Positive aspects:

- *Activities' characteristics.* Aspects identified as positive included the activities' topic/goal and novelty (e.g., a new approach to sustainability).

Discovering new content and digital tools (Teacher, Serbia).

New and engaging proposals (Teacher, Italy).

- *Responsivity to the activities.* Teachers seemed to value children and parents showing interest and involvement in the proposed activities.

The active and proactive participation of the parents in the project activities. The children's rediscovery of green environments and their happiness and desire to be outdoors and in the garden (Teacher, Italy).

Preschoolers and parents showed interest in the proposed activities, putting into practice the information assimilated within the activities (Teacher, Romania).

- *Interactions.* Teachers also seemed to value positive interactions and collaboration between children, parents and professionals.

I collaborated nicely with all the parents and my colleagues (Teacher, Romania).

Cooperation and communication with parents (Teacher, Lithuania).

- *Outcomes.* Positive outcomes identified included learnings by children (e.g., developing empathy towards others), parents (e.g., developing awareness of nature conservation in both children and parents) and professionals (e.g., technical skills); as well as strengthening relationships with parents and the community (e.g., increasing parents' interest in the ECEC service).

The programme strengthens relationships with parents and the community by involving them in the educational process and decision-making (Teacher, Lithuania).

Developing children's awareness of nature and its importance for life, fostering empathy towards others, a sense of belonging, and children's curiosity (Teacher, Serbia).

- *Training and networking.* Identified positive aspects included the training, networking and sharing of learning opportunities within the Pathways project.

Sharing new ways with colleagues in partner countries (Teacher, Romania).

Training and new acquaintances (Teacher, Lithuania).

- *Various.* Two teachers responded *various/a lot of them* (without further specification).

Challenging aspects:

- *Activities' characteristics.* The most challenging aspects identified included dedicating time to the proposed activities while considering the children's needs and routines; lack of material resources or skills needed for the activities, particularly regarding digital environments, and organisation involving the whole group of children and parents.

Difficulty in using digital tools (Teacher, Italy).

Time planning (Teacher, Lithuania).

- *Responsivity to the activities.* Some teachers referred to the parents' lack of availability, information or motivation (e.g., scepticism about digital technology); and lack of involvement of other agencies or the community.

The major difficulty is related to the parents' time that is allocated for specific activities (Teacher, Romania).

Parents need to be more motivated. They are sceptical about using digital technology (Teacher, Serbia).

- *Interactions.* Teachers mentioned the discussion with team members and challenges regarding communication in English within the project.

Communication in English, but I will consider improving it (Teacher, Romania).

- *None.* Some teachers reported that there were no difficulties or challenges.

4.2.4. Parents' preference regarding means of communication

The percentage of parents selecting each option regarding their preferred means of communication with teachers was the following:

- In person - 95% in Italy, 23% in Lithuania, 10% in Romania, and 51% in Serbia-
- Online - 5% in Italy and 2% in Romania
- Both in person and online - 77% in Lithuania, 89% in Romania and 49% in Serbia.

4.2.5. Perceived capability

The differences in teachers' and parents' perceived capability to promote teacher-parent cooperation and inclusive, digital, and green environments were analysed using the Wilcoxon Signed Ranks Test. Table 3 shows descriptive and test statistics for teachers, considering those who completed both the first and final questionnaires (for descriptive statistics considering all the teachers participating in each questionnaire, see Appendix C, Table C2).

Table 3. Analysis of differences in teachers' perceived capability between the first and final questionnaires (from 1=not at all to 5=very much) using the Wilcoxon Signed Ranks Test

Topic	Country	n	First questionnaire					Final questionnaire					Z	P
			M	SD	Med	Min	Max	M	SD	Med	Min	Max		
Cooperation														
Communication	IT	9	4.2	0.8	4.0	3	5	4.2	0.8	4.0	3	5	0.00	1.000
	LT	5	4.2	0.4	4.0	4	5	4.4	0.5	4.0	4	5	-0.58	.564
	RO	15	4.7	0.6	5.0	3	5	4.9	0.3	5.0	4	5	-1.63	.102
	RS	6	4.8	0.4	5.0	4	5	4.7	0.5	5.0	4	5	-0.58	.564
Parents' engagement in children's learning	IT	9	3.6	0.5	4.0	3	4	4.0	0.7	4.0	3	5	-2.00	.046
	LT	5	3.8	0.8	4.0	3	5	4.0	0.0	4.0	4	4	-0.58	.564
	RO	15	4.6	0.6	5.0	3	5	4.9	0.3	5.0	4	5	-2.24	.025
	RS	6	4.3	0.8	4.5	3	5	4.3	0.8	4.5	3	5	0.00	1.000
Development of activities	IT	9	3.6	0.5	4.0	3	4	3.8	0.4	4.0	3	4	-1.41	.157
	LT	5	3.2	0.8	3.0	2	4	4.0	0.0	4.0	4	4	-1.63	.102
	RO	15	4.5	0.8	5.0	2	5	4.8	0.4	5.0	4	5	-1.27	.206
	RS	6	4.2	1.0	4.5	3	5	4.0	0.9	4.0	3	5	-0.58	.564
Inclusiveness														
With children	IT	9	3.4	0.5	3.0	3	4	3.9	0.9	4.0	2	5	-1.41	.157
	LT	5	3.8	1.1	4.0	2	5	3.8	0.4	4.0	3	4	0.00	1.000
	RO	15	4.3	0.7	4.0	3	5	4.9	0.4	5.0	4	5	-2.46	.014
	RS	6	4.3	1.2	5.0	2	5	4.2	0.8	4.0	3	5	-0.38	.705
Teacher-parent	IT	9	3.6	0.7	3.0	3	5	3.9	1.1	4.0	2	5	-0.91	.366
	LT	5	3.4	0.9	4.0	2	4	3.8	0.4	4.0	3	4	-0.82	.414
	RO	15	4.3	0.7	4.0	3	5	4.7	0.5	5.0	4	5	-1.67	.096
	RS	6	4.2	1.2	4.5	2	5	4.3	0.5	4.0	4	5	-0.45	.655
Digital														
With children	IT	9	2.8	1.0	3.0	1	4	3.2	0.7	3.0	2	4	-2.00	.046
	LT	5	4.6	0.5	5.0	4	5	4.2	0.8	4.0	3	5	-1.41	.157
	RO	15	4.4	0.6	4.0	3	5	4.7	0.5	5.0	4	5	-2.24	.025
	RS	6	4.0	0.9	4.0	3	5	3.5	1.2	3.0	2	5	-1.73	.083
Teacher-parent	IT	9	2.9	0.9	3.0	1	4	3.3	0.7	3.0	2	4	-1.63	.102
	LT	5	4.4	0.5	4.0	4	5	4.2	0.8	4.0	3	5	-1.00	.317
	RO	15	4.2	0.8	4.0	3	5	4.7	0.5	5.0	4	5	-2.53	.011
	RS	6	4.0	0.9	4.0	3	5	3.7	1.2	3.5	2	5	-1.00	.317
Green														
With children	IT	9	3.8	1.1	4.0	2	5	4.3	0.7	4.0	3	5	-1.67	.096
	LT	5	3.4	0.5	3.0	3	4	4.0	1.2	4.0	2	5	-1.34	.180
	RO	15	4.7	0.6	5.0	3	5	5.0	0.0	5.0	5	5	-1.89	.059
	RS	6	4.3	1.0	5.0	3	5	4.3	0.8	4.5	3	5	0.00	1.000
Teacher-parent	IT	9	3.6	0.9	4.0	2	5	4.1	0.8	4.0	3	5	-1.89	.059
	LT	5	3.4	0.9	4.0	2	4	3.6	0.9	4.0	2	4	-1.00	.317
	RO	15	4.7	0.6	5.0	3	5	5.0	0.0	5.0	5	5	-1.89	.059
	RS	6	4.2	1.0	4.5	3	5	4.2	0.8	4.0	3	5	0.00	1.000

Notes. IT=Italy; LT=Lithuania; RO=Romania; RS=Serbia; M=Mean; SD=Standard deviation; Med=Median; Min=Minimum value; Max=Maximum value.

The results indicated a significant ($p < .05$) or marginally significant ($p < .10$) increase from the first to the final questionnaire on teachers' perceived capability to promote:

- Parent's engagement in children's learning in Italy ($Z=-2.00$; $p<.046$) and Romania ($Z=-2.24$; $p<.025$)
- Inclusive environments with children and parents in Romania (children: $Z=-2.46$; $p<.014$; parents: $Z=-1.67$; $p<.096$)
- Digital environments with children in Italy ($Z=-2.00$; $p<.046$); and with children and parents in Romania (children: $Z=-2.24$; $p<.025$; parents: $Z=-2.53$; $p<.011$)
- Green environments with children and parents in Italy (children: $Z=-1.67$; $p<.096$; parents: $Z=-1.89$; $p<.059$) and Romania (children; $Z=-1.89$; $p<.059$; parents: $Z=-1.89$; $p<.059$)

Table 4 shows descriptive and test statistics for parents, considering those who completed both the first and final questionnaires (for descriptive statistics considering all parents participating in each questionnaire, see Appendix C, Table C3).

Table 4. Analysis of differences in parents' perceived capability between the first and final questionnaires (from 1=*not at all* to 5=*very much*) using the Wilcoxon Signed Ranks Test

Topic	Country	n	First questionnaire					Final questionnaire					Z	P
			M	SD	Med	Min	Max	M	SD	Med	Min	Max		
Cooperation														
Communication	IT	10	4.9	0.3	5.0	4	5	4.8	0.4	5.0	4	5	-0.58	.564
	LT	4	4.5	0.6	4.5	4	5	5.0	0.0	5.0	5	5	-1.41	.157
	RO	7	5.0	0.0	5.0	5	5	4.9	0.4	5.0	4	5	-1.00	.317
	RS	23	5.0	0.2	5.0	4	5	5.0	0.2	5.0	4	5	0.00	1.000
Parents' engagement in children's learning	IT	10	4.8	0.4	5.0	4	5	4.7	0.5	5.0	4	5	-0.58	.564
	LT	4	4.5	1.0	5.0	3	5	5.0	0.0	5.0	5	5	-1.00	.317
	RO	7	4.7	0.8	5.0	3	5	5.0	0.0	5.0	5	5	-1.00	.317
	RS	23	4.9	0.3	5.0	4	5	4.9	0.3	5.0	4	5	0.00	1.000
Development of activities	IT	10	4.7	0.7	5.0	3	5	4.6	0.5	5.0	4	5	-0.58	.564
	LT	4	4.5	1.0	5.0	3	5	5.0	0.0	5.0	5	5	-1.00	.317
	RO	7	4.6	0.8	5.0	3	5	5.0	0.0	5.0	5	5	-1.34	.180
	RS	23	4.7	0.5	5.0	4	5	4.8	0.4	5.0	4	5	-1.34	.180
Inclusiveness														
With children	IT	10	4.8	0.4	5.0	4	5	4.7	0.5	5.0	4	5	-0.58	.564
	LT	4	4.5	1.0	5.0	3	5	4.8	0.5	5.0	4	5	-0.45	.655
	RO	7	4.4	1.0	5.0	3	5	4.6	0.8	5.0	3	5	-1.00	.317
	RS	23	4.7	0.6	5.0	3	5	4.8	0.4	5.0	4	5	-1.13	.257
Teacher-parent	IT	10	4.8	0.4	5.0	4	5	4.7	0.5	5.0	4	5	-0.58	.564
	LT	4	4.5	1.0	5.0	3	5	4.5	0.6	4.5	4	5	0.00	1.000
	RO	7	4.6	0.8	5.0	3	5	4.7	0.5	5.0	4	5	-1.00	.317
	RS	23	4.7	0.6	5.0	3	5	4.7	0.6	5.0	3	5	-0.25	.803
Digital														
With children	IT	10	4.3	1.2	5.0	2	5	4.0	1.3	4.5	1	5	-1.73	.083
	LT	4	4.5	1.0	5.0	3	5	4.8	0.5	5.0	4	5	-0.45	.655
	RO	7	4.3	1.3	5.0	2	5	4.4	0.8	5.0	3	5	-0.45	.655
	RS	23	4.5	0.7	5.0	3	5	4.8	0.4	5.0	4	5	-2.53	.011
Teacher-parent	IT	10	4.5	0.8	5.0	3	5	3.7	1.6	4.5	1	5	-2.07	.038
	LT	4	4.5	1.0	5.0	3	5	4.8	0.5	5.0	4	5	-0.45	.655
	RO	7	4.6	0.8	5.0	3	5	4.7	0.5	5.0	4	5	-0.45	.655
	RS	23	4.5	0.6	5.0	3	5	4.8	0.4	5.0	4	5	-2.12	.034
Green														
With children	IT	10	4.7	0.7	5.0	3	5	4.6	0.7	5.0	3	5	-0.58	.564
	LT	4	4.5	1.0	5.0	3	5	4.8	0.5	5.0	4	5	-1.00	.317
	RO	7	4.6	0.8	5.0	3	5	4.7	0.5	5.0	4	5	-1.00	.317
	RS	23	4.7	0.5	5.0	4	5	4.8	0.4	5.0	4	5	-1.13	.257
Teacher-parent	IT	10	4.6	0.7	5.0	3	5	4.6	0.5	5.0	4	5	0.00	1.000
	LT	4	4.5	1.0	5.0	3	5	4.5	1.0	5.0	3	5	0.00	1.000
	RO	7	4.6	0.8	5.0	3	5	5.0	0.0	5.0	5	5	-1.34	.180
	RS	23	4.7	0.5	5.0	4	5	4.8	0.4	5.0	4	5	-1.34	.180

Notes. IT=Italy; LT=Lithuania; RO=Romania; RS=Serbia; M=Mean; SD=Standard deviation; Med=Median; Min=Minimum value; Max=Maximum value.

The results indicated a significant ($p < .05$) increase from the first to the final questionnaire on parents' perceived capability to promote digital environments with children and teachers in Serbia (children: $Z = -2.53$; $p < .011$; teachers: $Z = -2.12$; $p < .034$).

Teachers' perceived capability to promote digital environments with children decreased marginally significantly in Serbia ($Z=-1.73$; $p<.083$). Parents' perceived capability to promote digital environments with children and teachers decreased, respectively, marginally significantly ($Z=-1.73$; $p<.083$) and significantly ($Z=-2.07$; $p<.038$) in Italy. However, the results of this analysis of differences should be interpreted within the context of various factors limiting their scope (as discussed in the Limitations section).

4.3. Interviews: Changes in the ECEC service/group, responsivity, benefits and quality

The results are described within each topic of the interview protocol, together with examples of participants' responses.

Changes in the ECEC service/group

Based on teachers' interviews in the participating countries, the promotion of teacher-parent cooperation included meetings, workshops for parents, and involvement of caregivers in activities with children.

We are learning and striving for quality communication and collaboration (Teacher, Lithuania).

Promoting inclusiveness encompassed activities focusing on social-emotional development to foster empathy, using inclusive language and activities/materials reflecting diverse backgrounds. Regarding digital environments, the changes identified included increased use of digital tools in working with children (e.g., online learning platforms) and parents (e.g., to share information), and training aimed at teachers on integrating technology into teaching practices. Concerning green environments, teachers referred to initiatives to promote environmental awareness and sustainability, such as outdoor activities (e.g., gardening), recycling programmes, the use of eco-friendly materials, and lessons on environmental conservation.

These activities of the project became integrated into our daily programme and curriculum and we tried to adapt them to our needs. We tried to make them as interesting as we could for our class (Teacher, Romania).

Interviewed parents seemed to acknowledge the increased proposal of activities involving caregivers/families, both within the ECEC service and at home with their children. Parents also mentioned activities focused on inclusiveness, with topics related to diversity or additional needs; digital environments (e.g., online platforms for sharing activities), which one parent noted as a not-so-usual topic; and green environments (e.g., gardening and recycling, including the use of separate bins in the setting and visits to recycling centres).

We cooperate more and when we have some projects to do at home. (...) The garden project was right there. The children planted something at home, some in the kindergarten, they brought seeds and seedlings, and so they were doing something new (Parent, Serbia).

Changes identified in the stakeholders' interviews included an increase in family participation in the life of the service fostered through the use of green and digital environments.

The inclusiveness of grandparents and grandmothers who made us experience the outdoor environments also through the creation of the vegetable garden. Another factor of participation that fueled the cooperation of parents was the use of digital as a tool for sharing and documentation (Stakeholder, Italy).

Responsivity

Considering teachers' views, most children and parents showed interest in what was offered. Children showed enthusiasm (particularly in hands-on projects like gardening and recycling,

according to one teacher), and parents seemed to value the opportunities to be involved in their children's learning. The interactive nature of Pathways activities was described as helping to increase children's engagement. Teachers described their colleagues as supportive and proactive in adopting or adapting the activities proposed by Pathways. The support of stakeholders, other professionals, and the local community was also acknowledged in some activities (e.g., by providing ideas or resources).

I think that not only did it bring everyone together, but everyone was working for the good of the child. You see the effort. (Teacher, Lithuania)

Based on parents' views, children, parents, and teachers seemed to receive the proposed activities with interest. A positive climate was noted during the activities, with children seeming to have fun and be happy with the presence of their caregivers (e.g., children telling their caregivers how they planted a vegetable). Caregivers were described as enthusiastic about having the opportunity to participate in the life of the service and as supporting children during the activities. A parent acknowledged the increased involvement of parents as much as possible, given the availability, including both fathers and mothers. The teachers and staff from the service were described as actively involved in the activities, communicating and cooperating with families.

Mostly, I think it's not "you have to come", but it's voluntary, and mostly the response was always good from the parents (Parent, Serbia).

Considering the stakeholders' interviews, they perceived great responsiveness from children, families and professionals to the proposed activities. For instance, a stakeholder mentioned parents sharing their experiences of inclusion and interaction with the ECEC service, which they seemed to experience pleasantly and positively. A stakeholder also highlighted that children, parents and teachers are often open or interested in initiatives promoting inclusive environments: children can learn to appreciate and respect diversity and develop social-emotional skills (e.g., through interactive and hands-on experiences focused on collaboration and communication of emotions); and parents need to be informed about the goals, implementation and benefits of inclusion and tolerance activities.

Working with the parents, during the courses I conducted with them, they told me about their experiences of inclusion and interaction with the kindergarten, which they experienced in a pleasant and positive way. The parents were very interested in what was proposed (Stakeholder, Italy).

Perceived benefits and positive aspects

Identified perceived benefits in teachers' responses included greater parents' involvement in the ECEC service and parent-teacher communication/cooperation, fostering a sense of community and shared responsibility for the children's learning.

The relationship between the daycare center and the family has been enriched since, thanks to the initiatives from the Pathways project. Parents have been able to experience the daycare centre more through new ways, such as digital, and, at the same time, we educators have also been able to observe moments of everyday family life (Teacher, Italy).

Teachers seemed to notice greater children's empathy towards their peers, an increased sense of environmental responsibility (e.g., starting to search for natural materials), and digital environments (e.g., development of technological skills).

Children become more understanding with their colleagues, protective of nature, and aware of technology in the educational field (Teacher, Romania).

Teachers also seemed to recognise benefits for themselves, such as learning more about inclusive education, digital literacy, and sustainable practices. The collaborative nature of the activities was

described as fostering teachers' sharing of ideas and best practices. Other identified benefits included a more efficient use of resources (e.g., sustainable practices) and increased community involvement.

The activities provided numerous opportunities for professional growth, including workshops and training sessions on digital literacy, inclusive education, and sustainable practices (Teacher, Romania).

The interviewed parents also seemed to recognise better cooperation between school and family, higher involvement of parents in the service (including through online platforms), and improved relations among families.

Communication between the institution, parents and teachers is strengthened. Through these activities, a bond is established, and parents feel more confident in the institution (Parent, Lithuania).

Parents seemed to perceive a greater involvement of children in the activities at the service and home, self-confidence thanks to the presence of the families in the service, cooperation between children, understanding of the importance of protecting the environment, and learning via digital tools.

The Pathways activities had the greatest impact on the children. They made them aware of the needs/desires of others and their acceptance within the group. They led to learning cooperation and teamwork (Parent, Romania).

Parents also seemed to acknowledge that they learned about their children's interests and new activities to propose at home, developed a greater awareness of the conscious use of digital tools, and rediscovered the importance of protecting nature. Identified aspects valued by parents regarding teachers included ongoing communication, organisation of activities with clear objectives, and attentiveness to the interests of the children.

Thanks to the project, we were also guided by the educators to discover new activities to propose to the child. We collaborated more with the kindergarten by being more active (Parent, Italy).

Based on the stakeholders' views, identified positive aspects encompassed the variety of proposed activities, which could be relevant to involve as many families as possible, and opportunities for children, parents and professionals to share experiences. The perceived benefits included improved cooperation among all and inclusive environments. Particularly for stakeholders, benefits seemed to include personal satisfaction and professional development through enhanced collaboration.

Inclusion activities promote interaction and cooperation among all children, helping them develop social and communication skills (Stakeholder, Romania).

Challenging aspects

Based on teachers' responses, identified challenges included: lack of time and financial resources to implement the activities; difficulties in involving all parents and combining the service time with parents' availability; managing the group "in moments of distraction" (which involved the suggestion of creating small groups); and lack of interest, confidence or space to use digital tools.

Sometimes, the time was too limited for one activity (Teacher, Romania).

Based on the parents' responses, no major difficulties were identified overall, with two parents suggesting extending the project activities or offering similar collaboration opportunities. A parent noted that there might be challenges with involving all parents due to varying availability, using digital tools and adopting the role of a teacher (when referring to a specific activity that included this

role). Additionally, one parent recommended more extensive involvement of community organisations in the future.

For us, the only thing that is a challenge, for example, is that we all get together on time because we all work (Parent, Serbia).

According to stakeholders, no major difficulties were recognised either. However, it was acknowledged that involving all families could be challenging, as well as using some digital tools.

The difficulty was that if you don't know the app, you don't know how to use it (Stakeholder, Lithuania).

5. DISCUSSION

This report described the assessment of the compendium activities developed and implemented within the Pathways project. The ultimate goal was to generate recommendations that can inform future policy and practice aiming to promote cooperation with parents/families and inclusive digital and green environments in ECEC.

Based on the final questionnaire and interviews, the implementation of activities/approaches and the use of materials focusing on cooperation with families (e.g., opportunities for parents to be involved), inclusiveness (e.g., activities and materials to promote respect for diversity), and digital and green environments (e.g., digital, interactive, natural and recycled materials) increased during the academic year. Overall, opportunities for experiences shared by children, parents and professionals were positively highlighted by both teachers and parents.

Information about 25 Pathways compendium activities was collected. Each activity was applied in one of the participating countries - Italy, Romania, Lithuania and Serbia. The assessment detailed in this report focused on satisfaction, responsivity, positive and challenging aspects, and perceived benefits or changes related to the implemented activities.

5.1. What was the level of satisfaction regarding the compendium activities?

Based on the questionnaire on each activity: the majority of teachers rated most activities as satisfactory regarding the clarity of the related information or materials, the accessibility of the resources needed, and their duration; most caregivers rated the activities as satisfactory and contributing to children's learning or wellbeing. Most teachers and parents who completed the final questionnaire in all countries also indicated satisfaction with the activities implemented during the academic year.

However, it is important to highlight that, when analysing the results per activity, among all the 25 implemented, only 16 were rated by most participating teachers as using accessible resources. This result indicated that the materials suggested in the compendium might need to be adapted to the resources available in each context.

5.2. What was the participants' responsivity towards the activities?

According to the questionnaire on each activity, the majority of teachers rated most implemented activities as having high responsivity from children and caregivers. Based on the interviews and questionnaires, most of those involved - children, caregivers, and teachers - seemed interested in the implemented activities. The hands-on and interactive characteristics of the Pathways activities were described as helping to increase children's engagement. Children seemed to have fun and be happy with the presence of their caregivers. The latter seemed to value the opportunities to be involved in the children's learning (including during the activities), and in the life of the service, although the availability to do so could be limited.

The support of other professionals and the local community was also acknowledged regarding some activities (e.g., sessions on inclusiveness-related topics and visits to centres working on green

practices). However, based on the teachers' questionnaires, one identified challenge was establishing collaboration with relevant entities to plan/implement the activities.

5.3. What were the most positive aspects of the activities and related perceived benefits?

Based on the questionnaires and interviews, positive aspects identified about the activities included: i. their characteristics such as the relevance or novelty of the topic, tasks, space and materials; ii. the positive responsiveness from children, parents and professionals (which appeared aligned with the findings in 5.2); iii. the positive interactions and collaboration between children, parents and professionals; iv. outcomes such as learnings by children (e.g., empathy towards others), parents (e.g., awareness of nature conservation), and professionals (e.g., technical skills), and improved relationships between them.

The outcomes recognised when participants were asked about positive aspects seemed aligned with the perceived benefits or changes the activities could contribute to, identified in teachers' responses to the questionnaire on each activity and interviews with teachers, parents, and stakeholders. These perceived benefits/changes included: i. children's socioemotional wellbeing, knowledge or skills (e.g., greater empathy, increased environmental responsibility, and learning via digital tools); ii. parents' socioemotional wellbeing (e.g., positive relationships with other families), learning about their children's interests and development, and learning about the topics addressed and new activities to propose at home; iii. professionals' confidence, knowledge or skills (e.g., by sharing ideas/best practices with colleagues); iv. enhanced family-school relationships and cooperation.

In the final questionnaire, most teachers and parents in all countries agreed that the activities implemented contributed to teacher-parent cooperation. Particularly regarding green environments, all teachers and parents in the four countries also agreed the implemented activities promoted children's interest in this scope. Similarly, children seemed to show interest in nature and recycling both at the school and at home, according to parents' reports (in the questionnaires and interviews).

These findings appear aligned with benefits reported in research regarding family engagement in ECEC: enhanced continuity between home and ECEC learning environments, improved ECEC staff-families relationships and staff-child interactions (e.g., resulting from greater knowledge about the children), and increased children's development and wellbeing (Barnett et al., 2020; OECD, 2023; Voorhis et al., 2013). Additionally, promoting inclusiveness in ECEC can positively impact children's well-being (Aguiar & Pastori, 2019), the use of digital communication for parental involvement can bring positive learning outcomes for children (Alieva, 2021), and environmental education can promote children's environmental literacy and development (Ardoin & Bowers, 2020). Regarding benefits for professionals, sharing learning and practices with peers, as reported, has been recognised as an effective way of developing professionally (Alieva, 2021; Slot & Nata, 2019).

5.4. What were the most challenging aspects of the activities?

Based on the questionnaires and interviews, challenging aspects or difficulties identified about the activities included: i. characteristics such as the time, resources and skills needed for the activities, the organisation and composition of the group of participants (e.g., some activities could work better in small groups), and the appropriateness to children's characteristics (e.g., adapting the vocabulary according to children's age in activities focused on inclusion); ii. activities requiring children to maintain attention for a certain period (which can be linked to the activity's appropriateness to children's characteristics), parents' lack of availability, information or motivation (e.g., scepticism about digital technology or challenges in being protagonists/conducting an activity), and lack of involvement of other agencies or the community; iii. interactions among children (e.g., challenges in cooperation between children of different education levels) and with parents (e.g., children expecting to go home after an activity that occurred earlier in the day, despite the school day still being ongoing; and concerns about children whose caregivers could not be present).

Particularly regarding digital tools, despite the challenges with their use identified by teachers and parents, at least half of the parents in three of the participating countries reported preferring a combination of in-person and online communication with the teachers.

5.5. How did the perceived capability to promote cooperation and inclusive, digital and green environments change after the implementation of compendium activities?

The analysis of differences between the first and final questionnaire indicated, in some of the contexts, an increase in teachers' perceived capability to promote parent's engagement in children's learning, and inclusive, digital and green environments; and an increase in parents' perceived capability to promote digital environments with children and teachers. Still, these quantitative results should be interpreted within the context of various factors limiting their scope, which are discussed next.

5.6. Limitations of the assessment

The participants' views are not understood here as representing those of all professionals and parents in the participating ECEC services (convenience sampling was used). This report aimed to share findings based on the analyses of views of participants in contexts implementing compendium activities. Also, the results were not comparable across countries, given that the activities implemented differed.

The analysis of differences between the answers to the first and the final questionnaires was carried out with the understanding that eventual changes should be viewed only as suggestive of the potential impact of the compendium activities. Reasons for this included:

- The participating ECEC services could implement Pathways compendium activities from the start of the academic year, and some had already been conducted before the first questionnaire²¹. Therefore, the first questionnaire did not always correspond to a baseline assessment.
- There could be a ceiling effect, given that the perceived capability to promote cooperation and inclusive, digital and green environments was already high in the first questionnaire, particularly for parents across the four countries (all average scores were above 4.0).
- Given the small sample size, changes between the two time points should be read with caution. It is possible that more teachers and parents completed both the first and final questionnaires, but they could not be identified based on the initial three questions used to form a unique code (the initials of two names and part of a date). For instance, in the case of two given names, the participants could have chosen different initials at different time points.
- Other factors besides the implemented compendium activities could explain the differences between the first and final questionnaires (particularly considering there were no comparison groups). Possible covariates (variables that may affect the results) were not accounted for when analysing differences between the first and final questionnaires, considering the small sample size and the use of a non-parametric test. Covariates could have included collected characteristics (e.g., teachers' years of professional experience, the composition of the teachers' group and parents' time knowing the teachers), as well as others not collected (e.g., other activities besides those of the compendium, characteristics of the space/materials, etc.).

Regarding content analysis, one coder who was not from the countries where data collection took place analysed the responses translated into English; thus, there is the possibility that, in some cases, the original language's meaning might have been changed. Also, the open-ended question on

²¹The request aimed at the Ethics Committee of the University of Coimbra (led by the partners of this institution) was first submitted in October 2023, and the final approval was obtained in December of the same year. The first questionnaire started to be completed in January 2024. The following activities started or were implemented before this month: Halloween and Christmas Workshop in Italy; Read Me a Story and We celebrate the International Day of Tolerance in all three settings, Together for a Better Education in one setting, and Jigsaw Planet in two settings in Romania.

changes each activity might contribute to (whose results are described in Appendix B) could be ambiguous: at least some responses that fit into the category of “no changes” seemed to indicate that this question was understood as being about suggestions for changes (e.g., “I wouldn't change anything”).

When interpreting the results, it is also relevant to consider the potential social desirability of the participants when replying to the questionnaires. Although the participants were informed that the goal of the data collection was to assess the activities, the questions focused on aspects that could relate to teachers or parents the participants knew.

5.7. Policy and practice implications

The results suggested that, overall, the implemented activities were perceived as helpful in promoting school-family cooperation and inclusive, digital, and green environments. The proposed activities can be understood as guidelines, insights, or starting points for practices. When implementing or adapting compendium activities, ongoing consultation of all involved can be relevant to increase their use and usefulness in different contexts and to inform future applications (e.g., considering children’s and families’ needs, interests, and strengths, the service functioning and resources, the pedagogical orientations and curriculum).

Parents, teachers and stakeholders appeared to value opportunities for families to be involved in children’s learning and the life of ECEC services. Participants’ positive views regarding activities with parents across various topics - inclusive, green and digital environments - highlighted the value of involving families in promoting these environments (particularly considering that digital and green topics in ECEC do not seem to be so explored yet regarding cooperation with parents in European policy; Leitão et al., 2023). The engagement of parents can be positively influenced by integrating this focus into curriculum frameworks (OECD, 2019) and considering the competences of ECEC staff (teachers, assistants, and heads of services) in the work with families (European Commission, 2021b).

In terms of practice, ECEC professionals can work collaboratively with parents, creating approaches to meaningful parent-school cooperation and shared visions of inclusive, digital and green environments. This collaborative work can be particularly relevant to dealing with challenges identified by parents, such as having the role of conducting/implementing activities in the ECEC service and using digital technology. Building a trusting relationship and open communication with parents, focusing on the children’s learning or wellbeing, and promoting parents’ involvement in decisions can maximise parents’ engagement in services (Aguar & Pastori, 2019; European School Education Platform, 2023).

Participants in the assessment seemed to notice a positive response to the activities, including referring to children’s happiness with having their families involved. Opportunities for children, parents, and professionals to share experiences during interactive and hands-on activities appeared to support children’s engagement. The perceived benefits of the implemented activities included children’s learning and socioemotional wellbeing. The involvement of parents can be potentiated when activities go beyond strictly academic matters, and beneficial effects can be reinforced when there is a focus on nurturing children’s motivation, autonomy and self-efficacy (Alieva, 2021).

Participation and autonomy are key processes in child development (United Nations General Assembly, 1989). Children should also be encouraged to express their ideas, preferences, and choices in the ECEC settings (Correia et al., 2019), including regarding the proposed compendium activities (e.g., by first presenting the activities to children). Likewise, teachers' attentiveness to children’s interests was a valued aspect identified in the parents’ interviews.

Children's characteristics and contexts, such as needs and interests, should be considered when developing activities (e.g., in terms of vocabulary and concentration span) to create a responsive and inclusive environment. Of note, in planning activities with parents, it is also relevant to consider the

wellbeing of children whose parents are not present (e.g., inviting diverse caregivers, such as grandparents, involving them in different ways, and/or organising moments or tasks that promote the interactions among the family members who come to school and all the children).

A challenge to parents' participation was finding a suitable schedule for them to participate in the activities in the ECEC. Among the parents participating in the activities, the number of mothers was higher than that of fathers. Flexible working arrangements that are equally accessible to women and men are key to ensuring equal opportunities to participate in children's caring/education (EIGE, 2023; European Parliament and Council of the European Union, 2019).

Regarding teachers' views, an identified challenge was the time and resources needed to plan and implement the activities. ECEC teachers can experience high working demands (European Commission, 2021a), which can affect their wellbeing (Oke et al., 2019). Thus, they should be given more time for professional activities such as reflection, planning, teamwork and cooperation with parents, as well as appropriate initial and continuing education and training (Council of the European Union, 2019; European Commission, 2021a).

Given the identified challenges with digital tools, training or workshops for teachers/professionals can be relevant in the current context of the widespread use of these tools. As highlighted within the Framework for the Digital Competence of Educators, teachers should be supported in being digitally competent (Punie & Redecker, 2017). The skills needed for the use of digital tools were also a challenge identified by parents. Competent professionals at the ECEC level can support children and their families in developing skills (European Commission, 2023). Digital tools can be advantageous in enabling the engagement of multiple and more linguistically diverse family members and increasing the flexibility of parents' involvement in events and decision-making in ECEC (OECD, 2023). For children, age- and developmentally-appropriate activities can include promoting play-based learning of digital skills without using digital devices (e.g., pedagogical approaches where young children can explore, experiment, discover, and solve problems; European Commission, 2023).

Teachers also acknowledged the support of other professionals and of the local community regarding some of the implemented activities. Still, establishing collaboration with relevant services to plan/implement the activities was also an identified challenge. Creating national and/or local policies that support collaboration between services for children and families can promote the mobilisation of necessary resources, commitment to inter-agency working, and the development of shared planning and goals (Guerra et al., 2019).

Overall, supporting the belongingness of children and families within education settings and systems requires programmatic and preventive policies that enable their participation in developing shared visions, together with the ECEC professionals, about inclusive, green and digital environments. This can be supported by concrete guidelines and goals at the organisational, regional and/or national level.

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APPENDIX A. Instruments

Table A1. Questions in the questionnaire on each activity

Dimension	Questions for teachers	Questions for parents
Activity identification [open-ended question]	Please provide the name of the activity that you implemented. If you don't know, please briefly describe the activity.	Please indicate the name of the activity in which you participated. Please ask the teacher or briefly describe the activity if you don't know.
Adaptations [open-ended question]	Did you implement the activity as described in the Pathways' Compendium? If not, please describe which changes or adaptations you made.	-
Roles [open-ended question]	Were other ECEC staff, parents and/or children involved in planning or implementing the activity (not only as participants/ attendants)? If yes, please specify how.	-
Number of participants [open-ended question]	Please provide an estimate of the number of the following participants in the activity (the total, including your classroom and others). You can indicate zero when applicable. <ul style="list-style-type: none"> - Children with less than three years old - Children with three or more years old - Parents/caregivers of the children - Mothers - Fathers - ECEC professionals (including you) - Stakeholders (other professionals or organisations external to the early years service) 	-
Responsivity [from 1=low to 5=high]	If - Children less than three years old <ul style="list-style-type: none"> - Children with more than three years old - Parents (mothers or fathers) participated, how much would you rate their involvement in the activity? If they did not participate, please skip the question.	-
Changes the activity might have contributed to [open-ended question]	Please describe any changes for children, parents, professionals, or the early years service the activity might contribute to, according to your perception.	-
Satisfaction [from 1=not at all to 5=very much]	How much were the information and materials on the activity clear and easy to understand? You can skip this question if you or your team designed the activity. How much were the resources needed to implement the activity accessible? How much did you feel satisfied with the duration of the activity?	How much did you feel satisfied with the activity overall? How much do you think the activity helped you support your child's learning or wellbeing?
Quality [open-ended questions]	What were the most positive aspects of the activity overall? What were the difficulties or challenges faced during the implementation of the activity? Please leave some suggestions for each challenge on how we could deal with/prevent it in the future.	What were the most positive aspects of the activity overall? What were the difficulties or challenges faced during the activity? Please leave some suggestions for each challenge on how we could deal with/prevent it in the future.

Table A2. Questions in the first and final questionnaires on the perceived capability to promote teacher-parent cooperation and inclusive, digital, and green environments.

Topic	Questions [from 1=not at all to 5=very much]	
	For teachers How much do I feel capable of...	For parents How much do I feel capable of...
Cooperation		
Communication	Communicating with parents?	Communicating with the preschool teacher?
Parents' engagement in children's learning	Promoting the engagement of parents in children's learning?	Seeking support from the preschool teacher to help me promote my children's learning?
Development of activities	Promoting the cooperation of parents in developing or implementing activities in the early years service?	Cooperating with the preschool teacher in developing or implementing activities in the early years service?
Inclusiveness		
With children	Promoting inclusiveness in my work with children (e.g., promoting a sense of belongingness regarding diverse special/additional needs, linguistic, cultural, and socio-economic backgrounds, and gender)?	Promoting my child's sense of inclusiveness in the early year service (this is, a sense of belongingness to the service regardless of own needs, characteristics or background)?
Teacher-parent	Working with parents to promote children's sense of inclusiveness?	Working with the preschool teacher to promote my child's sense of inclusiveness in the early years service?
Digital		
With children	Using digital tools in my work with children?	Using digital tools with my child to promote his/her learning?
Teacher-parent	Using digital tools in my work with parents?	Using digital tools in collaboration with the preschool teacher to promote my child's learning?
Green		
With children	Using green environments in my work with children (e.g., to render the environment eco-friendlier and sustainable)?	Exploring green environments with my child to promote his/her learning (for instance, outdoor activities, exploring nature, using recycled materials)?
Teacher-parent	Using green environments in my work with parents?	Exploring green environments in collaboration with the preschool teacher to promote my child's learning?

Table A3. Questions in the final questionnaire on perceived changes and benefits, satisfaction, and preferences

Dimension	Questions	
	For teachers	For parents
Perceived changes [open-ended questions]	<p>Please specify any changes during the academic year in your classroom or early years service (for instance, materials used, space arrangement, activities, curriculum, routines, guidelines for staff, or collaboration with other professionals/services) aiming to improve the following.</p> <ul style="list-style-type: none"> - Cooperation with parents - Inclusiveness/sense of belongingness of children - Digital environments - Green environments 	<p>Did you perceive any changes during the academic year in your child's classroom or early years service (for instance, materials used, space arrangement, activities, or communication with the staff) to improve the following? If yes, please specify.</p> <ul style="list-style-type: none"> - Cooperation between teachers and parents - Inclusiveness/sense of belongingness of children - Digital environments - Green environments
Perceived benefits ^a [from 1=not at all to 5=very much]	<p>How much did the Pathways' activities contribute to increasing:</p> <ul style="list-style-type: none"> - Cooperation with parents? - Children's awareness or support towards their peers with different backgrounds or additional learning needs? - Children's interest in exploring or learning about digital environments? - Children's interest in exploring or learning about green environments? - The engagement of stakeholders (external professionals or organisations) in the early years service? 	<p>Considering the activities organised in the early years service during this academic year, please reply to the following questions. How much did the activities contribute to increasing:</p> <ul style="list-style-type: none"> - Cooperation between the teacher and you during the academic year? - Your child's awareness or support towards peers/colleagues with different backgrounds or additional learning needs? - Your child's interest in exploring or learning about digital environments during the academic year? - Your child's interest in exploring or learning about green environments during the academic year?
Satisfaction ^a [from 1=not at all to 5=very much]	<p>How much did I feel satisfied with the implemented Pathways activities in general?</p>	<p>How much did you like the activities of the early years service you participated in during the academic year?</p>
Quality ^a [open-ended questions]	<ul style="list-style-type: none"> - What were the most positive aspects of the Pathways' activities overall? - What were the difficulties or challenges faced during the implementation of the Pathways' activities? Please leave some suggestions for each difficulty or challenge on how we could deal with/prevent it in the future. 	-
Preferred means of communication [multiple choice]	-	<p>How do you prefer communicating with the teacher of the early years service? [options: in person, online or both]</p>

^aIn the case of teachers, these questions only appeared when they indicated they implemented or participated in any activity proposed within the Pathways project (yes/no question). In the case of parents, these questions appeared to all of them, given that they were not specifically about those proposed within Pathways.

Table A4. Questions in the interview protocol.

-
1. Which early years service do you work in/attend to?
 2. For how long have you worked in/attended this early years service?
 3. Which is your professional role? [Only asked to teachers and stakeholders]
 4. How many years of experience do you have in your current professional role? [Only asked to teachers and stakeholders]
 5. To what extent were there/did you perceive changes during the academic year in the classroom/early years service aiming to improve the following:
 - 5.1. Cooperation with parents?
 - 5.2. Inclusiveness/sense of belongingness of children?
 - 5.3. Digital environments?
 - 5.4. Green environments?
 6. This year, in your early years service, there were activities proposed by the Pathways team [to indicate examples]. Were you involved in or knew about any of these activities?
 7. How did you perceive the responsiveness of those involved to the Pathways activities?
 - 7.1. Teachers/educators?
 - 7.2. Parents?
 - 7.3. Children?
 - 7.4. Stakeholders of the early years service? [only asked to teachers and stakeholders, and if applicable according to the activities implemented]
 - 7.5. The community? [If applicable according to the activities implemented]
 8. What benefits related to the Pathways activities did you perceive for:
 - 8.1. Teachers/educators?
 - 8.2. Parents?
 - 8.3. Children?
 - 8.4. Stakeholders of the early years service? [only asked to teachers and stakeholders, and if applicable according to the activities implemented]
 - 8.5. The community? [If applicable according to the activities implemented]
 9. What were the most positive aspects of the Pathways' activities overall?
 10. What were the difficulties or challenges regarding the Pathways' activities?
 - 10.1. If any, what suggestions would you give to deal with these difficulties or challenges in the future?
-

APPENDIX B. Questionnaire on each activity: Results

Kindergarten Transition Model

Country of implementation: Serbia N. of responses: 5 from teachers; 6 from parents Topic: Inclusiveness	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children<3 years	25.4	0.9	24	26	-	-	-	80	20
Children≥3 years	25.2	0.8	24	26	-	-	-	20	80
Parents	45.6	5.3	37	50	-	-	20	80	
- Mothers	29.4	7.0	24	40					
- Fathers	16.6	9.1	4	25					
ECEC professionals	5.8	0.8	5	7					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes - promotion of socioemotional wellbeing; Professionals' outcomes - promotion of knowledge or skills; Relationship family-school (improved)	For teachers					
	Materials clarity	-	-	25	50	25
	Resources accessibility	-	-	-	20	40
	Duration	-	-	60	40	-
	For parents					
	Overall	-	-	-	33	67
Supporting child	-	-	17	33	50	

Quality		
	Positive aspects	Challenges
For teachers	Responsivity (positive response from children and parents); Outcomes (facilitating children's transition between education levels)	Activity (time needed); Interactions (to motivate cooperation between children of different education levels)
For parents	Activity (topic/task: creativity); Interactions (positive interactions among all involved and group work); Outcomes (facilitating children's transition between education levels)	None; Responsivity (maintaining children's attention)

Inclusion - participation of musically gifted children

Country of implementation: Serbia N. of responses: 2 from teachers; 6 from parents Topic: Inclusiveness	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children ≥3 years	10.5	6.4	6	15	-	-	-	-	100
Parents	11.0	5.7	7	15	-	-	-	-	100
- Mothers	4.0	1.4	3	5					
- Fathers	7.0	4.2	4	10					
ECEC professionals	2.0	0.0	2	2					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – knowledge/skills; Family-school relationship	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	-	-	100
	Duration	-	-	-	-	100
	For parents					
	Overall	-	-	-	17	83
	Supporting child	-	-	-	17	83

Quality		
	Positive aspects	Challenges
For teachers	Activity's characteristics (relevance of the topic/task); Responsivity (positive response of participants in general)	None
For parents	Activity's characteristics (relevance of the topic/task); Responsivity (positive climate); Interactions (positive children-parents interactions)	Responsivity (maintaining the focus)

The Special Guest

Country of implementation: Romania N. of responses: 5 from teachers; 9 from parents Topic: Inclusiveness	Adaptations in the activity (question for teachers)
	Persons involved (children also participated and not only parents as in the compendium)

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children ≥3 years	24.0	9.7	14	40	-	-	-	20	80
Parents	2.8	2.0	1	5	-	-	-	20	80
- Mothers	2.6	2.2	1	5					
- Fathers	0.2	0.4	0	1					
ECEC professionals	1.4	0.5	1	2					
Stakeholders	1.6	2.1	0	5					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – socioemotional wellbeing, knowledge/skills; Parents' outcomes – understanding of child development; Family-school relationship	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	-	20	80
	Duration	-	-	-	20	80
	For parents					
	Overall	-	-	-	11	89
	Supporting child	-	-	-	11	89

Quality		
	Positive aspects	Challenges
For teachers	Activity characteristics (relevance of the topic/task); Responsivity (positive response from children and parents); Interactions (socialisation, communication, and among ECEC service and school)	None; Activity (space – suggestion of carrying it in small groups; appropriateness – using vocabulary children can understand, suggesting the importance of providing examples); Responsivity (parents' availability); Interactions (to manage the group when observing a part of the activity)
For parents	Activity (relevance of the topic/task), Responsivity (positive response from children); Interactions (positive interactions children-teachers, parents-teachers, and in general); Outcomes (learnings by children)	None; Activity (topic/task – explaining diversity, suggesting the use of games and stories)

We Celebrate the International Day of Tolerance

Country of implementation: Romania N. of responses: 3 from teachers; 3 from parents Topic: Inclusiveness	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children ≥3 years	15.3	1.5	14	17	-	-	-	-	100
Parents	1.3	0.6	1	2	-	-	-	-	100
- Mothers	1.0	0.0	1	1					
- Fathers	0.7	1.2	0	2					
ECEC professionals	0.7	0.6	0	1					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – socioemotional wellbeing	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	-	-	100
	Duration	-	-	-	-	100
	For parents					
	Overall			0%	0%	100
	Supporting child		0%	0%	0%	100

Quality		
	Positive aspects	Challenges
For teachers	Responsivity (positive response from children and parents); Interactions (positive interactions in general/teamwork)	None; Responsivity (parents' availability)
For parents	Responsivity (positive response from children and parents); Interactions (positive children-parents interactions)	None; Activity (task – to become an educator for some time); Responsivity (maintaining children's attention)

We are celebrating International Autism Awareness Day

Country of implementation: Romania N. of responses: 1 from a teacher; 6 from parents Topic: Inclusiveness	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)	Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	Value	1	2	3	4	5
Children ≥3 years	18	-	-	-	-	100
Parents	1 (mother)	-	-	-	-	100
ECEC professionals	1					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – socioemotional wellbeing	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	-	-	100
	Duration	-	-	-	-	100
	For parents					
	Overall	-	-	-	-	100
Supporting child	-	-	-	-	100	

Quality		
	Positive aspects	Challenges
For teachers	Responsivity (in general – a positive atmosphere)	Activity (appropriateness of the vocabulary so children could understand)
For parents	Activity (relevance of the topic/task); Responsivity (positive response from children, positive climate)	None. Activity (adequating the information and activities for children's understanding)

Beyond us, not behind the wall

Country of implementation: Lithuania N. of responses: 1 from a teacher Topic: Inclusiveness	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)	Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	Value	1	2	3	4	5
Children ≥3 years	9	-	-	-	-	100
Parents	4	-	-	-	-	100
- Mothers	3					
- Fathers	1					
ECEC professionals	3					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – promotion of socioemotional wellbeing	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	100	-	-	-	-
	Duration	-	-	-	-	100

Quality	
Positive aspects	Challenges
For teachers	Outcomes (learnings by children) None

Padlet in Kindergarten

Country of implementation: Serbia N. of responses: 3 from teachers; 6 from parents Topic: Digital environments	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children ≥3 years	11.7	7.6	5	20	-	-	-	-	100
Parents	10.0	8.7	5	20	-	-	-	33	67
- Mothers	8.0	8.7	3	18					
- Fathers	2.0	0.0	2	2					
ECEC professionals	2.7	0.6	2	3					
Stakeholders	1.0	1.7	0	3					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes - knowledge/skills; Parents' outcomes – understanding of child development; Professionals' knowledge/skills; Family-school relationship	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	-	-	100
	Duration	-	-	-	-	100
	For parents					
	Overall	-	-	-	17	83
Supporting child	-	-	-	33	67	

Quality		
	Positive aspects	Challenges
For teachers	Interactions (positive interactions among parents and in general)	Activity (suggestion of familiarisation with the app first); Responsivity (parents' availability)
For parents	Activity (space [to travel]); Responsivity (positive response from children and parents); Outcomes (learnings by children and learning new activities)	None; Responsivity (parents' availability)

Jigsaw Planet

Country of implementation: Romania N. of responses: 5 from teachers; 30 from parents Topic: Digital environments	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children ≥3 years	14.6	5.0	6	18	-	-	20	-	80
Parents	12.4	5.5	6	18	-	-	-	-	100
- Mothers	10.4	4.3	6	16					
- Fathers	2.0	1.6	0	4					
ECEC professionals	1.4	0.5	1	2					
Stakeholders	0.2	0.4	0	1					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – knowledge/skills; Family-school relationship	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	-	20	80
	Duration	-	-	-	-	100
	For parents					
	Overall	-	-	3	7	90
	Supporting child	-	3	-	10	87

Quality		
	Positive aspects	Challenges
For teachers	Responsivity (positive response from children and parents); Interactions (positive parents-children interactions)	None; Activity (challenges with the internet connection, which can improve if the activity is done in small groups, and having the necessary skills to use technology)
For parents	Activity (relevance of the topic/task; appropriateness of the game for the children); Responsivity (positive response from children and parents); Interactions (positive interactions among all involved); Outcomes (learnings by children and parents)	None; Activity (space/materials – using digital tools/internet connection, scissors handling); Responsivity (children's maintaining the focus)

Explore.org

Country of implementation: Romania N. of responses: 5 from teachers; 10 from parents Topic: Digital environments	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children ≥3 years	16.4	4.6	12	22	-	-	-	-	100
Parents	10.4	8.8	1	22	-	-	-	-	100
- Mothers	6.8	5.1	1	12					
- Fathers	3.6	3.8	0	9					
ECEC professionals	1.4	0.5	1	2					
Stakeholders	0.4	0.9	0	2					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – knowledge/skills; Parents' outcomes - understanding of child development; Family-school relationship	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	-	-	100
	Duration	-	-	-	-	100
	For parents					
	Overall	-	-	-	-	100
	Supporting child	-	-	-	-	100

Quality		
Positive aspects		Challenges
For teachers	Activity's characteristics (relevance of the topic/task); Responsivity (positive response of participants in general)	None
For parents	Activity (topic/task relevance); Responsivity (positive response from children and parents); Interactions (communication); Outcomes (learning new things)	None; Responsivity (the children's questions to discover new aspects)

Wordwall

Country of implementation: Romania N. of responses: 2 from teachers; 4 from parents Topic: Digital environments	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children ≥3 years	20.5	3.5	18	23	-	-	-	-	100
Parents (all mothers)	4.0	4.2	1	7	-	-	-	-	100
ECEC professionals	1.5	0.7	1	2					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – knowledge/skills	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	-	-	100
	Duration	-	-	-	-	100
	For parents					
	Overall	-	-	-	-	100
Supporting child	-	-	-	-	100	

Quality		
	Positive aspects	Challenges
For teachers	Activity characteristics (space/materials - platform); Responsivity (positive response from children and parents); Interactions (positive children-parent interactions)	None; Activity (internet connection)
For parents	Activity (relevance of the topic/task); Responsivity (positive response from children and parents); Interactions (positive children-teachers and children-parents interactions)	None

Social to Shorten Distances

Country of implementation: Italy N. of responses: 4 from teachers; 8 from parents Topic: Digital environments	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children<3 years	5.5	2.9	3	8	-	25	-	50	25
Children≥3 years	2.5	2.4	0	5	-	25	-	25	50
Parents	13.5	2.5	10	16	-	-	-	25	75
- Mothers	7.5	0.6	7	8					
- Fathers	6.0	2.7	2	8					
ECEC professionals	1.8	0.5	1	2					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
None	For teachers					
	Materials clarity	-	-	25	50	25
	Resources accessibility	-	-	-	100	-
	Duration	-	-	25	25	50
	For parents					
	Overall	-	-	-	50	50
	Supporting child	-	-	13	50	38

Quality		
	Positive aspects	Challenges
For teachers	Responsivity (positive response from parents); Interactions (positive interactions teachers-families); Outcomes (improved relationships among families and between families and service)	Activity (challenges with digital skills, suggesting the relevance of providing training to parents); Responsivity (parents' availability)
For parents	Interactions (positive interactions children-teachers, children-parents, and in general)	None; Responsivity (maintaining children's attention)

Digital education with parents

Country of implementation: Lithuania N. of responses: 1 from a teacher Topic: Digital environments	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)	Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	Value	1	2	3	4	5
Parents	2	100	-	-	-	-
- Mothers	1					
- Fathers	1					
ECEC professionals	2					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes - socioemotional wellbeing, and knowledge/skills; Parents' outcomes - understanding of child development; Professionals' knowledge and skills; Family-school relationship	For teachers					
	Materials clarity	-	-	100	-	-
	Resources accessibility	-	-	100	-	-
	Duration	-	-	-	100	-

Quality		
	Positive aspects	Challenges
For teachers	Activity (relevance of the topic/task; appropriateness); Responsivity (positive response from children); Interactions (positive interactions teachers-families)	Activity (need to have the appropriate resources)

Let's clean the place we love

Country of implementation: Serbia N. of responses: 6 from teachers; 33 from parents Topic: Green environments	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children ≥3 years	23.7	4.5	20	32	-	-	-	33	67
Parents	6.5	7.6	0	20	20	40	40	-	-
- Mothers	2.5	2.3	0	6					
- Fathers	1.2	1.6	0	4					
ECEC professionals	2.3	0.8	2	4					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – socioemotional wellbeing, knowledge/skills; Parents' outcomes – understanding of child development; Space/materials (creation of a new space in the service); Family-school relationship	For teachers*					
	Resources accessibility	-	-	-	50	50
	Duration	-	-	-	17	83
	For parents					
	Overall	-	-	-	15	85
Supporting child	-	-	3	21	76	

*Respondents were asked to skip the question on the clarity of the materials if they were involved in their development.

Quality		
	Positive aspects	Challenges
For teachers	Activity's characteristics (relevance of the topic/task); Responsivity (positive response from children); Outcomes (children's learning)	None; Activity (appropriateness of the activity for all children, including those with additional/special needs); Responsivity (parents' availability, collaboration among services)
For parents	Activity (relevance of the topic/task); Responsivity (positive response from children and in general); Interactions (positive interactions children-parents and in general). Outcomes (learnings by children and parents)	None; Activity (task – dexterity, scissor handling and finding ideas; adequateness – challenges with the vocabulary for children to understand, suggesting the use of simple words; time – children associating parents leaving as going home); Responsivity (children maintaining their focus, and parents' availability)

Mind up and feel the nature

Country of implementation: Serbia N. of responses: 2 from teachers; 24 from parents Topic: Green environments	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children ≥3 years	28.0	11.3	20	36	-	-	-	-	100
Parents	17.5	17.7	5	30	-	-	-	50	50
- Mothers	15.0	14.1	5	25					
- Fathers	2.5	3.5	0	5					
ECEC professionals	5.5	3.5	3	8					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – socioemotional wellbeing, knowledge/skills; Family-school relationship	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	-	-	100
	Duration	-	-	-	50	50
	For parents					
	Overall	-	-	-	21	79
Supporting child	-	-	4	13	83	

Quality		
	Positive aspects	Challenges
For teachers	Activity's characteristics (relevance of the topic/task); Responsivity (positive response in general); Interactions (positive teacher-families interactions); Outcomes (in general – activity conducted as bilingual with a positive effect on the participants)	Activity (conducted as bilingual, but with a positive effect; dependent on weather conditions); Responsivity (parents' availability)
For parents	Activity (relevance of the topic/task, space [nature]); Responsivity (positive response from children and parents); Interactions (positive between children and parents, and between teachers and families); Outcomes (learnings by children, positive relationship with teachers)	None; Activity (task - selecting the bird; space/materials – having the needed materials); Responsivity (maintaining children's focus); Interactions (providing attention to the children; and suggestion of having parents communicating in front of the children as role models)

Nature Watchers - Weekend explorers

Country of implementation: Romania N. of responses: 3 from teachers; 18 from parents Topic: Green environments	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Mi	Ma	1	2	3	4	5
			n	x					
Children<3 years	1.0	1.7	0	3	-	-	100	-	-
Children≥3 years	19.3	3.2	17	23	-	-	-	-	100
Parents	27.0	20.7	5	46	-	-	-	-	100
- Mothers	14.0	10.1	3	23					
- Fathers	13.0	10.5	2	23					
ECEC professionals	1.7	0.6	1	2					
Stakeholders	0.7	1.2	0	2					

Changes that the activity might contribute to (question for teachers)
Children's outcomes – promotion of knowledge or skills; Improved relationship family-school

	Satisfaction with the activity - % of responses per score from 1=low to 5=high				
	1	2	3	4	5
For teachers					
Materials clarity	-	-	-	-	100
Resources accessibility	-	-	-	67	33
Duration	-	-	-	-	100
For parents					
Overall	-	-	-	-	100
Supporting child	-	-	-	-	100

Quality		
	Positive aspects	Challenges
For teachers	Activity (relevance of the topic/tasks); Responsivity (positive response from children and parents)	None
For parents	Activity (relevance of the topic/task); Responsivity (positive response from children and parents); Interactions (positive parents-children interactions and in general); Outcomes (promoting learnings, including for children)	None; Activity (topic/task: requiring attention and knowledge; space/materials: dependent on the weather); Responsivity (parents also becoming emotional)

Let's Protect the Nature!

Country of implementation: Romania N. of responses: 7 from teachers Topic: Green environments	Adaptations in the activity (question for teachers)
	Persons involved (also older students and Red Cross); Space/materials (parents and children went to a recycling centre)

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children<3 years	0.1	0.4	0	1	-	-	100	-	-
Children≥3 years	13.1	6.4	6	20	-	-	-	-	100
Parents	7.1	5.1	2	18	-	-	-	14	86
- Mothers	6.3	4.5	1	15					
- Fathers	1.1	1.1	0	3					
ECEC professionals	1.7	0.5	1	2					
Stakeholders	0.9	0.7	0	2					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – socioemotional wellbeing, knowledge/skills; Parents' outcomes – understanding of child development; Family-school relationship	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	-	-	100
	Duration	-	-	-	-	100

Quality		
	Positive aspects	Challenges
For teachers	Activity's characteristics (relevance of the topic/task); Responsivity (positive response from children and parents); Interactions (positive interactions in general); Outcomes (children's learning)	None; Activity (small space in the classroom and travelling to the recycling centre); Responsivity (availability of parents; initial children's scepticism about reusing some materials, suggesting the importance of using them often)

Winter garden with families

Country of implementation: Italy N. of responses: 8 from teachers; 11 from grandparents Topic: Green environments	Adaptations in the activity (question for teachers)
	Persons involved (grandparents instead of parents); Time (only one day)

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children<3 years	15.1	5.5	11	24	-	-	13	38	50
Children≥3 years	4.5	3.8	0	8	-	-	14	-	86
Grandparents	20.5	11.8	1	29	-	-	-	-	100
- Grandmothers	11.9	6.8	1	17					
- Grandfathers	8.4	5.0	0	12					
ECEC professionals	3.5	0.9	2	4					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
None	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	50	50	-
	Duration	-	-	-	13	88
	For grandparents					
	Overall	-	-	-	-	100
	Supporting child	-	-	-	18	82

Quality		
	Positive aspects	Challenges
For teachers	Activity characteristics (space/materials – having vegetables); Responsivity (positive response from children and caregivers); Interactions (positive caregivers-children interactions; positive climate)	Activity (space/materials – having the necessary tools and dependent on the weather); Responsivity (to involve all simultaneously and equally; worriedness of some caregivers about children's reactions to their presence, suggesting the importance of preparing/reassuring caregivers)
For grandparents	Responsivity (positive response from caregivers and in general); Interactions (positive children-caregivers interactions, and in general); Outcomes (improved relationships/sense of community)	None; Responsivity (caregivers getting more involved and putting themselves at the level of the children)

We and Nature

Country of implementation: Lithuania N. of responses: 1 from a teacher; 3 from parents Topic: Green environments	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)	Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	Value	1	2	3	4	5
Children ≥3 years	20	-	-	-	-	100
Parents	40	-	-	-	100	-
- Mothers	20					
- Fathers	20					
ECEC professionals	8					
Stakeholders	3					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – knowledge/skills; space/materials (to decorate the environment)	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	-	100	-
	Duration	-	-	-	-	100
	For parents					
	Overall	-	-	-	-	100
	Supporting child	-	-	-	33	67

Quality		
Positive aspects		Challenges
For teachers	Outcomes (positive results in general)	None
For parents	Activity (relevance of the topic/task); Interactions (positive children-parents interaction); Outcomes (learnings by children)	None

Kindergartens' trip to Kazlų Rūda State Forest Enterprise

Country of implementation: Lithuania N. of responses: 1 from a teacher; 1 from a parent Topic: Green environments	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)	Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	Value	1	2	3	4	5
Children ≥ 3 years	10	-	-	-	100	-
Parents	3	-	-	-	100	-
- Mothers	2					
- Fathers	2					
ECEC professionals	3					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – socioemotional wellbeing	For teachers*					
	Resources accessibility	-	-	100	-	-
	Duration	-	-	-	-	100
	For parents					
	Overall	-	-	-	-	100
	Supporting child	-	-	-	100	-

*Respondents were asked to skip the question on the clarity of the materials if they were involved in their development.

Quality		
Positive aspects		Challenges
For teachers	Responsivity (positive response from children)	None
For parents	Outcomes (learnings by children)	None

Small Steps to the World of Eco

Country of implementation: Lithuania N. of responses: 1 from a teacher; 5 from parents Topic: Green environments	Adaptations in the activity (question for teachers)
	None

N participating in the activity (question for teachers)	Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	
Children ≥3 years	8				100
ECEC professionals	3				

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – promotion of knowledge or skills (sorting waste)	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	100	-	-	-	-
	Duration	-	-	-	-	100
	For parents					
	Overall	-	-	-	-	100
Supporting child	-	-	-	20	80	

Quality		
Positive aspects		Challenges
For teachers	Responsivity (positive response from children)	None
For parents	Responsivity (positive emotions in general, and children's positive response); Interactions (positive interactions teachers-families and among parents); Outcomes (promotion of children knowledge or skills and improved relationships between families)	None; Responsivity (some children did not wish to participate)

Together for a Better Education!

Country of implementation: Romania N. of responses: 1 from teachers; 1 from a parent Topic: Cooperation with parents	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Parents	6.0	0.0	6	6	-	-	-	-	100
- Mothers	4.0	0.0	4	4					
- Fathers	2.0	0.0	2	2					
ECEC professionals	2.0	0.0	2	2					
Stakeholders	0.5	0.7	0	1					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – socioemotional wellbeing	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	-	100	-
	Duration	-	-	-	-	100
	For parents					
	Overall	-	-	-	-	100
	Supporting child	-	-	-	-	100

Quality		
Positive aspects		Challenges
For teachers	Responsivity (positive response from children and parents)	Activity (materials – having the necessary resources)
For parents	Interactions (teamwork)	Activity (space/materials – having the necessary tools for landscaping)

Read Me a Story!

Country of implementation: Romania N. of responses: 8 from teachers; 11 from parents Topic: Cooperation with parents	Adaptations in the activity (question for teachers)
	Tasks (the parents and children also played the game The Bear is Sleeping)

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children ≥3 years	16.9	5.8	7	24	-	-	-	-	100
Parents	5.4	8.0	1	24	-	-	-	-	100
- Mothers	4.6	6.9	0	20					
- Fathers	0.9	1.4	0	4					
ECEC professionals	1.4	0.5	1	2					
Stakeholders	0.3	0.8	0	2					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – socioemotional wellbeing, knowledge/skills; Parents' outcomes – socioemotional wellbeing, understanding of child development; Family-school relationship	For teachers					
	Materials clarity	-	-	-	-	100
	Resources accessibility	-	-	-	-	100
	Duration	-	-	-	-	100
	For parents					
	Overall	-	-	-	-	100
	Supporting child	-	-	-	-	100

Quality		
	Positive aspects	Challenges
For teachers	Activity (the relevance of the topic); Responsivity (from children and parents); Interactions (positive teachers-families interactions); Outcomes (learnings by children)	None; Responsivity (parents' availability and confidence in reading for the group, with the suggestion of discussing the content/how they could read with parents)
For parents	Responsivity (positive response from children and parents); Interactions (positive interaction children-parents and in general); Outcomes (learnings by children)	None; Responsivity (emotions when reading in front of the children; maintaining children's attention)

Parental Educator for a Day

Country of implementation: Italy N. of responses: 9 from teachers; 11 from parents Topic: Cooperation with parents	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children<3 years	20.1	3.8	16	24	-	-	11	33	56
Children≥3 years	2.7	2.3	0	5	-	-	-	29	71
Parents	4.4	1.9	1	6	-	-	-	11	89
- Mothers	3.1	1.9	0	5					
- Fathers	1.6	0.9	1	3					
ECEC professionals	3.4	0.9	2	4					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
None; Family-school relationship	For teachers					
	Materials clarity	-	-	-	33	67
	Resources accessibility	-	33	22	44	-
	Duration	-	-	-	22	78
	For parents					
	Overall	-	-	-	18	82
	Supporting child	-	-	9	9	82

Quality		
	Positive aspects	Challenges
For teachers	Responsivity (positive response from children and parents); Interactions (positive teachers-families interactions)	None; Responsivity (less involvement from some children); Interactions (presence of a parent in the group, and challenges with the separation from parents at the end)
For parents	Responsivity (positive response from children and parents); Interactions (positive interactions between children and parents)	None; Activity (rhythm – a more quiet moment which was resolved through improvisation, with the suggestion of preparing songs for children); Responsivity (maintaining children's focus); Interactions (children wanting to have time alone with their parents)

Christmas Workshop

Country of implementation: Italy N. of responses: 8 from teachers; 26 from parents Topic: Cooperation with parents	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children<3 years	2.3	4.2	0	10	-	-	-	-	100
Children≥3 years	2.9	7.0	0	20	-	-	-	50	50
Parents	19.4	3.8	13	23	-	-	-	-	100
- Mothers	14.9	3.0	8	16					
- Fathers	4.6	2.5	2	7					
ECEC professionals	3.4	0.7	2	4					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
None; Parents' outcomes - Socioemotional wellbeing; Space/materials (created materials to be used by children over the year)	For teachers					
	Materials clarity	-	-	-	14	86
	Resources accessibility	13	25	38	13	13
	Duration	-	-	-	13	88
	For parents					
	Overall	-	-	4	8	88
	Supporting child	-	-	4	27	69

Quality		
	Positive aspects	Challenges
For teachers	Responsivity (positive response from children and parents); Interactions (positive interactions among parents, teachers-families and in general)	None; Activity characteristics (challenge in thinking about what to create due to the materials' novelty, but it was overcome with children's collaboration). Responsivity (availability of parents)
For parents	Activity (topic/task relevance; the organisation); Responsivity (positive response from children and parents); Interactions (positive interactions among children, parents and teachers); Outcomes (better relationships; learnings by parents about educational activities)	None; Activity (task-find ideas in a short time); Responsivity (challenges in having someone caring for the children when they are not in the activity)

Carnival workshop

Country of implementation: Italy N. of responses: 8 from teachers; 22 from parents Topic: Cooperation with parents	Adaptations in the activity (question for teachers)
	None

	N participating in the activity (question for teachers)				Responsivity to the activity - % of teachers' responses per score from 1=low to 5=high				
	M	SD	Min	Max	1	2	3	4	5
Children ≥3 years	0.5	0.5	0	1	-	-	-	50	50
Parents	12.1	2.9	8	15	-	-	13	-	88
- Mothers	8.6	1.7	6	10					
- Fathers	3.5	2.1	2	6					
ECEC professionals	3.1	0.8	2	4					

Changes that the activity might contribute to (question for teachers)	Satisfaction with the activity - % of responses per score from 1=low to 5=high					
	1	2	3	4	5	
Children's outcomes – promotion of socioemotional wellbeing; No changes	For teachers					
	Materials clarity	-	-	-	14	86
	Resources accessibility	-	25	63	-	13
	Duration	-	-	13	13	75
	For parents					
	Overall	-	-	-	5	96
	Supporting child	-	-	-	14	86

Quality		
	Positive aspects	Challenges
For teachers	Responsivity (positive response from children and parents); Interactions (positive relationships teachers-families and among families); Outcomes (improved family-school relationships)	None; Activity (topic/task: organisation of the roles and tasks; space/materials: creating captivating scenography; appropriateness: language suitable for children); Responsivity (involving more parents)
For parents	Activity (topic/task – creating materials to enrich the school); Responsivity (positive response from children and parents); Interactions (positive interactions among all involved)	None; Activity (topic/task - to make a play; composition of participants – children not participating in the play)

APPENDIX C. First and final questionnaires: Results

Table C1. Percentage of teachers and parents selecting each score (from 1=not at all to 5=very much) regarding satisfaction with and perceived benefits of implemented activities

Topic	Country	Teachers (% within each country)						Parents (% within each country)					
		n	1	2	3	4	5	n	1	2	3	4	5
Satisfaction	IT	10	0	0	20	40	40	37	0	0	3	11	87
	LT	11	0	0	18	27	55	31	0	0	6	26	68
	RO	15	0	0	0	0	100	63	0	2	3	13	83
	RS	6	0	0	0	83	17	41	0	0	2	10	88
Benefits													
Cooperation	IT	10	0	0	10	30	60	37	0	0	3	35	62
	LT	11	0	0	36	27	36	31	0	0	19	29	52
	RO	15	0	0	0	0	100	63	2	0	6	14	78
	RS	6	0	0	17	50	33	41	0	0	2	20	78
Inclusiveness	IT	10	0	10	40	40	10	37	0	0	8	32	60
	LT	11	0	0	18	36	46	31	0	3	16	26	55
	RO	15	0	0	0	13	87	63	0	3	6	14	76
	RS	6	0	0	33	17	50	41	0	0	7	20	73
Digital	IT	10	0	20	50	20	10	37	5	3	19	22	51
	LT	11	0	0	9	55	36	31	0	0	10	39	52
	RO	15	0	0	0	7	93	63	3	5	6	22	64
	RS	6	0	0	33	33	33	41	0	0	20	20	61
Green	IT	10	0	0	20	10	70	37	0	0	0	19	81
	LT	11	0	0	9	55	36	31	0	3	13	32	52
	RO	15	0	0	0	13	87	63	0	3	2	16	79
	RS	6	0	0	0	33	67	41	0	0	5	20	76
Stakeholder involvement	IT	10	10	0	40	30	20						
	LT	11	0	9	18	64	9						
	RO	15	0	0	7	33	60						
	RS	6	0	0	67	33	0						

Notes. IT=Italy; LT=Lithuania; RO=Romania; RS=Serbia.

Table C2. Descriptive statistics on the perceived capability to promote teacher-parent cooperation and inclusive, digital, and green environments of all **teachers** participating in the first and all teachers participating in the final questionnaires (from 1=not at all to 5=very much)

Topic	Country	First questionnaire						Final questionnaire					
		n	M	SD	Med	Min	Max	n	M	SD	Med	Min	Max
Teacher-parent cooperation													
Communication	IT	11	4.2	0.8	4.0	3	5	10	4.3	0.8	4.5	3	5
	LT	10	4.0	0.5	4.0	3	5	31	4.4	0.9	5.0	2	5
	RO	18	4.7	0.6	5.0	3	5	15	4.9	0.3	5.0	4	5
	RS	11	4.7	0.5	5.0	4	5	6	4.7	0.5	5.0	4	5
Parents' engagement in children's learning	IT	11	3.5	0.5	4.0	3	4	10	4.0	0.7	4.0	3	5
	LT	10	3.8	0.6	4.0	3	5	31	3.8	0.8	4.0	2	5
	RO	18	4.7	0.6	5.0	3	5	15	4.9	0.3	5.0	4	5
	RS	11	4.5	0.7	5.0	3	5	6	4.3	0.8	4.5	3	5
Development of activities	IT	11	3.5	0.5	4.0	3	4	10	3.8	0.4	4.0	3	4
	LT	10	3.2	0.8	3.0	2	4	31	3.8	0.8	4.0	2	5
	RO	18	4.6	0.8	5.0	2	5	15	4.8	0.4	5.0	4	5
	RS	11	4.4	0.8	5.0	3	5	6	4.0	0.9	4.0	3	5
Inclusiveness													
With children	IT	11	3.4	0.5	3.0	3	4	10	3.8	0.9	4.0	2	5
	LT	10	3.6	0.8	4.0	2	5	31	3.8	0.8	4.0	2	5
	RO	18	4.4	0.7	4.5	3	5	15	4.9	0.4	5.0	4	5
	RS	11	4.5	1.0	5.0	2	5	6	4.2	0.8	4.0	3	5
Teacher-parent	IT	11	3.5	0.7	3.0	3	5	10	3.9	1.0	4.0	2	5
	LT	10	3.3	0.7	3.0	2	4	31	3.8	0.6	4.0	2	5
	RO	18	4.4	0.7	5.0	3	5	15	4.7	0.5	5.0	4	5
	RS	11	4.3	1.0	5.0	2	5	6	4.3	0.5	4.0	4	5
Digital													
With children	IT	11	2.7	0.9	3.0	1	4	10	3.1	0.7	3.0	2	4
	LT	10	4.4	0.7	4.5	3	5	31	4.1	0.8	4.0	2	5
	RO	18	4.5	0.6	5.0	3	5	15	4.7	0.5	5.0	4	5
	RS	11	3.7	0.8	4.0	3	5	6	3.5	1.2	3.0	2	5
Teacher-parent	IT	11	2.8	0.9	3.0	1	4	10	3.3	0.7	3.0	2	4
	LT	10	4.2	0.8	4.0	3	5	31	3.8	0.8	4.0	2	5
	RO	18	4.3	0.8	4.5	3	5	15	4.7	0.5	5.0	4	5
	RS	11	3.7	0.8	4.0	3	5	6	3.7	1.2	3.5	2	5
Green													
With children	IT	11	3.8	1.0	4.0	2	5	10	4.4	0.7	4.5	3	5
	LT	10	3.7	0.8	3.5	3	5	31	3.9	0.9	4.0	2	5
	RO	18	4.7	0.6	5.0	3	5	15	5.0	0.0	5.0	5	5
	RS	11	4.4	0.9	5.0	3	5	6	4.3	0.8	4.5	3	5
Teacher-parent	IT	11	3.6	0.8	4.0	2	5	10	4.2	0.8	4.0	3	5
	LT	10	3.5	0.8	3.5	2	5	31	3.5	0.8	4.0	2	5
	RO	18	4.7	0.6	5.0	3	5	15	5.0	0.0	5.0	5	5
	RS	11	4.2	0.9	4.0	3	5	6	4.2	0.8	4.0	3	5

Notes. IT=Italy; LT=Lithuania; RO=Romania; RS=Serbia; M=Mean; SD=Standard deviation; Med=Median; Min=Minimum value; Max=Maximum value.

Table C3. Descriptive statistics on the perceived capability to promote teacher-parent cooperation and inclusive, digital, and green environments of all **parents** participating in the first and all parents participating in the final questionnaires (from 1=not at all to 5=very much)

Topic	Country	First questionnaire						Final questionnaire					
		n	M	SD	Med	Min	Max	n	M	SD	Med	Min	Max
Teacher-parent cooperation													
Communication	IT	28	4.9	0.4	5.0	4	5	37	4.8	0.4	5.0	3	5
	LT	11	4.6	0.7	5.0	3	5	31	4.7	0.6	5.0	3	5
	RO	69	4.9	0.3	5.0	4	5	63	4.9	0.3	5.0	3	5
	RS	61	4.9	0.4	5.0	3	5	41	5.0	0.2	5.0	4	5
Parents' engagement in children's learning	IT	28	4.8	0.4	5.0	4	5	37	4.8	0.4	5.0	4	5
	LT	11	4.6	0.7	5.0	3	5	31	4.8	0.4	5.0	4	5
	RO	69	4.8	0.4	5.0	3	5	63	4.7	0.6	5.0	2	5
	RS	61	4.8	0.6	5.0	3	5	41	5.0	0.2	5.0	4	5
Development of activities	IT	28	4.7	0.6	5.0	3	5	37	4.6	0.8	5.0	1	5
	LT	11	4.5	1.0	5.0	2	5	31	4.5	0.7	5.0	2	5
	RO	69	4.8	0.4	5.0	3	5	63	4.8	0.5	5.0	2	5
	RS	61	4.7	0.6	5.0	3	5	41	4.9	0.3	5.0	4	5
Inclusiveness													
With children	IT	28	4.7	0.5	5.0	4	5	37	4.8	0.5	5.0	3	5
	LT	11	4.4	0.8	5.0	3	5	31	4.4	0.7	4.0	3	5
	RO	69	4.8	0.5	5.0	3	5	63	4.7	0.6	5.0	2	5
	RS	61	4.6	0.6	5.0	3	5	41	4.9	0.4	5.0	4	5
Teacher-parent	IT	28	4.8	0.4	5.0	4	5	37	4.8	0.4	5.0	4	5
	LT	11	4.3	0.8	4.0	3	5	31	4.5	0.6	5.0	3	5
	RO	69	4.8	0.4	5.0	3	5	63	4.7	0.7	5.0	1	5
	RS	61	4.6	0.7	5.0	2	5	41	4.8	0.5	5.0	3	5
Digital													
With children	IT	28	4.0	1.1	4.0	2	5	37	3.9	1.2	4.0	1	5
	LT	11	4.4	0.8	5.0	3	5	31	4.2	0.8	4.0	2	5
	RO	69	4.6	0.7	5.0	2	5	63	4.5	0.8	5.0	1	5
	RS	61	4.5	0.8	5.0	2	5	41	4.7	0.6	5.0	3	5
Teacher-parent	IT	28	4.1	0.9	4.0	2	5	37	4.0	1.3	4.0	1	5
	LT	11	4.4	0.8	5.0	3	5	31	4.3	0.8	4.0	2	5
	RO	69	4.6	0.7	5.0	2	5	63	4.6	0.8	5.0	1	5
	RS	61	4.6	0.7	5.0	3	5	41	4.7	0.6	5.0	3	5
Green													
With children	IT	28	4.7	0.6	5.0	3	5	37	4.7	0.6	5.0	3	5
	LT	11	4.4	0.7	4.0	3	5	31	4.3	0.8	4.0	2	5
	RO	69	4.8	0.4	5.0	3	5	63	4.8	0.5	5.0	3	5
	RS	61	4.7	0.6	5.0	3	5	41	4.9	0.4	5.0	4	5
Teacher-parent	IT	28	4.7	0.5	5.0	3	5	37	4.6	0.6	5.0	3	5
	LT	11	4.0	1.2	4.0	2	5	31	4.2	0.9	4.0	2	5
	RO	69	4.6	0.7	5.0	2	5	63	4.7	0.6	5.0	2	5
	RS	61	4.5	0.7	5.0	2	5	41	4.9	0.3	5.0	4	5

Notes. IT=Italy; LT=Lithuania; RO=Romania; RS=Serbia; M=Mean; SD=Standard deviation; Med=Median; Min=Minimum value; Max=Maximum value.