# Perspectives on Teacher Education and Development

**Edited by**
Alenka Lipovec    Janja Tekavc

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# Competence Development in Early Childhood Education: Task-Based Learning and Project-Based Learning in Slovenia, Slovakia, and the Czech Republic

Barbora Loudová Stralczynská,[1] Eva Koželuhová,[1] Marta Licardo,[2] Ana Tina Jurgec,[2] Nika Golob,[2] Sabina Šinko,[2] Mária Vargová,[3] Zlatica Huľová,[3] Jozef Benyak,[3] Darja Antolin Drešar[2]

[1] Charles University, Faculty of Education; Prague, Czech Republic
barbora.loudova@pedf.cuni.cz, eva.kozeluhova@pedf.cuni.cz
[2] University of Maribor, Faculty of Education; Maribor, Slovenia
marta.licardo@um.si, ana.jurgec1@um.si, nika.golob@um.sin sabina.sinko@um.si, darja.antolin@um.s
[3] Catholic University in Ružomberok, Faculty of Education, Ružomberok, Slovakia
maria.vargova@ku.sk, zlatica.hulova@ku.sk, benyak.jozef@gmail.com

**Abstract** The paper focuses on the development of teachers' competences in pre-primary education in Task-based Learning (TBL) and Project-based Learning (PBL). It presents the objectives and first results of the Learning by Doing – Attainment of Basic Competences in ECEC project supported by the ERASMUS+ Programme. The project aims to support the theoretical basis of TBL and PBL and their implementation in pre-schools in Slovenia, Slovakia, and the Czech Republic. The paper presents theoretical backgrounds and the analysis of data obtained in the pilot, which focused on pre-school teachers' existing experience in TBL and PBL. The study shows that verbal and demonstration methods still predominate in the practice of teachers from the research sample. The PBL method was mostly used by Slovenian teachers, and many respondents showed a misunderstanding of the basis of both methods and their use. Some of the obstacles mentioned were the insufficient expertise of teachers, size and diversity of the classes, material conditions, and lack of time.

# 1      Introduction

The Council of the European Union has highlighted the importance of key competences and basic skills because international student assessment results show that more than one in five students in the EU has insufficient proficiency in basic skills. Therefore, teachers at all levels of education, especially teachers in early childhood education (ECE) and primary education, should be able to provide high-quality education for all, and educational systems should support teachers in implementing competence-based teaching and learning approaches (Council of the EU, 2018).

At the beginning of their careers, many newly qualified or inexperienced teachers experience the complexity of their role and face daily challenges to their skills and abilities acquired during teacher education, and their self-confidence decreases (Mahmood, 2013). ECE teachers, at this early stage of their careers, need appropriate support to master challenging situations, to experience job satisfaction (Keller-Schneider, Zhong & Yeung, 2020; Fantilli & McDougal, 2009, Klassen & Chiu, 2010), and to fulfil children's needs for learning and the development of important basic skills in ECE.

In 2020, the *Learning by Doing – Attainment of Basic Competences in ECE* project was launched and financed by the ERASMUS+ Programme. The project aims to support the theoretical basis of task-based learning (TBL) and project-based learning (PBL) and their implementation in pre-primary education in Slovenia, Slovakia, and Czech Republic, especially for recently qualified teachers. The aim of this project is to improve ECE teachers' competences through introducing innovative approaches and practices and to ensure the comprehensive development of children's competences. This will be achieved by supporting ECE teachers in gaining knowledge on how to efficiently implement TBL and PBL. The project partners will develop a toolkit for ECE teachers, which will support educators in enhancing their teaching practices and techniques, knowledge, competences, and tools for applying TBL and PBL effectively. Additionally, the aim is to integrate the features of the methodology and training into curricula for ECE students from partner universities.

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The paper focuses on the development of teachers' competences in pre-primary education in Task-based Learning (TBL) and Project-based Learning (PBL). It presents theoretical backgrounds and the results of the analysis of data obtained in the pilot within the *Learning by Doing* project, which focused on pre-school teachers' existing experience with TBL and PBL.

*TBL and its implementation in ECE*

The theoretical basis of Task-based Learning (TBL) is the pedagogical theory of constructivism (Steffe & Gale, 2012). The main idea is that children learn during activities prepared by the teacher, however the learning process is focused on the children's activities, and the teacher takes the role of a facilitator. The tasks are connected to real-life situations and contexts, learning is usually in groups or pairs, and construction of meaning is the central focus. During TBL, the activities are designed by the teacher and implemented or led by the children. These tasks should motivate children, engage their attention, and present a challenge for intellectual, creative, ethical, physical, social-emotional or language development. It is important that tasks have specific learning goals and the outcomes can be built upon at a later stage of the task circle (Willis, 1996). When designing a task, it is important that the task is related to real-world experiences (e.g., exchange of personal information, problem solving, judgment or evaluation, experiments, planning, reasoning). The teacher should lead the children to complete the task, and both should know when the task is completed. Assessment of learning is related to the outcome of the task (Skehan, 1996).

The two general types of tasks are open and closed tasks. Open tasks are more loosely structured, with less specific goals, for example comparing memories of holidays or exchanging opinions on a topic. Closed tasks are highly structured and have very specific goals, with precise instructions and information given. Other types of tasks come midway between closed and open. For example, logic problems can have a very specific goal but different ways of achieving the goal. In general, the more specific the goals, the easier it is for children to evaluate their success and the more likely they are to get involved with the task and work independently. It is often the goal and outcome that provide the motivation for children to engage in the task, which then becomes their learning opportunity (Willis, 1996).

Each task has a task circle, which includes 3 steps or phases: pre-task, task cycle and review. The pre-task phase includes advance preparation, introduction of the topic, motivation, and creating interest in doing a task and giving task instructions. The task cycle has three stages: a) the task, b) the planning stage, and c) the report stage. The task can be listing, comparing, ordering, sorting, problem solving, experience sharing or creative tasks and mixtures of several task types. Good task cycles should be planned in such a way as to give the children a feeling of being successful. Tasks should also be designed to bring out and develop children's natural talents and skills. In ECE (age 1 to 6), children are not always able to plan a presentation and complete the report stage, so the teacher can decide which stages of the task cycle are appropriate in any given learning situation. The review is the third step in the TBL process. Once the children have completed the task and have reported about the task, then it is time for a review. The purpose of this step is to examine the accuracy of the completed task and to check whether the learning goals and outcomes have been achieved. During TBL, the teacher should take on the role of facilitator, make sure that all the children are doing the right task, encourage all the children taking part in the task, allow the children to make errors, and act as timekeeper (Willis, 1996; Skehan, 1996; Tsamir et al., 2010).

TBL helps children to interact spontaneously, provides language learners with opportunities to learn vocabulary, emphasizes the active participation of the children, improves children's self-confidence in using and applying new knowledge in the task context, and enables children to present different perspectives as well as develop meaningful discussion (Newton, 2001; Ellis, 2003; 2009).

*PBL and its implementation in ECE*

Project-based learning (PBL) is a model in which learning is organized around projects (Thomas, 2000). Project learning is considered a form of situational learning and is based on a constructivist view of education. John Dewey (1859-1952) put forward the idea that children and students learn better when their knowledge is real, meaningful, usable, and connected to practical life (Barron et al., 1998). The opportunity to solve real and practical problems leads to a deeper interest for the child, an increase in the motivation to learn and thus to better learning outcomes compared to traditional teaching methods. In the traditional approach, knowledge is

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passed from the teacher to the child; the child is passive or follows the teacher's instructions exactly.

In contrast, projects are complex tasks based on challenging questions or problems that engage children in design, problem-solving, decision-making, or investigative activities. They give children the opportunity to work relatively independently over an extended period of time and deliver realistic products or presentations at the end. They may take a tangible form (e.g., a product, object, book, etc.) or an intangible form (e.g., a theatrical performance, class trip, etc.). The diversity of defining characteristics is accompanied by the lack of a universally accepted model or theory of PBL (Thomas, 2000). In recent research, Hovey and Ferguson (2014) pointed out that there are different interpretations of PBL with different characteristics, such as problem-based learning, inquiry-based learning, problem solving, and open-ended problem solving. In addition, activity-based learning and discovery learning encompass similar characteristics. While the former definition focuses on a child-centred learning process, the latter emphasises skill development alongside knowledge acquisition and the crucial task of planning, including task design and question complexity and autonomy (Hábok & Nagy, 2016).

In current pedagogical practice, we sometimes encounter a misunderstanding of project learning. Sometimes teachers confuse a project day that focuses on a specific theme (e.g., Earth Day, Milk Day, etc.), where all the actions and activities of the day relate to that theme, with project learning. This one-off project day, which is worked out in detail by teachers with assignments and materials, cannot be called project-based learning. According to Lev et al. (2020), teachers approach PBL in three phases. First, they develop and plan the project. Second, they carry out the project with the students. Finally, they reflect on the project. For example, Larmer et al. (2015) talk about four phases in relation to PBL: the launch of the project; building knowledge, understanding, and skills; product development, critique, and review; and product presentation. They separate the second and third phases primarily because older students may decide during PBL that they need more information and return from the third phase to the second and then continue again. Within ECE, the understanding and use of 3 phases is sufficient.

During PBL, the child learns from their own direct experiences, not indirectly, and the teacher takes on the role of an advisor, not a director. This leads to a fundamental change – the child participates with the teacher in directing the whole project. It is the children's project – the children feel responsible and play a key role in the successful implementation of the project (Lev et al., 2020).

The key person for the successful use of the project method is the teacher. The teacher plans the educational activities based on the children's interests and needs and must be able to listen to them and respond appropriately to their suggestions. In this way, the teacher no longer takes on the traditional role of teacher and assumes a consultative role. In PBL within ECE, the impetus for the project may be a stimulus from the teacher, a suggestion from the children, or a reaction to the current situation (Lev et al., 2020).

First of all, the teacher must be able to demonstrate the educational goal that has been set based on a curriculum document and present it to the children in the form of a real problem to be solved. The activities planned to solve the problem need to meet the set educational objectives. At the same time, however, the children must be enabled to pursue their own goals, which is the main objective of the project. In PBL, other partners besides children and teachers can be involved in education, such as parents, grandparents, experts in a particular field (e.g., beekeepers, masons, gardeners) or institutions.

## 2      Methodology

The requirements of the *Learning by Doing* project included the creation of a methodological publication, so it was necessary to find out what experience the teachers from the partner pre-schools had with TBL and PBL and how they understood these concepts. For this purpose, a semi-structured questionnaire was created with the aim of answering the following research questions:

Q1: What educational methods do pre-school teachers most often use when teaching children?
Q2: What experience do pre-school teachers have with the use of PBL?
Q3: What experience do pre-school teachers have with the use of TBL?
Q4: What challenges do pre-school teachers identify when using PBL and TBL?

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Q5: What help would pre-school teachers welcome in implementing PBL and TBL within their schools?

The questionnaire contained a total of ten sections. The first four focused on the classification of the respondent (their country, the length of their practice, their level of professional qualification). One section of questions in the questionnaire was scaled, and the remaining sections were open. The key questions in the questionnaire were open questions, to which the respondents were able to write long answers. The questionnaire was sent electronically to teachers working at university partner pre-schools in their national language.

The pre-schools in partner countries were selected on the basis of an assessment of the quality of pedagogical work by the universities involved in the project and were examples of pre-schools with high pedagogical quality that implement innovative pedagogical approaches and serve as model workplaces in their region. However, it is worth noting that pre-school institutions in Slovenia, Slovakia and Czech Republic have varying traditions of implementing both methods.

The total number of respondents was N = 24 (ten from Czech Republic, eight from Slovenia, and six from Slovakia). The questionnaire mainly provided data for qualitative analysis. Due to the small sample of respondents, the quantitative data obtained through the questionnaire was analysed at the descriptive level. The participants' answers to the open questions were analysed using thematic analysis (Flick, 2006; Švaříček & Šeďová, 2014). The respondents' answers were first open coded; the codes were created ad hoc. and then grouped into categories. Five categories emerged in the thematic analysis. To strengthen the reliability of the findings, the descriptions of the categories are supported by direct quotations from the pre-school teachers' responses.

## 3    Results

The results will be presented in two parts. The first part focuses on the use of educational methods prevalent among the participating teachers. In the second part, the results of the thematic analysis will be presented.

# What educational methods are most commonly used by pre-school teachers?
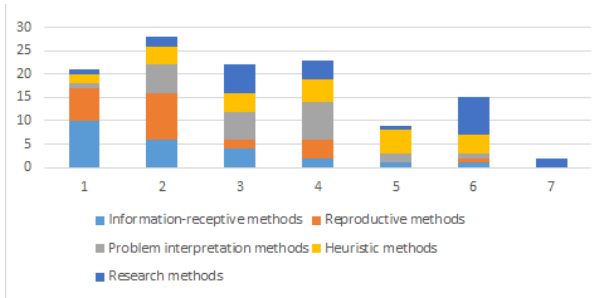


**Figure 1: Frequency of using methods in pre-school education on a scale of 1 to 7**
(1 – daily use; 2 – several times a week; 3 – at least once a week; 4 – at least once a month; 5 – less than once a month; 7 – methods are not used)
Source: own.

The respondents' answers indicated that the educational methods in which the pre-school teacher is leading the pedagogical practice predominate. In the practice of pre-schools, the predominant method is one in which the child is a passive recipient or responds to the teacher's instructions (*Figure 1)*. Methods allowing the child to solve problems and develop their own competences are much less common. In particular, these are verbal methods, where pre-school teachers explain to children, give direct instructions or ask questions. Furthermore, the demonstration method is widely used, where the pre-school teacher shows something to the children or demonstrates a certain activity. The representation of interviews with children on a certain topic, methods of practical activities (musical, artistic, movement and dramatic) and the method of didactic play prepared by the pre-school teacher are very common (see *Table 1*).

**Table 1: Overview of the use of specific methods on scale a scale of 1 to 7**
(1 – daily use; 2 – several times a week; 3 – at least once a week; 4 – at least once a month; 5 – less than once a month; 7 – methods are not used)

| Educational methods | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Σ |
|---|---|---|---|---|---|---|---|---|---|
| | **Telling children** | 12 | 3 | 8 | 0 | 0 | 1 | 0 | 24 |
| Verbal methods - monologue | **Narration** | 17 | 4 | 3 | 0 | 0 | 0 | 0 | 24 |
| | **Explaining the phenomenon, procedures** | 11 | 4 | 9 | 0 | 0 | 0 | 0 | 24 |

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| Educational methods | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | ∑ |
|---|---|---|---|---|---|---|---|---|---|
| | **Enter the procedure or rules of the game** | 16 | 6 | 2 | 0 | 0 | 0 | 0 | 24 |
| | **Verbal description of the activities carried out** | 12 | 3 | 3 | 4 | 0 | 1 | 1 | 24 |
| Verbal methods - dialogue | **Conduct dialogue in a group** | 15 | 5 | 2 | 2 | 0 | 0 | 0 | 24 |
| | **Asking questions** | 17 | 5 | 0 | 2 | 0 | 0 | 0 | 24 |
| | **Looking for information in educational texts (e.g., an encyclopaedia)** | 1 | 6 | 5 | 5 | 6 | 1 | 0 | 24 |
| | **Search for information in fiction (e.g., pictures)** | 1 | 6 | 3 | 9 | 2 | 1 | 1 | 24 |
| | **Work with tables, graphic views, and schemas** | 2 | 1 | 1 | 4 | 8 | 6 | 2 | 24 |
| Demonstration methods | **Observation of objects and phenomena** | 4 | 8 | 7 | 3 | 0 | 1 | 1 | 24 |
| | **Demonstration of subjects, activities, experiments, models by the teacher for the children** | 2 | 6 | 10 | 1 | 3 | 1 | 1 | 24 |
| | **Foreshowing illustrations, pictures, photos, or video samples** | 4 | 12 | 4 | 2 | 2 | 0 | 0 | 24 |
| Methods of practical procedures | **Music activities** | 9 | 10 | 3 | 1 | 1 | 0 | 0 | 24 |
| | **Art and graphic activities** | 6 | 7 | 10 | 1 | 0 | 0 | 0 | 24 |
| | **Physical activities** | 13 | 7 | 4 | 0 | 0 | 0 | 0 | 24 |
| | **Dramatic activities** | 1 | 10 | 6 | 6 | 0 | 1 | 0 | 24 |
| | **Work activities** | 2 | 10 | 5 | 3 | 2 | 0 | 2 | 24 |

| Educational methods | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | $\sum$ |
|---|---|---|---|---|---|---|---|---|---|
| | **Research activities** | 1 | 3 | 4 | 7 | 5 | 2 | 2 | 24 |
| Situational and staging methods | **Learning within a specific life situation** | 4 | 5 | 9 | 4 | 0 | 2 | 0 | 24 |
| | **Entering roles in a simulated situation** | 1 | 9 | 3 | 6 | 3 | 1 | 1 | 24 |
| | **Drama** | 1 | 4 | 3 | 6 | 6 | 4 | 0 | 24 |
| Methods of didactic games | | 3 | 2 | 2 | 3 | 5 | 6 | 3 | 24 |
| Project methods | **Solving a complex problem** | 3 | 2 | 2 | 3 | 5 | 6 | 3 | 24 |

Analysis of the preferred methods highlighted that many respondents persist in the teacher-centred approach, which considers the teacher a guarantor of the educational process, providing the children with knowledge and skills. Respondents used methods that allow children to discover independently and use their innate dispositions to learn only occasionally or not at all. The pre-school teachers rarely worked as facilitators of the educational process. Although selected pre-schools and their teachers to some extent represent pre-school institutions with high pedagogical quality, the study indicates that they can still further develop their pedagogical approach. This quality improvement could be supported by greater use of educational methods that consistently enable the active involvement of the child in the learning process and fulfil the concept of pre-primary education in the EU and the child-centred approach in ECE (European Commission, 2019).

**Pre-school teachers' experiences with TBL and PBL**

Thematic analysis revealed four categories, and the experiences in each category of the participating pre-school teachers from the Czech Republic, Slovakia and Slovenia are presented in *Table 2*.

**Pre-school teachers' experiences with the use of PBL**

Differences resulting from different national experiences were evident in the answers on the use of the project method. While Slovak respondents mostly stated that they did not use this method, all Slovenian respondents gave examples of

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project-based learning from their practice. Some Slovenian pre-school teachers provided high-quality examples of PBL, in which children, and even parents, played a significant role in project management and implementation.

**Table 2: The four categories**

| Categories | Theme: Pre-school teachers' experiences with TBL and PBL |
|---|---|
| | Experiences with the use of PBL |
| | Experiences with the use of TBL |
| | The challenges of using TBL and PBL |
| | Support for the implementation of PBL and TBL |

One of the Slovenian pre-school teachers mentioned a project titled *Getting to know the forest*:

*"We are planning what we should do with the children … Go to the forest, explore it, collect material and then create something …"*

The involvement of parents and the role of children in project management and implementation is evident in another Slovenian pre-school teacher's answer:
"*Bird feeder – On the walk, the children are encouraged to watch birds. Our conversation focuses on the theme of caring for birds. After presenting the problem, the children come up with the idea of making a bird feeder. Together we set the goal of making a bird feeder. What follows is a collection of ideas on how to do this. We involve parents in the project by sharing ideas and collecting materials. The children make a bird feeder and hang it in a visible place so they can watch the birds during feeding.*"

The following is an example of a Slovak teacher's response about implementing project-based learning:

"*I do not apply project learning in my practice.*"

However, it was obvious from some responses that some pre-school teachers understand PBL as the involvement of the pre-school in a specific project (ecological, transport, etc.), which does not correspond to the definition of PBL. The following is an example of a project implemented throughout the pre-school as mentioned by a Slovenian pre-school teacher:

"*Project White rabbit – It's about transport and the environment, about how we should be cycling or walking more than driving. We have been discussing the topic. The children drew the white rabbit. Every day that their parents did not use the car, the child got a reward (a sticker). Every day we talked about the topic, why it is important, the children made suggestions about what we should do …*"

Among the Czech respondents, the term project was in most cases interchanged with the concept of a thematic unit, as illustrated in the two examples below. Additionally, the project was designed and led by the pre-school teacher, without the children's participation in project management.

"*We work with a theme that we look at with children in a variety of ways. Apples; working with a literary masterpiece: rhymes, riddles, songs, poems; working with natural products: picking apples, comparing apples; working with the senses: tasting apples, smelling apples, tasting other apple products; art activities: painting apples, collage; work activities: baking apple pie, cooking apple sauce; dramatic activity: working with the text 'Grandma had four apples' – a play in the role of Grandma, the old man.*"

"*A project on the story 'About the Roosters of the Storm and the Rainbow' (spring theme) that included activities, such as: simple fun movement rooster games, a drama with the teacher in the role of the storm, creating a big grey world so big that the whole class can sit in it … and playing another drama with a strong emotional charge (overcoming fear), singing and recording our own 'rooster and egg' song, producing a short animated film (published). In short, we experienced a play every two days, a shared creation, a shared emotional experience. A long project (two months) inspired just by the story.*" (Czech pre-school teacher)

The examples of the Czech and Slovak teachers' practice and experience given above correspond to research on teachers' approaches to planning educational content in the Czech Republic and Slovakia (Koželuhová et al., 2020; Krejčová et al., 2015). These show that in the current pedagogical practice of pre-schools, activities that are fully planned and managed by teachers are still very common. Although teachers plan activities based on the observation of children's interests, they are not always able to cooperate with children in planning a project and creating situations where children are actively involved in planning activities on a larger scale. Czech and Slovak teachers understand the needs and interests of children, but in practice they still use mostly teacher-led didactic methods, wherein children do not have room for

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active participation in the management of activities. We therefore consider this a challenge for the further development of pedagogical practice.

## Pre-school teachers' experiences with the use of TBL

Most of the teachers confused task-based learning (TBL) with experiential learning or believed that TBL was any activity in which the child is active and produces something. Research activities appeared in the educational process, but most of them were the pre-school teacher's attempts at explaining content; the child did not participate through direct discovery or by asking questions.

"*We work with the children in activity centres, the children work independently, with their group. For example, the children measure and weigh (e.g., themselves on the topic of the human body) and then write them down.*" (Czech pre-school teacher)

"*The children draw objects from the 'magic bag'. The child recognizes an object, tries to name it, recognizes the colour, and puts it in a box of the same colour. The boxes are ready at the other end of the playroom, the children are carrying, moving the objects. Older children try to identify the function of the object.*" (Slovenian pre-school teacher)

"*Planting plants – Talking about plants (what they need to live), planting the seeds of the plant in the soil, cotton wool, monitoring germination, growth. Examining the growth of a plant: in the light, in the dark, a plant that is watered and one that is not watered.*" (Slovakian pre-school teacher)

On the other hand, among the examples of teachers applying TBL there were activities that one could consider as sub-projects (e.g., submarine construction, knitting). The answers show that both the concept of TBL and the concept of PBL are poorly understood by the respondents.

"*Underwater world – submarine (work with technical documents, drawings, submarine construction, functional equipment, telegraph assembly).*" (Czech pre-school teacher)

The respondents quite often confused the TBL method with other approaches in their pedagogical practice. Activity learning and the active involvement of children in the educational process is a challenge, especially for teachers just beginning their career (Fantilli & McDougall, 2009; Gregory, 2016; Hernandez, 2018; Keller-

Schneider, Zhong & Seeshing, 2020). Another problem is that these teachers often take over the procedures implemented in a given pre-school and that some traditional transmissive approaches persist in pedagogical practice, which make it difficult for children to participate in their education in a truly active way.

**The challenges for pre-school teachers when using TBL and PBL**

The participants' responses on the challenges they faced were consistent and fell into three categories: (1) inadequate expertise of teachers in various disciplines, (2) external conditions, such as the composition and size of the groups of children, and (3) material conditions. Regarding inadequate expertise, the participants reported lack of specific knowledge of certain fields and inadequate knowledge in using innovative methods for pre-school teaching. The most frequent answers concerning external conditions referred to the large number of children in a group, teaching very young children (1- to 3-year-olds), and integrating children with special educational needs.

In the words of a Czech pre-school teacher:
"*The biggest problem is the large number of children and the integration and care of children with special educational needs and their inclusion in the activities.*"

"*Too many children in a playroom.*" (Slovenian pre-school teacher)

Regarding material conditions, pre-school teachers most often mentioned a lack of teaching materials and tools, and insufficient technical equipment and financial resources.

A Czech pre-school teacher wrote:
"*My obstacle is certainly the lack of information in certain areas and the lack of technical and material resources.*"

A Slovenian pre-school teacher's response encompasses various obstacles faced when using TBL and PBL:

"*Lack of time, lack of knowledge about project work, children who do not speak the language well – they come from different countries, children with special needs in regular groups.*"

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Similarly, Slovak pre-school teachers expressed several obstacles in the use of TBL and PBL:

"*Low age of children (3- to 4- year-olds), little professional literature in this area, little information, no practice with project learning.*"

One of the obstacles the respondents see in the use of PBL is the lack of time to carry out projects within their daily pedagogical duties and work tasks.

"*Perhaps only the time and equipment for the project itself. Usually, we make all the aids ourselves and it is time-consuming. Sometimes we also have a problem with space – where can we put the observed objects or work in progress, which is for a longer period of time?*" (Czech pre-school teacher).

**Support for the implementation of PBL and TBL**

The respondents agreed that they would welcome methodological materials (guidelines, handbooks, etc.) that would include specific procedures and examples of entire projects, or video demonstrations of TBL and PBL.

One Czech pre-school teacher wrote:
"*I would welcome more publications with practical, even directly described projects. If we as teachers could spend more time on describing and presenting successful projects than on administration, which in my opinion does not result in much. I really liked one project where my colleague recorded a video of a demonstration.*"

"*In practice, I would welcome teaching aids, methodological materials, software on project teaching.*" (Slovak pre-school teacher).
"*Methodological books with examples, different materials.*" (Slovenian pre-school teacher)

"*Methodological materials, teaching aids, demonstration of project design.*" (Slovak pre-school teacher)

The pre-school teachers expressed a desire to share practical experience through mutual meetings with other colleagues. The respondents also felt the need for professional development in relation to pedagogical methods, such as seminars linked to practical demonstrations.

"*I would appreciate an inspiring seminar on project learning, especially when it comes to outdoor teaching.*" (Czech pre-school teacher)

"*Seminar, literature on specific types of learning, …*" (Slovak pre-school teacher)

"*Seminars, training in task-based and project-based learning, demonstrations by colleagues in kindergartens.*" (Czech pre-school teachers)

In addition, regarding the support needed to implement TBL and PBL, pre-school teachers pointed out that they would appreciate special teaching aids (projectors, microscopes, magnifiers, etc.).

"*Material and technical aids (projector, printer, etc.), sets for research activities and experiments (microscopes, etc.).*" (Slovak pre-school teacher)

"*Teaching materials, aids (audio-visual equipment, research kits), …*" (Slovenian pre-school teacher)

The data obtained is an important starting point for an international project, however, it also shows that (1) both methods are used to a limited extent in selected pre-schools and (2) pre-school teachers have less experience and knowledge of both methods. This is the case even though the selected pre-schools are considered to be high-quality and progressive institutions in the project countries, and the authors expected more high-quality implementation of TBL and PBL.

## 4       Discussion

In pre-primary education, the teachers direct their efforts to ensuring that the child is not only a passive recipient, but an active participant in the educational process. The results highlighted that although teachers do not initially have a comprehensive

knowledge of PBL and TBL, they are looking for ways to implement educational processes that follow children's interests and needs.

Intuitive, receptive teachers respond to the child's current needs; however, they do not always understand the correct approaches to PBL and TBL. The traditional way of learning is often prevalent in practice, especially relying on a teacher-led didactic approach. Teachers often lean towards traditionalism if they have very diverse groups of children and if they are not able to find a suitable teaching method.

The study was based on our previous professional and practical experience. The questionnaire was compiled and modified based on discussions with several experts in the field. Considering the objectives of the study, the research sample is relatively small, therefore the authors are not generalising the research results to the entire research set. The data was analysed qualitatively. Despite its shortcomings, the study has pointed us in the direction in which we should focus our next efforts.

The research results presented in this paper confirm findings from other studies (see, e.g., Sumarni et al., 2021). For example, they show that a comprehensive understanding of PBL and TBL is still lacking in practice. As stated by Lev et al. (2020), time and space need to be devoted to professional discussion that can help to remedy these shortcomings. In addition, resources (published articles, methodologies, and other professional literature) that develop professional discussion about the importance of the child as an active creator of their own learning are as essential as sharing examples of good practice.

## 5 Conclusion

This paper presents the initial results of the *Learning by Doing* project. The results show that teachers do not often use methods wherein the child can independently discover and use their developing abilities. The authors continue to see the potential for the professional development of teachers in their practice. The participating teachers expressed their interest in new approaches and methods that are aimed at children's attitudes, interests, initiative, and activities in which children can express what they are interested in doing and what knowledge they want to develop further.

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