

SOCIAL & EMOTIONAL LEARNING THROUGH BRINGING NATURE BACK TO SCHOOLS – SEL FOR SCHOOLS



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Introduction

Social-emotional learning (SEL) and mental health preventive programs are very popular internationally; however, there is limited research evaluating their effects on children in kindergarten. Social and Emotional Learning (SEL) is an essential component of keeping children and youth safe and healthy. SEL programming delivered in kindergarten helps children succeed in school and in life. The first years of life are crucial for school success and for adult life. It is at this stage that the brain has a unique plasticity and remarkable development. Neuronal pathways are developed through external stimuli, which, in turn, have an impact on children's emotional, social, and intellectual skills and competences (Allen & Kelly, 2015). Early experiences affect the development of the brain architecture, which provides the foundation for all future learning, behaviour, and health. A major ingredient in this developmental process is the serve and return interaction between children and their parents and other caregivers (Ferreira, Reis-Jorge & Batalha, 2021; Harvard University, 2020).

The early years of a gifted child's life are a crucial developmental period characterized by various psychological, biological, and behavioral changes across many domains (Vaivret-Dourett, 2011). Beginning in early childhood, and continuing throughout development, gifted children's social-emotional growth, along with competencies related to the self – including the establishment of self-esteem and self-perception – provide gifted individuals with the skills needed to experience, deal with, and efficiently manage the unique challenges facing them when engaging with others (Papadopoulos, 2020). These skills are critical for gifted children's holistic development, well-being, and personality

functioning (Neihart & Yeo, 2018; Corso, 2007). However, the pursuit of academic success is often seen as a top priority by children as well as by their parents (Davis & Rim, 2004), while childrens’ necessary social and emotional needs may be neglected (Ch’ng, 2014). This is particularly true for a number of societies around the world, where academic achievement is typically seen as the greatest predictor of a gifted child’s self-worth (Fedorko, 2024; Fedorko 2023; Sabol & Gombár, 2023; Papadopoulos 2020). Schools and kindergarten are focusing more on developing SEL programming for students and children as research highlights the positive relationship of SEL to academic success. Research demonstrates that schools and kindergarten should offer safe and supportive environments to promote the “soft” or “noncognitive” skills that are critical for future success in higher education and business (Bancino & Zevalkink, 2007; Kyllonen, Walters & Kaufman, 2005; Houghton & Proscio, 2001). Such social and emotional skills include a strong work ethic, teamwork, self-efficacy, and confidence. Many educators promote accountability in schools for providing the safe and supportive environments — including implementing SEL programs—necessary to achieve these outcomes (Greenberg et al., 2003).

According to CASEL (2020), SEL is made up of 5 broad and interrelated areas of knowledge and skill, listed below. These skills are important for collaboration and perspective taking. They also help students and children manage their feelings, address challenges, and reach their goals. Families, schools, kindergarten and communities support these skills by working together to create the learning, experiences, and environments students and children need to be successful.

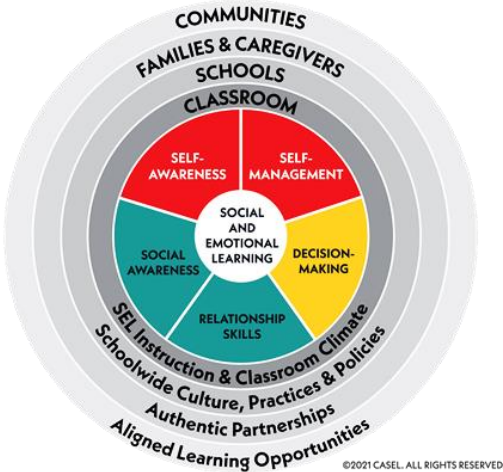


Figure 1 Supporting SEL (CASEL, 2021)

A wheel of six concentric circles. The words Social Emotional Learning are at the core. The five core SEL competencies are in the next concentric circle: self-awareness; self-management; social awareness; relationship skills; and decision-making. The top of the next four concentric circles represent the key settings in which SEL is implemented: classroom, schools, families, and communities. Finally, the bottom of the four outer circles highlight the how of SEL implementation: Instruction and classroom

climate; schoolwide culture, practices and policies; authentic partnerships; and aligned learning opportunities.

According to the CASEL model (2005), SEL consists of five key competences: 1. Self-awareness, i.e. the ability to recognize a person's emotions, thoughts, and their influence on behaviour 2. Self-control, i.e. the ability to regulate one's emotions, thoughts and behaviour in different situations; 3. Social awareness, i.e. the ability to assume the other's perspective and empathise with people from different cultures, understanding the social and ethical norms of such behaviour; 4. Relationship skills, i.e. the ability to establish and maintain healthy and rewarding relationships and; 5. Responsible decision-making, i.e. the ability to make constructive and respectful choices about personal behaviour and social interactions based on ethical standards, safety concerns, social norms, considering the well-being of oneself and others (Weissberg et al., 2015). All these skills are important to support collective and cooperative behaviours, the ability to develop effective problem solving skills, self-discipline, impulse control and management of emotions, and lead to less behavioral and communication problems as well as less emotional tension (Greenberg et al., 2003). Social and emotional competences allow children to calm down when they are angry, facilitate friendships, help resolve conflicts and allow ethical and safe choices to be made (O'Brien & Resnik, 2009). It is essential to build a stable and emotionally peaceful learning environment in the preschool education classrooms, which facilitates the expression of feelings and emotions and the development of positive social emotional skills and interpersonal relationships. The understanding of emotions leads to better self-regulation, which in turn leads to emotional and affective well-being, resulting in a better predisposition for learning and greater school and life success (Vale, 2012). The foundations of social and emotional competences that are developed in the early years of life impact future emotional well-being and the ability to adapt functionally to school and to form successful relationships throughout life (Durlak et al., 2011). Thus the relevance of including SEL content in the preschool curriculum in order to help prevent emotional and behavioral problems, and prepare children to address the learning and social challenges that they will face in later school cycles (Ferreira, Reis-Jorge & Batalha, 2021; Gunter et al., 2012).

Research Problem

Based on the given research topic, we set research problems, namely: What are the **social-emotional competencies** of preschool children after the implementation of an innovative educational program focused on outdoor education with the development of a relationship with nature? What is the **prosocial behaviour** of preschool children after the implementation of an innovative educational program focused on outdoor education with the development of a relationship with nature? What is

the **knowledge** of preschool children after the implementation of an innovative educational program focused on outdoor education with the development of a relationship with nature? (Fedorko, 2023)

Research Objective

We set ourselves the goal of the research: to create and pilot-validate SEL with the innovative educational program focused on outdoor education with the development of a relationship with nature, and to verify its effectiveness and impact on **social-emotional competencies, prosocial behaviour and knowledge** in preschool children in kindergarten conditions. On this basis, we set the following research tasks: **1. Task:** From the opinions, knowledge and expertise of practitioners in an international context, prepare, create and pilot-validate SEL with an innovative educational program focused on outdoor education with the development of a relationship with nature for preschool children in kindergarten conditions. **2. Task:** From the opinions, knowledge and expertise of experts in practice in an international context to select, prepare and create questionnaires, tests, and interviews aimed at examining knowledge about nature and attitudes, relations to it, social-emotional competencies of prosocial behaviour intended for children of preschool age in the conditions of kindergarten and of kindergarten teachers. **3. Task:** To carry out an ante-measurement in the framework of knowledge about nature and attitudes, relations to it, social-emotional competencies, prosocial behaviour in preschool children in kindergarten conditions. **4. Task:** Practically realize, implement, and verify the created SEL innovative educational program focused on outdoor education with the development of a relationship with nature for preschool children in kindergarten conditions into the educational process of kindergarten. **5. Task:** To carry out a post-measurement within the framework of knowledge, knowledge, knowledge about nature and attitudes, relations to it, social-emotional competencies, and prosocial behaviour in preschool children in kindergarten conditions after the experimental intervention. **6. Task:** Perform statistical analysis and pedagogical interpretation of the implemented measurement, SEL verification of an innovative educational program focused on outdoor education with the development of a relationship with nature for preschool children in kindergarten conditions. Interpret the obtained data and results. **7. Task:** Formulate conclusions and recommendations for pedagogical practice (Fedorko, 2023).

Research Sample

Based on the requirements of our research, we approached kindergartens from Slovakia, Spain, Malta and Great Britain to participate in anonymous research, which consisted of an experiment.

Research group N1 consisted of **257 preschool-age children** aged 5 to 6 years (**N1=257**). Of these, 60 preschool children from kindergartens in Slovakia (experimental group 1 – 20 preschool children, experimental group 2 – 20 preschool children, control group 1 – 20 preschool children). There were 26 boys and 34 girls. 57 preschool children from kindergartens in Spain (experimental group 1 – 20 preschool children, experimental group 2 - 20 preschool children, the control group 1 - 18 preschool children). There were 28 boys and 29 girls. 80 preschool children from kindergartens in Malta (experimental group 1 - 19 preschool children, experimental group 2 - 43 preschool children and control group 1 - 18 preschool children). Of these, 22 were boys, and 58 were girls. 60 preschool children from kindergartens in Great Britain (experimental group 1 - 20 preschool children, experimental group 2 - 20 preschool children, control group 1 - 20 preschool children). There were 32 boys and 28 girls.

Experimental group 1 – was a group in which the SEL innovative educational program focused on outdoor education with the development of a relationship with nature was implemented and carried out mainly in the indoor environment of the kindergarten (children spent a maximum of 1 hour per week outdoors in a natural, outdoor environment, in connection to the program). **Experimental group 2** – was a group in which the SEL innovative educational program focused on outdoor education was implemented and was carried out mainly in the natural, outdoor environment of the kindergarten (teachers were recommended to enable children spend at least 4 hours per day outside in the natural, outdoor environment or in the school grounds). **Control group** – was a group that worked in a traditional way of education and did not implement an SEL innovative educational program focused on outdoor education with the development of a relationship with nature (without recommended time spent outside in a natural, outdoor environment).

Research group N2 consisted of **30 kindergarten teachers (N2=30)**. Of these, 8 kindergarten teachers from Slovakia (8 females and 0 males). 10 kindergarten teachers from Spain (10 females and 0 males). 3 kindergarten teachers from Malta (3 females and 0 males) and 9 kindergarten teachers from Great Britain (9 females and 0 males).

Research group N3 consisted of **299 parents of children attending kindergartens (N3=299)**. Of these, 69 are parents of children attending kindergartens in Slovakia. 67 parents of children attending kindergartens from Spain. 89 parents of children attending nursery schools from Malta and 74 parents of children attending nursery schools from Great Britain.

The total research set consisted of: **N=N1+N2+N3**

N=257+30+299

N=586 respondents (Fedorko, 2023).

Methodology of Research

In our research, we used an **experimental method - an experiment**. The experiment is very important because it is used to determine the effectiveness of the educational action. The experiment is therefore an essential research method when introducing educational changes and innovations and carrying out transformations or reforms. Experimental research was carried out using the technique of three groups. The experiment is a complex research method in which other research methods must necessarily be used to obtain data about the subjects of the experiment, so we subsequently used the **research method of a validated standardized scale questionnaire**. The questionnaire method is the most frequent research method in social research. It is favored by the potential to obtain a lot of information from a large set of respondents. This ease sometimes causes the process of its creation to be underestimated - the individual steps in creating a questionnaire are given less attention than they deserve. The result is sometimes questionnaires with unclear intent, broken structure, and ambiguous questions. The questionnaire is one of the most frequently used methods in research. It is used in the social sciences for mass and rapid ascertainment of facts, opinions, attitudes, preferences, values, motives, needs, interests. The questions asked can refer either to external phenomena or to internal phenomena. The questionnaire itself is a set of pre-prepared and carefully formulated questions that are carefully arranged and to which the given person (respondent) answers in writing.

A) In our research, we used an **experimental method as a basic method - an experiment**. The experiment was an innovative educational program focused on outdoor education with the development of a relationship with nature for preschool children in the context of prosocial behavior and empathy of preschool children. Goleman (1997) points to an important finding that teaching emotional education improves children's academic performance and academic achievement. The problem of emotional intelligence cannot be simplified, because the causes of a person's emotional crisis are very complex. These include innate characteristics, family relationships, poverty, street life, mass media, but also other influences. No intervention or emotional education alone can solve these problems. A solution is necessary in conjunction with many other measures, while emotional education becomes one of the basic elements of educational change, an essential part of reform education systems, alternative schools and concepts. Our innovative educational program focused on outdoor education with the development of a relationship with nature for preschool children in the context of prosocial behavior and empathy of preschool children is primarily based on the most important elements that are also effective in preventive programs:

Emotional abilities

- identification and correct labelling of feelings,
- expression of feelings,
- control of emotions, good handling of them,
- postponement of need satisfaction,
- impulse control,
- stress reduction,
- awareness of the differences between feelings and actions.

Cognitive abilities

- self-talk, conducting an internal dialogue to manage difficult situations to strengthen volitional control and self-regulation of behaviour,
- correct interpretation of hints, gestures and orientation in social roles,
- using constructive procedures in problem solving and decision-making,
- understanding the attitudes, opinions and points of view of other people,
- understanding the norms of behaviour, what is allowed and what is not,
- positive attitude towards life,
- self-awareness, realistic ideas about oneself and the world.

Behavioral abilities

- non-verbal – facial expression, voice timbre, body language, gestures, eye communication,
- verbally – the ability to formulate your requirements, know how to listen, help solve problems constructively.

Personal and prosocial skills

- initiative and activity,
- effort,
- endurance,
- motivation,
- self - respect,
- responsibility,
- humility,
- help,
- honesty,
- consideration.

Skills of orientation in interpersonal relations

- the ability to analyse and understand interpersonal relationships,
- resolve conflicts and settle disputes more effectively,
- better solve problems in interpersonal relationships,
- more assertive and effective communicating children,
- spend more time with friends, more socialization,
- more sociable children, they can integrate naturally and harmoniously, establish themselves in a group,
- more communicative children, they are more willing to help, they can cooperate effectively,
- greater pro-sociality.

In the creation of an SEL innovative educational program focused on outdoor education with the development of a relationship with nature for preschool children in the context of the development of socio-emotional competences, knowledge, skills and prosocial behavior of preschool children, we used the following methods and strategies:

- play and experiential learning,
- free play,
- interactive exercises,
- aesthetic/art activities,
- psychological support from the teacher,
- children's practical activity,
- research activities,
- trial and error method.

For teachers implementing our SEL program, it is very important to accept the following recommendations:

- Involve feelings, motivate.
- Create a good and confidential climate in the classroom.
- Listen with your heart.
- Build an attitude.
- Tolerate.
- Give children responsibility.
- Be flexible.
- Strengthen the good.

- Guide children to empathy and teach empathy.
- Understand and feel.
- Be a real example and role model.
- Have defined boundaries and teach children respect and discipline through practical activities.
- Instill humility in children through practical activities.
- Actively work with children (practical activity – work in nature, in the school yard, etc.) (Fedorko, 2023).

B) Bird Buddy – a modified questionnaire that examines attitudes and knowledge about birds.

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Results

The results revealed that the SEL program was effective in increasing childrens' knowledge and cognition, prosocial behavior, affective empathy (contagion) – emotion contagion, cognitive empathy (understanding) – attention to others' feelings, prosocial motivation (support) – prosocial actions, emotional competence, relation to nature and well-being scores. Moreover the analysis showed in some cases a significant group (experimental group 2 – was a group in which the SEL innovative educational program focused on outdoor education was implemented and was carried out mainly in the natural, outdoor environment of the kindergarten. Children were recommended to spend at least 4 hours per day outside in the natural, outdoor environment), by time interaction effect in the assessed variables ($p < 0.005$). Our research findings confirm the positive impact of the SEL program on the comprehensive personality development of preschool children in terms of socio-emotional competence, cognitive skills, pro-social behavior and mental well-being. Also, the positive impact of outdoor education on the preschool child came out in most of the cases (Fedorko, 2024; Fedorko, 2023; Sabol & Gombár, 2023; Fedorko, 2020). This SEL program significantly improved taught skills, corroborating the findings of other studies, which support that SEL can improve complex personality of children. The strengths and limitations of this study and importance of implementing prevention SEL programs to promote socio-emotional development children are also discussed.

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