3_Case-Based Abstracts

THE APPLICATION OF SOCIAL, EMOTIONAL AND ETHICAL LEARNING (SEEL) PRINCIPLES IN THE HUMANITIES AND NATURAL SCIENCES FOR FOSTERING DEMOCRATIC CULTURE

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In the contemporary context, the professional role of educators is undergoing further expansion and redefinition. Teaching has long ceased to be limited to the mere transmission of knowledge; instead, it combines educational, developmental, and supportive functions, increasingly acting as a facilitator of students' psychosocial development and well-being. In the Ukrainian realities of information warfare, hybrid threats, and, since 2022, full-scale war [4], this role gains particular significance, as the educational process occurs under conditions of heightened stress, traumatic experiences, and social instability [3]. Accordingly, educators not only ensure the continuity of learning but also create a safe educational environment, support students' emotional stabilization, foster resilience, and cultivate skills in mutual aid, empathy, and social cohesion.

An effective instrument in this process is social-emotional and ethical learning (SEEL), which can be considered socially oriented, as it comprehensively promotes psychological resilience, social connection, collaboration, and the development of an active civic stance, preparing students for active civic participation and engagement with socially significant challenges [9]. The SEEL program is based on approaches and methodologies developed, tested, and refined over more than two decades by an

international team of researchers at Emory University (Atlanta, USA). Its theoretical foundation draws on the concept of emotional intelligence, particularly the work of Daniel Goleman, the teachings of the 14th Dalai Lama, and leading educational practices worldwide [1; 2].

SEEL is structured around three core dimensions: awareness, empathy, and active engagement, each considered at the personal, social, and systemic levels. Motivation for independent thinking, question formulation, and active learning is promoted through key educational trajectories, including critical thinking development, participation in community projects, reflective practices, creative expression, scientific inquiry, collaborative learning, and environmental education [5]. Fundamental components of SEEL include self-awareness (understanding one's emotions, their causes, and effects on behavior), self-regulation (managing emotions, controlling impulses, and adapting to change), social awareness (empathy and understanding others' emotions), interaction skills (effective communication, collaboration, and accountability), responsible decision-making, and the ability to form and maintain healthy interpersonal relationships [7, p. 91]. These competencies are essential for transitioning from a state of psychological survival to active and conscious engagement in educational and social life.

It is important to emphasize that students' psychosocial well-being is a prerequisite for effective learning, conscious engagement in social projects, and the development of skills for participating in democratic processes. Prolonged stress and anxiety reduce students' capacity for critical thinking, constructive dialogue, and responsible decision-making. Therefore, integrating SEEL elements into school and university practices is particularly relevant. Traditionally, humanities disciplines have been tasked with developing critical and reflective thinking, value orientations, dialogue skills, empathy, responsibility, and fostering civic and democratic competencies, respect for human rights, and readiness to engage in community and state life. The cultivation of democratic culture in educational settings primarily occurs through the promotion of critical thinking, practical participation mechanisms, discussions, and debates [10].

Natural sciences can and should complement this process, expanding opportunities for developing these qualities through

a different type of knowledge and activity. Physics, in particular, provides significant potential in this regard. Today, physics education increasingly goes beyond purely theoretical content, gaining applied and personally meaningful dimensions, fostering logical thinking, the ability to make reasoned decisions, and responsible action in diverse life situations. Engagement with physics gradually leads students beyond formal knowledge acquisition toward a deeper understanding of the laws of the world and their role within it [6]. Through interest in experiments, game-based activities [8], explanation of phenomena, and inquiry, students develop intrinsic motivation and the ability to comprehend complex processes in a broader societal context.

Physics plays an important role in developing critical thinking, as it trains students to work with evidence, analyze cause-and-effect relationships, and evaluate the reliability of information, contributing to the formation of informed citizens capable of rational analysis of political and social processes. It also directly contributes to cultivating a safety culture through understanding physical phenomena, such as the effects of blast waves, propagation of sound and shock waves, behavior of glass under stress, heat transfer, or pressure effects. Engaging students in practical tasks, such as assessing building energy consumption, analyzing heat losses, or exploring alternative energy sources, links learning to real community needs, fostering both professional and civic competencies, as well as a sense of responsibility for the common good.

An important aspect is the personal dimension of learning. Explaining physical phenomena through students' bodily experiences enhances comprehension and awareness of their own state (for example, learning Pascal's law through the sensation of pressure with closed nose/mouth, demonstrating changes in internal energy during evaporation by cooling a wet palm, etc.). Discussion of ethical aspects of scientific activity (e.g., nuclear weapons development and use) fosters responsible attitudes toward scientific progress. Highlighting the achievements of prominent Ukrainian scientists, such as Serhii Koroliov, Ivan Puluj, George Gamow, and others, helps cultivate values of perseverance, resilience, and civic responsibility in learners.

Thus, the application of social-emotional and ethical learning principles across both humanities and natural sciences is relevant

and effective. In the current conditions of heightened stress and social challenges, these approaches create a safe environment, develop emotional resilience, empathy, collaboration skills, and responsible decision-making, which form the essential foundation for active civic engagement and the cultivation of democratic culture in educational settings. Traditionally, humanities develop value orientations and dialogue culture, while natural sciences provide tools for understanding objective reality, fostering critical thinking, safety culture, and practical problem-solving skills. This synergy ensures holistic development of individuals who not only understand social processes but also act responsibly, contributing to the development of a democratic society.

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