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Lecture № 1

**METHOD “MOVEMENT – COORDINATION – LEARNING”
DIRECTION II: INTEGRATION OF PHYSICAL EXERCISES WITH
COMPETENCE-ORIENTED TASKS**

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PLAN

1. Features of the “Movement – Coordination – Learning” method: purpose and directions.
2. Direction: Integration of physical exercises with competence-oriented tasks.
3. Ways of developing key competencies of the Ukrainian education system through physical education.

The "Movement–Coordination–Learning" method is highly relevant in modern educational processes, especially when working with children and adolescents.

The primary goal of this method is to positively influence cognitive processes and enhance learning abilities through physical activity. The Ukrainian team has extensive experience in researching key competencies in physical education, focusing on social, educational, psychological, and intellectual aspects. Recent articles published by the project team discuss the integration of physical activity, the development of key competencies, and the activation of psycho-emotional and intellectual growth through movement.

The combined "Movement–Coordination–Learning" method integrates physical exercises, coordination tasks, and competency-based learning activities to establish a connection between motor activity and academic skills in children aged 5–10. It consists of three main directions:

1. **Smart Ball** – This approach integrates various aspects of development, including motor, cognitive, and communication skills, using a ball as a universal tool for activities that enhance multiple areas of a child's growth.
2. **Integration of Physical Exercises with Competency-Based Learning** – This focuses on developing the 11 key competencies of the "New Ukrainian School" educational reform, as well as transversal skills such as creativity, innovation, and vocabulary expansion through movement.
3. **Application of Special Physical Exercises** – This involves stimulating different parts of the central nervous system through exercises that include precision ball throws at various targets and changing movement trajectories.



The method aims to develop motor skills, mental processes, and cognitive abilities in preschool and early school-age children, enhancing agility, speed, flexibility, spatial orientation, and coordination through physical activity. A crucial element is the use of equipment, as well as light and sound signals, to provide a comprehensive impact on the child's sensory systems, increasing engagement and the effectiveness of lessons.

This method ensures a high level of emotional involvement in activities and fosters a lasting interest in performing physical exercises.

Overall, the "Movement–Coordination–Learning" method is in high demand in modern education, as it aligns with the need for an integrated approach to child development. It not only improves physical and cognitive abilities but also helps cultivate a positive attitude toward learning.

Currently, the primary innovation in the Ukrainian education system is competency-based learning, as outlined by the "New Ukrainian School" educational reform. This innovative approach stems from Ukraine's aspiration to integrate into the European educational space.

The Ukrainian education system has identified 11 key competencies, including:

- Proficiency in the state language;
- The ability to communicate in one's native (if different from the state language) and foreign languages;
- Mathematical competence;
- Competencies in natural sciences, technology, and engineering;
- Innovation;
- Environmental awareness;
- Information and communication literacy;
- Lifelong learning;



- Civic and social competencies related to democracy, justice, equality, human rights, well-being, and a healthy lifestyle, with an understanding of equal rights and opportunities;
- Cultural awareness;
- Entrepreneurship and financial literacy.

Our method places a strong emphasis on developing and implementing competency-based tasks that foster students' intellectual, creative, and social abilities through movement activities.

We invite you to explore the features of our method for primary school students. Tomorrow, we will discuss the specifics of the combined method for preschool children.

The slide presents an example of a competency-based task aimed at developing the key competence "Proficiency in the State Language"—Ukrainian.

In physical education, this competence can be fostered through the ability to correctly use terminology when following drill commands, communicating in various situations during physical education and sports activities, resolving conflicts that may arise in team sports, as well as during active games and relay races. Additionally, it includes promoting the values of physical culture and sports through language (fig. 1).

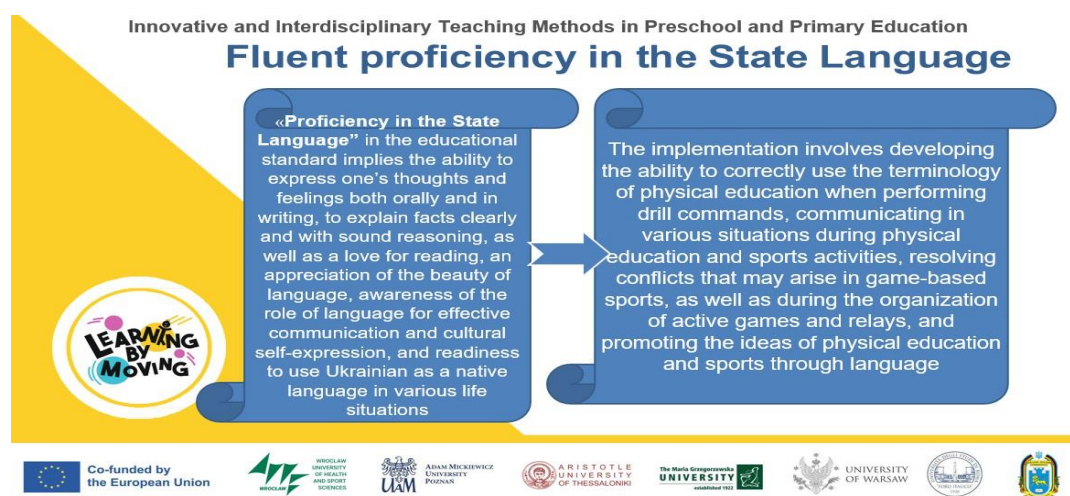


Fig. 1. Pathways for Developing the Key Competence “Proficiency in the State Language” in the System of Ukrainian Education and Physical Education



However, in the Ukrainian education system, Ukrainian is not the native language for all students. Therefore, the next key competence emphasizes respect for other languages, including foreign languages.

In physical education, this competence is developed through the ability to communicate in one's native and foreign languages about physical culture and its importance for personal fulfillment; write texts in a foreign language about one's sports interests; and search for information in foreign sources about effective wellness programs and sports news (fig. 2).



Fig. 2. Pathways for Developing the Key Competence “Ability to Communicate in the Native Language (if Different from the State Language) and Foreign Languages” in the System of Ukrainian Education and Physical Education

When fostering this key competence, it is essential for modern children to recognize the role of foreign languages as a means of international communication while also being able to express their thoughts in their native language. This can be achieved through the use of sports terminology, which is universally accepted in the global sports community, as well as through reporting sports news in both native and foreign languages.



Mathematical competence in physical education lessons can be developed by applying mathematical methods during activities.

In primary school, relay races can include tasks that require mathematical calculations, such as solving subtraction, addition, multiplication, or division problems. In middle and high school, mathematical methods can be used to monitor physical condition, calculate, and analyze heart rate at rest and during physical exertion, helping students adjust their physical activity based on individual indicators.

In team sports, students can track scores during competitions, calculate effort needed to achieve goals, and analyze speed, distance, and the trajectory of sports equipment (fig. 3).

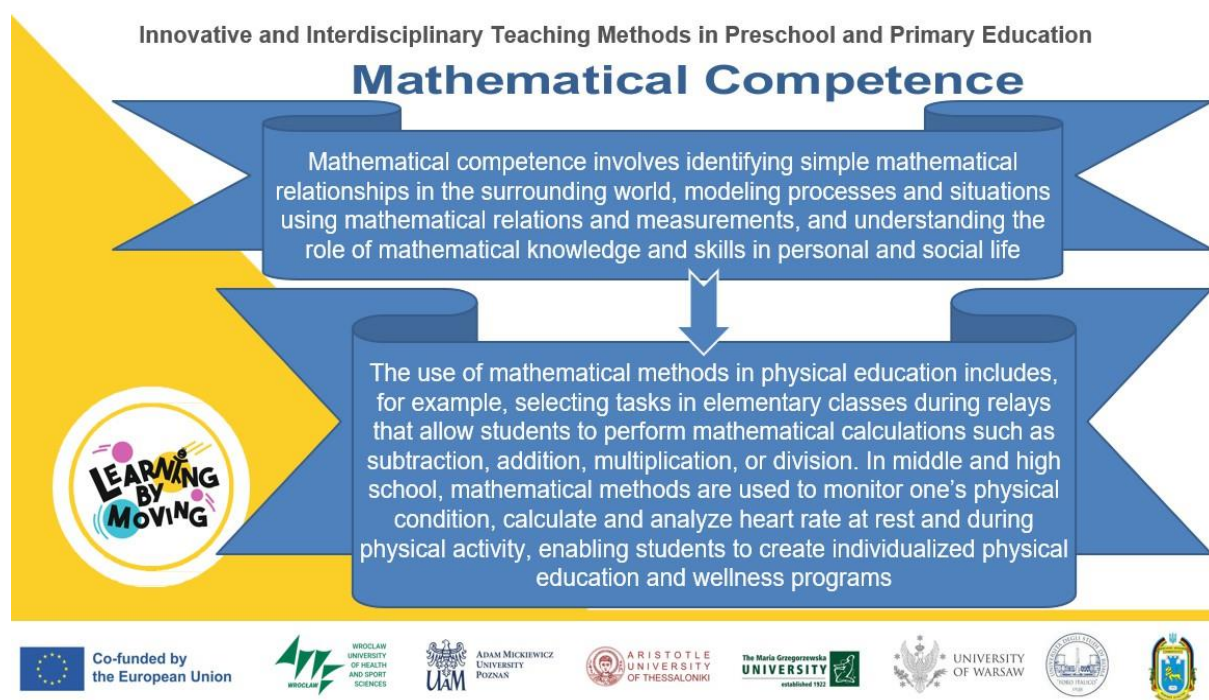


Fig. 3. Pathways for Developing Mathematical Competence in the System of Ukrainian Education and Physical Education

When fostering this key competence, the physical education teacher should emphasize the importance of mathematical thinking in sports and wellness activities.



When developing competencies in natural sciences, technology, and engineering, it is important to emphasize: conducting physical and wellness activities in natural environments; utilizing natural forces in physical education; developing skills in organizing and undertaking hiking and outdoor expeditions; applying innovative technologies to improve health and enhance enjoyment from physical activity.

A crucial aspect, in our view, is fostering students’ understanding of the harmonious interaction between humans and nature, perceiving the environment as an ideal space for physical activity, and cultivating a value-based attitude toward nature as a potential source of health. It is essential to raise awareness about the importance of responsible use of natural resources. This can be achieved through educational resources such as hiking trips, outdoor exercises, hardening techniques, and modern fitness technologies (fig. 4).

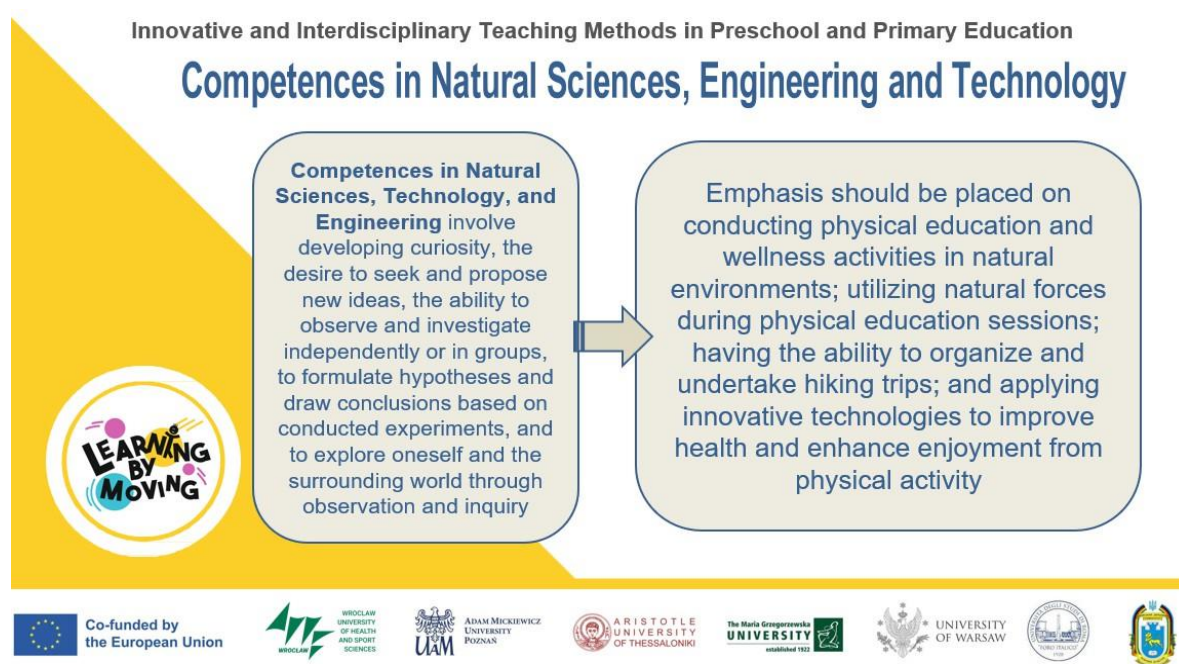


Fig. 4. Pathways for Developing Competencies in Natural Sciences, Engineering, and Technology in the System of Ukrainian Education and Physical Education



Environmental competence, in our view, could be integrated within the previous category. However, according to the Law of Ukraine "On Education", it is recognized as a separate competence, unlike in the European framework of key competencies.

The primary goal of this competence in physical education is to ensure that students:

- Recognize and avoid biotic and abiotic hazards while exercising in natural environments.
- Follow safety rules during lessons, competitions, and other physical education activities.
- Adhere to hygiene standards related to sportswear, sports facilities, and temperature conditions (fig. 5).



Fig. 5. Pathways for Developing Environmental Competence in the System of Ukrainian Education and Physical Education

The next key competence is "Innovation". The main goal of this competence in physical education is to be able to apply innovative wellness technologies to improve physical condition, develop ideas and possibilities for creating new wellness technologies, research and experiment with innovative approaches in physical



education, and create innovative programs for individual physical education sessions.

Through the development of this competence, students will be able to:

- Understand the significance of innovative technologies for physical self-improvement.
- Recognize the need for applying innovative methods in physical education (fig. 6).

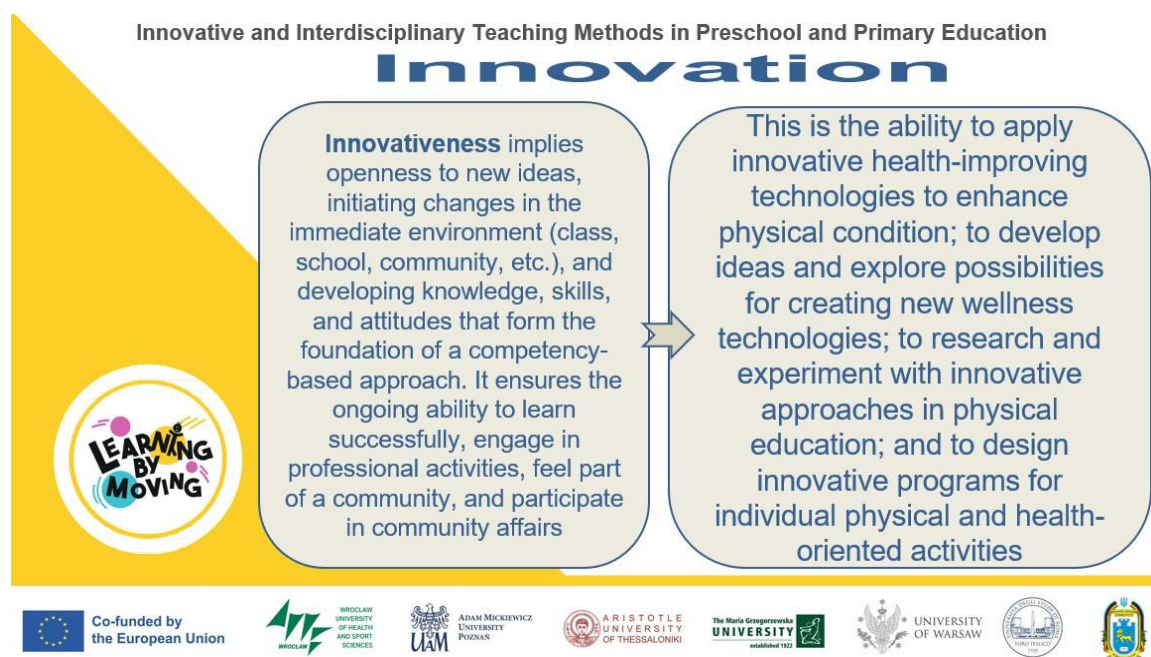


Fig. 6. Pathways for Developing the Key Competence “Innovation” in the System of Ukrainian Education and Physical Education

As an example, we present the use of "Active Arcade" computer games. This is an American development, but during the pandemic and martial law, Ukrainian schools have had the opportunity to use this program for conducting lessons in a distance format. This program helps to develop coordination, attention, and reaction speed in students.

Information and communication competence in physical education involves developing students' ability to use digital devices to obtain information related to sports



topics, communicate with one another, learn movement techniques, and evaluate their own physical condition, as well as monitor physical activity.

Additionally, it is crucial for students to understand the impact of information and communication technologies (ICT) on human health, recognizing the benefits and risks associated with their use, and being aware of the problems and consequences of computer addiction (fig. 7).

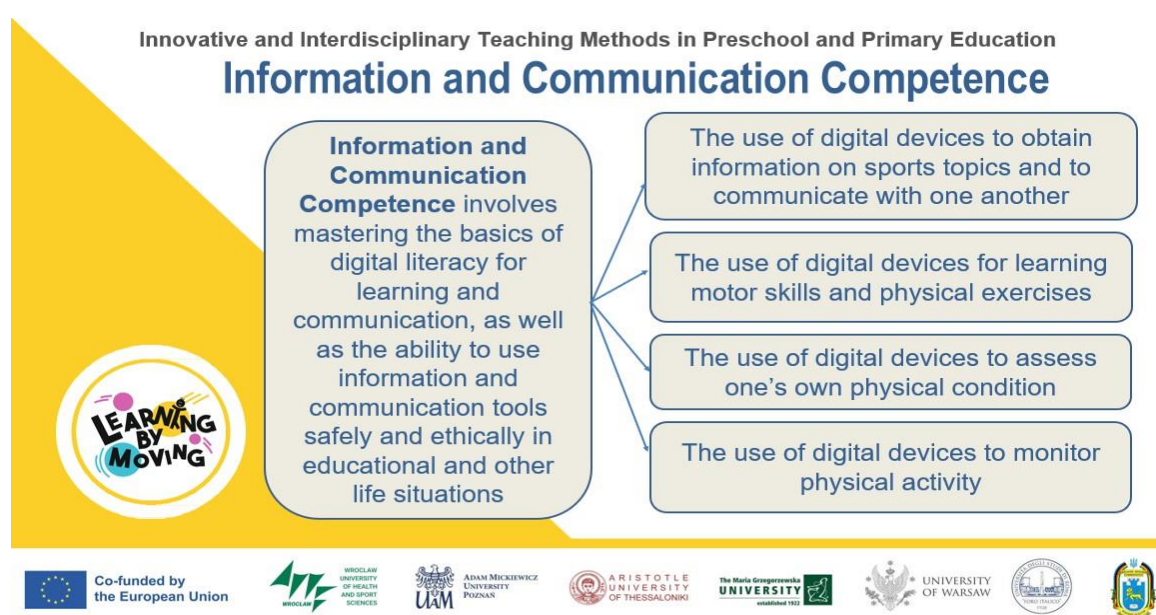


Fig. 7. Pathways for Developing Information and Communication Competence in the System of Ukrainian Education and Physical Education

To foster this competence, the following educational resources are particularly useful:

- Computer programs for physical condition correction.
- Video tutorials and masterclasses on various sports.
- Video lessons and clips about conducting different types of physical education and wellness activities.
- The "Active Arcade" program, as mentioned earlier.



Moreover, this competence emphasizes effective communication between students, which is demonstrated through the competency-based task “Mission: Team Communication.”

The next competence in the Ukrainian education system is "Lifelong Learning". The development of this key competence is extremely important in physical education, as it enables students to:

- Solve problem-based tasks in the field of physical culture and sports.
- Achieve specific goals in physical self-improvement.
- Develop individual wellness programs, considering their own capabilities, motivations, and needs.
- Search for, analyze, and systematize information related to physical education and sports (fig. 8).

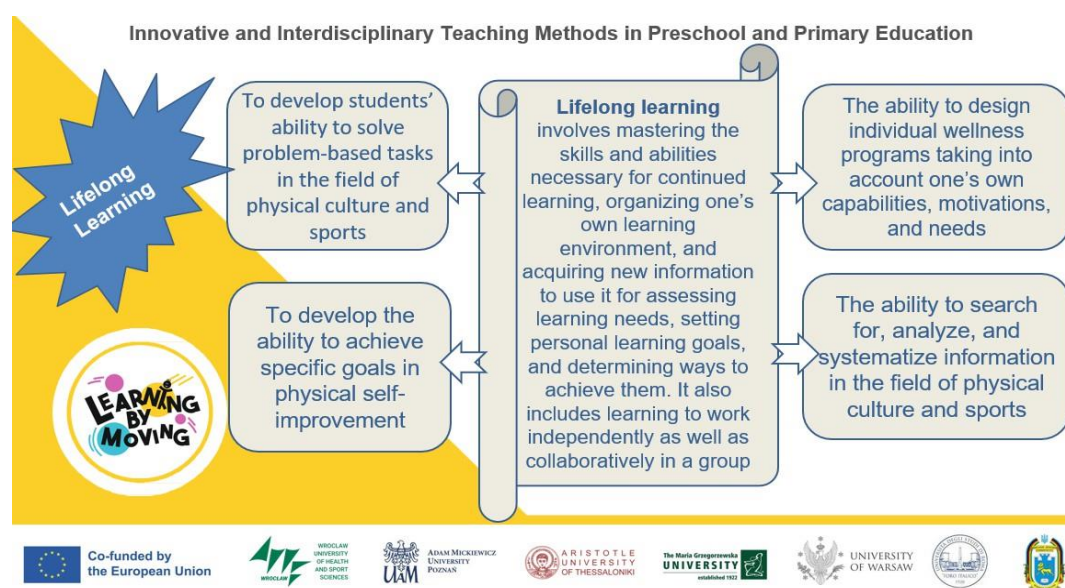


Fig. 8. Pathways for Developing the Key Competence “Lifelong Learning” in the System of Ukrainian Education and Physical Education

When fostering this competence, it is essential to help students understand the need for continuous physical improvement and to encourage them to take responsibility for their health and fitness throughout their lives.



Civic and social competencies are crucial in the field of physical education, especially according to the primary education standards. These competencies should be developed through nurturing students' organizational skills. We recommend fostering students' ability to organize games or other forms of team-based physical activities, communicate in various situations based on respect and camaraderie, resolve conflict situations that may arise during sports activities, and adhere to the principles of Fair Play. This includes:

- Respecting opponents.
- Achieving victory through hard work and preparation.
- Accepting defeat with dignity.
- Understanding that the greatest victory is victory over oneself.

In forming this key competence, it is important to develop in children the ability to appreciate support, respect alternative opinions and views, as well as promote tolerance. Additionally, students should understand the connection between physical activity and health, and develop a conscious attitude towards their own health and the health of others (fig. 9).



Fig. 9. Pathways for Developing Civic and Social Competences in the System of Ukrainian Education and Physical Education



Cultural competence in physical education should focus on fostering the ability to express one's cultural potential through physical activity. This includes enhancing movement culture, adhering to proper speech etiquette, and understanding the opportunities for national self-expression and self-realization through physical culture and sports. Additionally, it is essential to cultivate respect for the diversity of different cultures (fig. 10).



Fig. 10. Pathways for Developing Cultural Competence in the System of Ukrainian Education and Physical Education

The next key competence is entrepreneurship and financial literacy. Developing this competence is crucial for young people today. A person who possesses entrepreneurial traits and is financially literate is more likely to achieve significant personal success and financial stability. In physical education, this key competence should be cultivated through the development of organizational and leadership skills. These include:

- The ability to fight for a fair victory and accept defeat with dignity
- Managing emotions
- Organizing time and mobilizing resources

- Assessing one's abilities during physical activities
- Playing various roles in game situations
- Working in teams
- Taking responsibility for personal decisions
- Leveraging personal strengths and acknowledging weaknesses in tactical actions in different sports
- Planning and implementing sports projects, such as tournaments and competitions (fig. 11).

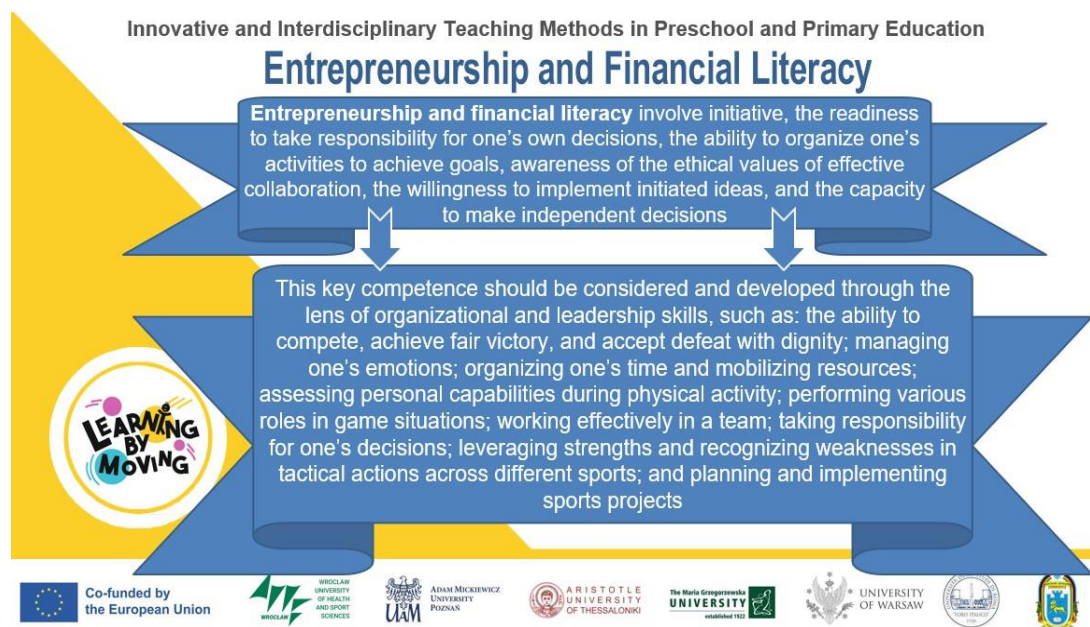


Fig. 11. Pathways for Developing the Key Competence “Entrepreneurship and Financial Literacy” in the System of Ukrainian Education and Physical Education

This approach helps students develop important leadership and organizational skills, which are essential for entrepreneurial success.

Thank you for your attention!



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