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EUROPEAN EXPERIENCE IN MICRO-CREDENTIALS FOR LIFELONG LEARNING AND EMPLOYMENT: RELEVANCE FOR APPLICATION IN UKRAINIAN HIGHER EDUCATION FOR TRANSPORT SYSTEMS AND TECHNOLOGY SPECIALISTS

The rapid technological transformations and evolving labor market demands require continuous updating of knowledge and skills. As a form of short-term learning, micro-credentials offer a more flexible and responsive mechanism to equip graduates with relevant competencies, particularly in the fields of engineering and transport. European experience demonstrates the positive impact of micro-credentials in enhancing the competitiveness of professionals in the labor market. Moreover, micro-credentials support lifelong learning and employment by providing opportunities for professionals with a bachelor's or master's degree and work experience to acquire new skills or update existing ones.

The European Commission, along with multiple European projects (such as MICROBOL, EMC, and Tuning-CALOHEE), has developed a unified approach to defining, structuring, and ensuring the quality of micro-credentials. This framework includes: clear learning volume specifications (ranging from 3 to 10 ECTS credits); a structured assessment system; precise formulation of learning outcomes; ensuring the interoperability and recognition of acquired micro-credentials.

Currently, Ukraine lacks a formalized definition and recognition framework for micro-credentials, posing significant barriers to their implementation. Key challenges include:

- absence of standardized assessment criteria;
- variability in content quality;
- limited communication between educational institutions and industry stakeholders;
- need for adaptation of national regulations to align with modern labor market demands.

Proposed Implementation Strategies:

- development and implementation of a micro-credential framework in Ukrainian universities based on European best practices.
- integration of digital education elements and sustainable development principles (aligned with SDG11) into transport engineering curricula.
- ensuring openness, portability, and stackability of micro-credentials to allow learners to earn additional qualifications as standalone certifications or as part of their higher education programs.
- establishment of quality assurance standards and evaluation criteria aligned with recommendations from the European Commission and European micro-credential frameworks.

Expected Impact:

- enhanced qualification levels of university graduates;
- greater alignment with contemporary labor market requirements;
- integration of innovative technologies into the educational process;
- overall improvement in the quality of higher education in Ukraine.

Micro-credentials present a significant opportunity for modernizing higher education in Ukraine, particularly for transport and technology specialists. Leveraging European experience can facilitate the development of a structured and recognized micro-credential system, enhancing graduates' employability and fostering innovation in the educational sector. The successful implementation of micro-credentials requires a coordinated approach that includes regulatory alignment, curriculum integration, and industry collaboration.