

## **DEVELOPMENT OF LEADERSHIP POTENTIAL OF BACHELORS IN VEHICLE ENGINEERING**

**Vorobiova Ye., Liu Rui**

***National Technical University «Kharkiv Polytechnic Institute», Kharkiv***

The article considers the relevance of developing the leadership potential of bachelors in vehicle engineering. As the automotive industry undergoes rapid change driven by electrification, autonomous driving, and the mobility-as-a-service model, there is an urgent need for the next generation of automotive engineering leaders to drive this change. These future leaders must possess strong technical skills and leadership capabilities to navigate the multifaceted challenges and opportunities that are reshaping the transportation industry.

Leadership potential is the sum of an individual's innate qualities and developed abilities to inspire, influence, and mobilize teams to achieve collective vision and accomplishments.

The longitudinal empirical study provides compelling evidence for the efficacy of integrating structured leadership development within vehicle engineering education from the bachelor's level. The multi-trait assessment model objectively quantified substantial improvements in participants' assessed leadership potential across cognitive, emotional, social, motivational and ethical competencies over the four-year degree program.

To sustain a robust leadership pipeline, universities should prioritize the following recommendations:

- Embed multi-dimensional leadership development as a core, credited component across all vehicle engineering curricula from year one – spanning intellectual, emotional, social and personal growth areas.
- Emphasize experiential and application-focused pedagogy like design thinking projects, flipped classrooms, simulations and case methods to ensure pragmatic skill-building beyond theoretical knowledge transfer.
- Integrate industry collaborations, mentorship programs and internships to provide guided real-world practice for honing leadership capabilities in authentic corporate environments.
- Invest in learning technologies enabling personalized development pathways, virtual coaching, micro-credentialing and data-driven competency tracking systems.
- Establish communities of practice promoting continuous peer coaching, knowledge sharing and leadership innovation across faculty, students, alumni and industry partners.

Thus, by nurturing well-rounded "unified leaders" prepared to catalyze the mobility industry's transformation through technical depth and strong leadership competencies, universities can empower the next generation of vehicle engineers to deliver innovative, sustainable solutions benefiting businesses and society. Systematically developing this leadership potential is vital for creating an enduring competitive advantage.