

Impact of the “Elements of AI” Course on Students’ AI Literacy and Critical Thinking

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Abstract

The article presents the results of analysing the attitude and level of awareness of LNTU students towards artificial intelligence technologies. The survey covered 476 students, 213 of whom (44.7%) took the “Elements of AI” online course as part of non-formal education. A mixed method was applied: quantitative data was obtained from university statistics and questionnaires, and qualitative data was obtained from open comments. The statistical analysis showed that students who took the course demonstrated a significantly better understanding of AI system development (3.86 vs. 2.88 points; $p = 0.0045$; Cohen’s $d = 0.88$) and the filter bubble phenomenon (2.71 vs. 1.54; $p = 0.006$; Cohen’s $d = 0.85$). At the same time, the level of practical use of AI tools between the groups was almost the same. The study revealed a paradox: students who did not take the course were more likely to use AI tools in everyday life, while course participants demonstrated a more selective and critical attitude towards technology. The gender analysis refuted common stereotypes: women demonstrated even better knowledge of specialized terminology. Overall, the

results prove the course's effectiveness in developing theoretical knowledge, media literacy, and critical thinking, highlighting the need for specialized AI courses in higher education.