Supplementary Information

Knowledge and skills dominate stakeholder conceptions of professional training in Transport Technologies

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Discover Education

S1 Verbatim shared-construct items and answer options

The three instruments posed conceptually matched questions using group-specific wording and options (English translations of the Ukrainian originals). Closed options are listed; "[free text]" marks items answered in respondents' own words.

Students. *Professional training* (closed): (a) "A combination of theoretical knowledge and practical skills needed for the future profession"; (b) "Acquisition of theoretical knowledge in specialised disciplines". *Professional competence* (closed): (a) "The ability to apply knowledge, skills and abilities in professional activity"; (b) "Command of knowledge in the field". *Engineering pedagogy* (closed): (a) "Forms modern approaches to learning and engineering thinking"; (b) "Ensures clear teaching of technical disciplines"; (c) "Has no significance"; (d) "Hard to answer". *Educational process* (closed): (a) "Interaction of students and teachers aimed at forming professional competences"; (b) "Lectures, practical classes, laboratory work". *Digitalisation* (closed): (a) "Promotes access to modern knowledge and technologies"; (b) "Complicates learning through an excess of online resources"; (c) "Has no effect on quality". *Note:* the closed options for the two conception items are themselves framed in knowledge/skills terms; no option names communication, responsibility, or autonomy.

Teachers. *Professional training* (closed, single option presented): "Formation of the knowledge and skills necessary for professional activity". *Professional competence – key components* (closed): (a) "All of the listed"; (b) "Practical skills and the capacity for independent learning"; (c) "Social and communicative abilities"; (d) "Hard to answer". *Engineering pedagogy* (closed): (a) "Decisive – it provides modern approaches to learning"; (b) "Secondary – the content of disciplines matters more"; (c) "Has no significance"; (d) "Hard to answer". *Educational-process features* (closed): (a) "Combination of theory and practice"; (b) "Use of modern equipment"; (c) "Emphasis on students' independent work". *Digitalisation* (closed): (a) "Promotes innovation and flexibility of learning"; (b) "No substantial effect"; (c) "Hard to answer".

Employers. *Professional training* (closed): (a) "All of the listed"; (b) "The ability to apply knowledge in practice"; (c) "Readiness to solve professional tasks independently". *Most important competences* (closed + [free text]): "All of the listed", or single dimensions named in free text (e.g., "technical knowledge"; "practical skills"; "communicative and organisational abilities"; "capacity to learn and adapt"; "route-building, freight geography, English, decision-making"). *Engineering pedagogy* (closed): (a) "Decisive – it forms modern approaches"; (b) "Secondary – professional experience matters more"; (c) "Has no significance"; (d) "Do not understand what it is"; (e) "Hard to answer". *Adequacy of graduates' technical education* (closed): (a) "Meets modern requirements"; (b) "Needs improvement"; (c) "Does not meet market requirements". *Digitalisation* (closed + [free text]): (a) "Positive – promotes modern competences"; (b) negative free-text (e.g., over-reliance on external resources reduces critical thinking); (c) "Hard to answer".

The asymmetry is visible here: only teachers and employers were offered an explicit "all of the listed" option, which is why their recorded coverage of the transversal descriptors is higher (Table 3 of the main article).

S2 Inter-construct correlations

Table S1 Spearman correlations among the five coded indicators, computed on pairwise-complete observations without imputation ($N = 54$). No off-diagonal correlation exceeds |.30|, consistent with the weak exploratory model reported for RQ4 in the Results section of the main article.

	EP val.	**Proc.**	**Digi**	**PT**	**PC**
Engineering-pedagogy valuation	1.00	.20	.17	.05	.27
Educational-process conception	.20	1.00	.11	.30	.20
Digitalisation orientation	.17	.11	1.00	−.06	.23
Prof.-training completeness	.05	.30	−.06	1.00	.30
Prof.-competence completeness	.27	.20	.23	.30	1.00