Captions

Supporting Information 1 (SI1). Raw results of the student perception survey on the ESTOPA activity. Data includes responses (1 = Not at all in agreement; 10 = Fully in agreement) for ten Likert-scale questions. The columns represent the unique student identifier (Student) and the scores for each question (Q1–Q10). The complete dataset and analysis script are available on the linked Zenodo/GitHub repository.

Supporting Information 2 (SI2). Retrospective student achievement data (2021–2025) for ESTOPA and Pre-ESTOPA cohorts. Data used for the quasi-experimental performance analysis. Columns include student identifier (Student), the academic period (AcademicYear), the exam call (Call), and the scores (0/1) for questions analyzed. Summary columns include: SumCorrectExam (total correct answers in the theorical exam), TotalExam (total questions in the theorical exam), ExamMarks (raw exam score), MarkRelated (normalized score of the analyzed questions, 0–10), and ESTOPA (cohort classification: Pre-ESTOPA/ESTOPA). This raw data is fully available on the linked Zenodo/GitHub repository.

Supporting Information 3 (SI3). Multiple-choice questions (MCQs) and classification according to the revised Bloom’s taxonomy. List of the multiple-choice question stems utilized for the retrospective performance analysis across the four academic years. This document details the temporal consistency and provides the methodological justification for the classification of each question according to the six levels of the revised Bloom’s taxonomy (B1–B6).

Supporting Information 4 (SI4). Question-to-Bloom level mapping file for quantitative analysis. This file serves as the key for the quantitative analysis (used in the R script). It maps each specific question code (e.g., Year\_Call.Question) from the SupportingInformation2\_TestData.xlsx file to its assigned level in the revised Bloom’s Taxonomy (B1, B2, B3, B4, B5, or B6). This mapping file is available for replication purposes on the linked Zenodo/GitHub repository.