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## **Bolboaca, Sorana D.: END-OF-COURSE EXAMINATION METHODOLOGY ON PHYSICAL-CHEMISTRY SUBJECT: A CASE STUDY**

### **Authors:**

1. Bolboaca, Sorana  
Iuliu Hatieganu University of Medicine and Pharmacy, Romania
2. Jäntschi, Lorentz  
(Technical University of Cluj-Napoca, Romania)

### **Keywords:**

1. end-of-course examination
2. physical-chemistry
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### **Abstract:**

**Purpose:** To evaluate the students' knowledge in the university-level physical-chemistry course at the Technical University of Cluj-Napoca a methodology for end-of-course examination was developed and assessed.

**Materials and Methods:** The examination methodology was: examination at the test center, tutor and computer assisted, 30 out of 300 multiple-choice randomly-choused questions, results at the end of examination. A pre- and an exam evaluation were performed by 25 students. The number of correct answers and the average time per question were compared by applying the Wilcoxon test.

**Results:** The averages of the correct answers were: 4.20 (95%CI [3.46,5.01]) at the pre-exam evaluation and 7.84 (95%CI [6.36,9.32]) at exam evaluation. The averages of time per question were: 295.33 (95% CI [228.94,361.73]) at the pre-exam evaluation and 96.26 (95% CI [66.63,125.90]) at the exam evaluation. The number of correct answer was significantly higher at the exam evaluation comparing with pre-exam evaluation ( $p=0.000027$ ) as well as the averages time per question ( $p=0.000014$ ).

**Conclusion:** If the students are familiarized with the exam system, a multiple-choice end-of-course assessment provides an accurate, effective and efficient evaluation.

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