

Title: A new competency level system for practical and procedural skills in an undergraduate curriculum

Author: Huseyin Cahit Taskiran, Dokuz Eylul University Faculty of Medicine, Izmir, Turkey

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Background:

The new curriculum of the medical school emphasizes clinical skills teaching. In the first three years, students acquire a set of practical skills during structured training sessions in a well established Clinical Skills Laboratory. Students are expected to be competent and apply these skills confidently in their clinical and internship years. However, the present assessment procedures of the school do not allow the assessment of all essential practical skills, and also, assessment procedures are not fully linked between pre-clinical and clinical years.

Objectives:

The objective of this project was to improve medical student mastery of clinical competence by defining and implementing a new assessment system based on competency levels for practical and procedural skills.

Methods:

A working group was established with faculty experienced in curriculum development, clinical skills teaching and assessment. The group firstly defined general competency levels (Level 0-observation, Level 1-knowledge, Level 2-simulated demonstration, Level 3-supervised demonstration, Level 4-real life performance), then reviewed current curriculum objectives, selected the practical skills to be involved, matched them with the defined set of competencies, and identified expected skill levels for each particular skill according to the year of study. A pilot clinical assessment process, using a 4-station Objective Structured Practical Examination (OSPE: CPR, venipuncture, intramuscular injection, and subcutaneous injection) was done as a component of first year end examinations. These skills were assigned to Level 2, and students were asked to demonstrate each skill on a manikin. On each station student performances were marked by faculty observers using standardized 25-point marking sheets.

Results:

The OSPE was conducted with 153 first year students. Mean station scores ranged between 19.58 and 23.00. The total mean score was 84.33 (maximum 100 points). According to the existing pass/fail standards of the school, students (144, 94.1%) who achieved 70 points were regarded as successful. Nine students (5.9%) who scored below 70 were considered failed.

Conclusions:

When the individual student scores for each station was examined, some students who passed the examination had low scores for some of the skills. These results showed a need to set standards for pass/fail decisions for each practical skill. Final report including OSPE results and suggestions were presented to the related educational committees of the school. The competency levels were found useful for the faculty in providing a matrix plan for assessment of practical clinical skills, and to monitor student progress during the whole undergraduate period. It is concluded to review the entire assessment system in order to make necessary regulations, and to implement similar competency approaches to other clinical skill domains, such as communication skills, history taking and physical examination.

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