

Title: Introducing standardized practical learning guide and assessment check lists at School of Medical Laboratory Sciences, Medical Faculty, Addis Ababa University, Ethiopia

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Context and setting: In Ethiopia, Clinical Laboratory Education started at the then Pasteur Institute (*Institute de Pasteur*) currently named Ethiopian Health and Nutrition Research Institute (EHNRI) in 1954 and later named as School of Medical Laboratory Sciences and part of Addis Ababa university collage of health Sciences.

Currently the school is offering a BSc program through its regular and extension as well as Masters program in Clinical Laboratory Sciences in four tracks, namely Clinical chemistry, Hematology and Immunohematology, Diagnostic, microbiology, and Laboratory management and Quality assurance. This project was implemented in undergraduate program.

Why the idea was necessary: Clinical laboratory technologists account for the proper performance of the clinical laboratory tests and contribute for final clinical decision made by physician. Miss diagnosis or error as a result of deficient skills will have significant negative impact on patient's treatment outcome and quality of laboratory services.

Clinical laboratory stakeholders raised critical concern on student's practical skills at point of graduation: Students graduate without achieving the minimum practical skills competency which incurs costs of on job refreshment skills training to compensate deficient skills during pre service practical training. In addition evidence exists that, most practical skills training uses traditional teaching methods where student's desired competency are not predefined, detailed task breakdown to be performed during each practical session are not stipulated at the practical sit, as a result students could not be able learn practical skills in a consistent manner and skills acquisition among students showed great variations. We therefore hypothesized that, introducing standardized practical learning guide and assessment check lists can improve the exiting practical skills training and reduced variations of acquired skills among graduate and assuring students in achieving the desired competency at a point of gradation.

What was done: Data on the existing practical session was collected using structured questionnaire and interviewee with practical instructors and students, then standardized learning guide and assessment checklist was prepared and reviewed by experts. Jhpiego Ethiopia (an affiliate of Johns Hopkins university) pre service team organized workshop on development of learning guide and assessment check lists to our faculties with other five universities enrolled medical laboratory education in Ethiopia. Implementation of standardized learning guide and assessment check lists were attempted on hematology practical sessions. First the standardized learning guide and assessment check lists were distributed to instructors and students (third year medical laboratory students) prior to their first practical session to make them familiar with different types of skills under instruction and assessment method, then practical instructors utilized the learning guide and assessment check lists throughout the course consistently. Student's and instructor's reflective feedback were collected to assess perception and learning experience.

Evaluation of the results and impact: Baseline assessment on student's perception on the existing practical training showed, 73.3% of the students responded that, they were not fully familiar with the type of practical skills under instruction prior to each practical session, 68.4% students responded that instructors did not use similar procedure manual in each practical session and only 42% of the student's felt that the existing practical session will help them in achieving

the desired level of competency. Moreover, 63.2% of the students claimed practical skills assessment methods are not clear, 57.9 % felt not fair and 89.5% of the students responded that instructors did not consistently use check lists for assessing practical skills. Following the baseline assessment standardized learning guide and assessment check lists was introduced. Feedback after implementation revealed that majority of the students responded the new tool was very specific, depict each task with assigned marks and found convenient to learn practical skills. Both the instructors and students agreed that, the check list was appropriate to assess detail activities objectively and reduce bias during assessment. However, few instructors thought that utilization of check lists may be time taking.

Lesson learned: The standardized learning guide and assessment check lists provide the students with structured opportunity for practicing the required laboratory skills, timely feedback at each step and opportunities to be familiar about the skills under instruction prior to practical sessions. Skills improvement after implementation will be assessed as long-term outcome.

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