

The effect of environmental education in a hospital setting on the clinical learning of laboratory students

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Dear Editor

John Dewey, a famous educator, considered education as a tool that would enable students to integrate culture and vocation effectively and usefully (1). Learning has always been influenced by environmental factors. These factors have psychological and physical effects on behaviors and the quality of learning. The impact of environmental factors on learning could be analyzed from three fundamental aspects (2).

- 1) The learning process takes place in a physical environment with physical properties that can be understood and measured. Therefore, every learning environment for students is full of environmental information.
- 2) In every learning environment, student use their perceptual resources through the active selection of environmental information.
- 3) The physical characteristics of learning environments can be emotionally associated with the quality of learning.

Environmental education is an important aspect of the health sciences educational programs, and its benefits lie in transforming beginner learners into competent practitioners (3).

It is a sophisticated concept that is related to ecological knowledge and a better understanding, of human-environment relationships, ethics, politics, and public participation in decision-making (4). Today, considerable effort has been made to clarify the concept of environmental education. Clinical learning environment provide students with the opportunity to interact within the health care system and observe the delivery of care by others while gaining practical clinical skills in a real-world setting (5). However, this is not always ideal for learning due to expectations of clinical efficiency and a lack of supervisory support (6).

One of the most important principles of medicine is laboratory diagnosis, and 70 percent of clinical diagnosis is dependent on laboratory findings (7). Increasing diverse laboratory fields in the last 30 years has resulted in challenges associated with education and schooling (8). Laboratory training in a hospital is the most important platform for learning and implementing the theoretical and practical learning of the laboratory students, which requires active performance to learn efficient practice in the laboratory (9).

The laboratory environment provides the opportunity for the students to have a novel experience with course concepts and also provides a situation to explore the techniques used by specialists in the field (10). The laboratory learning environment represents a training model in which learners follow step-by-step procedures according to the instructor or laboratory guidelines (11).

In hospital laboratory education, students are encouraged to be more independent and look for strategies and techniques that improve their analytical competency. Moreover, they will be engaged with all lab test processes, from developing sampling to performing the guideline experimental procedures, and consequently reporting the results (12). In this learning situation, students have time to work with different instruments within the course, and this can lead to dynamic learning that occurs in the teaching process (10).

Although learning in a hospital laboratory has many advantages, it also poses certain challenges. Finding appropriate placement for students in hospital settings may be a challenge because of the attrition of laboratory staff and the modernization of technology. Many hospital laboratories employ personnel who are nearing retirement age, meaning that these staff are unlikely to have completed any educational or management courses or engage themselves with the education of students (13).

Unlike schooling, environmental education trains students to understand the link between real demands and environmental situations. On the other hand, environmental education focuses on social, cultural, political, and quality of life

factors (14). In hospital and clinical settings, learning is focused on patient's demands and their problems.

For the evaluation of teaching strategies in the laboratory and the learning outcomes of the trainees, it is important to know students' experiences. The perceptions of students may provide important insights into the impact of the necessary educational changes. These findings can provide a basis for developing a new point of view that improves student clinical learning about scientific inquiry processes.

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