CAHIERS MAGELLANES-NS
Volume 06 Issue 2
2024

ISSN:1624-1940
DOI 10.6084/m9.figshare.2632597
http://magellanes.com/

PSYCHOLOGICAL ASPECTS OF TEACHING STUDENTS OF MEDICAL INSTITUTES

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Annotation: Education is a dynamic process that needs to be improved periodically. The lack of innovative teaching methods in academic disciplines makes medical curricula inadequate to make significant progress toward the future. The objective of this review is to describe and evaluate alternative teaching and learning methods that can be complementary or alternative to traditional lectures to encourage active student participation and a smooth flow of information.

Key words: receptive and reproductive type, procedural and substantive aspect, letters, e-mails and other messages, cover letters, references and job applications, essays, stories, x features, reviews of books and films.

We identified four different types of contemporary teaching methods through our literature search. These modern teaching and learning methods are well tested and widely used in different parts of the world for specific learning objectives. We reviewed them carefully to analyze their perceived and proven effectiveness, as well as implementation and implementation challenges. Similarly, we have also provided recommendations to overcome these limitations/challenges.

Modern teaching and learning methods:

1. Case Based Learning (CBL)

CBL is a teaching and learning practice that uses clinical cases to assist traditional lectures. CBL promotes active learning and has recently been used to compensate for lack of motivation in didactic lectures. Students are given an opportunity to examine real cases in which the patient's medical history, signs, symptoms along with clinical and laboratory data are provided. Through teamwork and peer interaction, students evaluate the case by planning investigations and appropriate management. The motto is to equip students with the necessary abilities required for critical analysis.

CBL links theory with practice by promoting inquiry-based learning methods. Students are placed in groups and exposed to clinical cases to simulate real-life situations. These groups of students then work as a team to discuss and analyze the case to identify differential diagnoses, management strategies, and

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future plans. CBL covers a wide range of topics with clear learning objectives and enhances clinical knowledge, teamwork, clinical skills, and practical behavior.

1.1. Limitations: Although CBL can be effective in facilitating group discussions, proper measures need to be taken to organize the groups. Students and teachers require additional time to prepare for each lesson. This directly impacts students' schedules and exam preparation. Additionally, the attitude, personality, and character of some faculty members result in process dominance with little time for students to independently study the case, which hinders experiential learning.

1.2. Recommendations: Teachers need to be properly trained to effectively use and appreciate CBL. This teaching method is more effective when conducted in small groups with interested learners and cases that closely relate to clinical scenarios. Additionally, MCQ-based assessments can be used to test and monitor students' understanding and thinking process to ensure that students are using this teaching strategy effectively.

2. Evidence-Based Medicine (EBM)

EBM provides students with the necessary tools to study, understand, and evaluate medical literature. EBM follows five steps: a) translating ambiguous information into an answerable question, b) searching for the best available evidence, c) critically understanding the evidence for internal validity, d) applying the results to practice, and e) evaluating effectiveness. It advocates long-term learning and disciplined thinking to carefully and intelligently apply current medical evidence to decisions regarding patient care.

Although EBM has been compared to the difference between experimental and personal equilibrium, early implementation of EBM in medical schools has been shown to be effective in changing the thinking process of medical graduates. Students are better equipped with analytical and decision-making abilities, which positively influences the development of competence. Implementing EBM into the regular medical curriculum improves students' research knowledge, personal application, perspectives, and future use of the methods learned. Compared with the integration of EBM into traditional medical programs, modern methods of studying medicine demonstrate a holistic approach that promotes innovation and spontaneity. It also enhances the ability to think logically and critically, and is better suited to understand the background of a disease and subsequent management.

2.1. Limitations: Despite its indispensable role in modern education, the inclusion of EBM in the medical curriculum must be properly directed to achieve its goals. It should be viewed precisely through the filter of personal learning and experience, since reflective learning is the best predictor of optimal outcome. Lack of knowledge and experience in research is one of the challenges. Students need to be familiar with computers and receive proper training on how to conduct effective research using online databases. Likewise, statistical understanding can be complex at times, which limits its implementation.

3. Simulation-Based Training (SBL)

A simulation is an artificial illustration of the real world to achieve learning motives through experiential learning. The basic principle of simulation-based learning is to use simulation aids to mimic real-life clinical scenarios. Although medical simulation is fairly new, simulation has long been used in other high-risk professions such as aviation. Medical simulation allows for the re-establishment of clinical skills through intended practice rather than an apprenticeship style. It can help as a substitute for real

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patients and clinical scenarios. The barriers that surround confined clinical settings encourage the use of SBL in pre-clinical training. One of the most important benefits is the absolute freedom for trainees to make and repeat mistakes without causing harm to the patient.

Virtual reality can also be used in SBL to improve training standards and confidence in patient care. It is best thought of as a concept for advanced technology to facilitate human-machine interaction and effectively bridge the gap between realistic and theoretical learning by engaging the learner in pseudo-realistic environments. It varies greatly in terms of the level of sophistication, authenticity, and synergy of the end user with the virtual background. Understanding the use of haptic feedback may create a sense of resistance while using the instruments in a simulated environment. Similar technology principles are used in training resident physicians in laparoscopic and endoscopic instruments.

3.1 Limitations: Although SBL can simulate real-life clinical scenarios, it may be the first practical experience for students and requires coordination, patience, cooperation, and effective guidance. SBL equipment such as mannequins, software, and facilities may be expensive and need adequate maintenance. Session preparation and organization may be time-consuming and require sufficient equipment for equal opportunities for students. Faculty should also be adequately trained in the use of any equipment.

3.2 Recommendations: The introduction of simulation training along with traditional didactic lectures has shown a reduction in errors and an increase in the efficiency of medical procedures. Therefore, it is advisable to use simulation technology in teaching complex medical procedures to improve patient care outcomes. Simulation-based learning should be introduced early in the basic sciences to provide more hands-on, pseudo-clinical experience. Student enthusiasm can be enhanced by smaller group sizes coupled with minimal instructional guidance, allowing students to tackle assigned tasks independently to increase participation and discussion with peers.

4. Social media and video lectures (e-learning)

Social media is a public networking space where end users establish online communities for effective discussion. These online communities are helpful to circulate information, thoughts, and various other contents. There are many social media platforms like Twitter, Facebook, YouTube, and online blogs. Social media has become an elemental part of modern medical societies, hospitals, and advocacy groups. The obligation for an advancing education is more important than ever before, thereby incorporation of social media in the modern educational system is a must. Social media platforms can assist subsidiary traditional knowledge and enhance distant learning. Students and learners of all stratums commonly check the internet for details about diseases, therapies, and associated physiology. Furthermore, many organizations have realized that supporting live-tweeting or blogging of medical conferences as well as dispensing opportunities for wide propagation of content can far outdistance the in-person attendance.

Computer technologies have shown greater impact on medical education, most recently through the electronic distribution of videos. The extensive usage of the vast educational resources available through the internet has significant medical importance. These online resources can be used for practical learning of clinical procedures, demonstrations of anatomical dissections as well as asynchronous learning

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through online lectures. Resources encompass a wide range of subject material ranging from personal homemade videos to specialized content provided by various health care organizations and clinicians for professional education.

4.1. Limitations:

Despite the fact these platforms can supplement and enhance learning, it is important to realize they cannot replace fundamental education and experience. Students are not able to gain the same direct and live contact with teachers with a structured time and location for learning, substantiation of the knowledge as well as interpersonal skills that can only be learned through in-class learning. Also, the information on the platform is not regulated and can easily be misleading.

Modern methods of studying medicine are compulsory in medical education. Integrating modern teaching methods into medical education addresses differences in learning style preferences that can affect students' performance in various aspects of basic medical sciences (Inra et al., 2017). These methods such as CBL, EBM and PBL motivate learning by actively engaging students and linking theory with real life situations. They enhance competence, logical thinking and better clinical judgment. For example, PAL helps students express their thoughts and share their knowledge to develop understanding. Observational learning provides immediate feedback and improves the efficiency of medical procedures, which are almost always the daily routine of doctors. Modern teaching methods also provide freedom to explore knowledge and provide opportunities for reflection in a controlled environment. In simulation studies, student mistakes may be acceptable as they are not harmful to the patient and the mistakes serve as reinforcement to avoid future medical errors. Similarly, the Internet is an effective tool for providing facts about disease processes, treatment methods and management. Social media encourages online collaboration and information related to specific content is easily shared among students in specific subgroups. YouTube videos from trusted sources have proven to be a wealth of valuable information for medical students, especially on how to conduct various clinical examinations.

Conclusion:

Learning is an ongoing process and it is important to recognize that students have different learning styles. Some of these modern learning methods in medical education include CBL, EBM, PBL, SBL, e-learning, PAL, observational learning, flipped classroom model and team-based learning. These alternative, student-centered learning and teaching methods expand student thinking through new and creative approaches to constructive knowledge acquisition and enhance professional expertise through the development of skills, competence, and leadership in the medical field. Therefore, medical education must be flexible enough to effectively and appropriately accommodate and incorporate multidisciplinary learning models at the right time and context, starting from the pre-clinical years.

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