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# THE PRIME TIMES

THE PROGRAM FOR RESEARCH AND INNOVATION IN MEDICAL EDUCATION NEWSLETTER

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## EDITORIAL NOTE

The third issue of the PRIME Times presents two major themes. The first deals with the very important concept of the informal and hidden curricula in medical education and the potential negative influences they might have on student development. Dr. Thalia Arawi defines these concepts and elaborates on the role of the faculty, through proper role modelling, in upholding the formal curriculum and preventing the potential damaging effects of the hidden curriculum. Drs. Sabra and Dimassi provide a brief overview of different perspectives and/or theories in medical education and discuss their influence on curriculum development. Under Curricular Developments, Dr. Umayya Musharrafieh introduces the new two year course that was developed for the Impact Curriculum – Clinical Skills I and II. In addition, we present our usual features on resources for medical educators and recent interesting literature in medical education.

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## THE NOT-SO-HIDDEN HIDDEN CURRICULUM

*By Thalia Arawi, Ph.D.*

In 1957, as he was informed that he would be the recipient of the Nobel Prize for Literature, Algerian-French philosopher Albert Camus, wrote a short letter to his school instructor:

**Dear Monsieur Germain,**

I let the commotion around me these days subside a bit before speaking to you from the bottom of my heart. I have just been given far too great an honour, one I neither sought nor solicited.

But when I heard the news, my first thought, after my mother, was of you. Without you, without the affectionate hand you extended to the small poor child that I was, without your teaching and example, none of all this would have happened.

I don't make too much of this sort of honour. But at least it gives me the opportunity to tell you what you have been and still are for me, and to assure you that your efforts, your work, and the generous heart you put into it still live in one of your little schoolboys who, despite the years, has never stopped being your grateful pupil. I embrace you with all my heart.

*Albert Camus*

On a January afternoon, two years after his Nobel Prize, Camus was killed instantly when his friend's (Gallimard) Facel Vega car left the icy road and tilled into a tree. The manuscript of *Le Premier Homme*, an autobiography, was ironically found in the boot of the car. In it we read about the young Jacques (no other than Albert himself) and his professor Mr. Bernard (Germain). In Mr. Bernard's class students felt for the first time they existed and that they were looked at with highest regard. They were considered worthwhile and ready to discover the world. Thus, it was not his mastery of the French language, nor necessarily his instructional methods or evaluation techniques that made Mr. Germain a legend. It was rather what he inspired students to do, think, and be. A few years later, the university student who studied literature was inspired by Mr. Grenier, the author of *Les Iles*, who motivated him to read philosophy in addition to literature. Grenier was Camus' mentor as a young writer. He shaped his intellectual world and vocation. Grenier's aim was less to teach the official syllabus than to open his pupils' minds to culture in a broad sense<sup>1</sup>. Camus dedicated his first book, *Betwixt and Between*, to his mentor. Germain and Grenier were role models, invisible forces that were at the center of the "hidden curriculum" that Camus experienced.



*Albert Camus during the Nobel Prize Ceremony*



*Monsieur Louis Germain*



*Prof. Jean Grenier*

Sources:

Camus: <https://www.pinterest.com/marycatherine45/albert-camus/>

Germain: <https://raelsalvador.wordpress.com/2011/02/11/louis-germain/>

Grenier: <http://www.babelio.com/auteur/Jean-Grenier/53473>

According to Hafferty, the hidden curriculum is the "set of influences that function at the level of organizational structure and culture" whereas the informal curriculum is an "unscripted, predominantly ad hoc, and highly interpersonal form of teaching and learning that takes place among and between faculty and students"<sup>2</sup>. The hidden and the informal curricula (see table 1) play a crucial role in the making of the physician, much more than the formal one. Indeed, I will even venture to say that the informal curriculum can either undo or enforce much of what the formal curriculum teaches. Nowadays, most medical schools offer their students significantly more formal education on an array of clinical topics including how to take a history and do physical exams, how to reach a diagnosis, how to come up with a prognosis, how to conduct tough conversations with family members, and even how to act ethically and professionally, particularly that ethics and professionalism are top on the lists of competencies for undergraduate medical students as well as graduate physicians in training. The hidden curriculum is more than the diffusion of medical knowledge and skill. It more importantly encompasses a socialization process that allows the formation of 'attitudes' which in turn affect the way medicine is practiced, the way history is taken, physical exam is done, communication takes place, etc. The norms and values diffused (through some peculiar process of osmosis) to future physicians can either injure or enhance the messages of the formal curriculum. These norms and values can be said to be everything that occurs in the medical school and more.

Spheres of Influence	Formal Curriculum	Informal Curriculum	Hidden Curriculum
<b>Description</b>	Overt, explicit or written curriculum which is delivered as part of formal instruction.	Unofficial, unwritten, and often unplanned lessons that are learned while in medical school, that are not part of the formal curriculum, and that transmit attitudes, norms, values, and beliefs. It can exert enormous power on the teaching and learning environments.	Emphasizes the importance of the organization and the culture of the institution on medical students. It includes the policies, procedures, priorities, and practices of the institution as a whole.
<b>Example</b>	The basic and clinical science curriculum which portrays medical practice as a profession or the clinical skills curriculum that teaches history, PE and communication while emphasizing empathy.	Communication practices and relationships among students, staff, faculty, and patients in the clinics, wards, cafeteria, elevators, coffee-shop etc., where no formal teaching rules occur. Role modeling by seniors.	Introducing a formal course in ethics in itself sends a message. Scheduling ethics mid-day on a weekday vs. Friday evening reflects priorities. Establishing a new program, building or curriculum implicitly refers to what the institution stands for as a whole (its vision, beliefs and values).

The case of Amer (not his real name) illustrates how harmful the socialization process can be. Amer (a 3<sup>rd</sup> year medical student at AUBFM) came to my office a few years back startled at having seen one doctor billing patients without having seen them. "This is neither what we were taught, nor what we intuitively would like to agree with", he said. I looked back at Amer and asked him, "Would you ever do that yourself?" That is when his genuine reply came, "After what I have seen... I might. It will allow me to pay my debts if I need to". But Amer was not proud of that. Indirectly, albeit not purposefully, this was the result of an internationally noted cynicism, a process of moral erosion, a decline in moral reasoning that occurs during medical school years. At the center of the medical teaching milieu are the hidden and informal curricula. Though clandestine, they exert enormous power on the teaching and learning environment of medical school. The informal curriculum is the way one sees people treating each other and the way one sees himself being treated. Thus, it is part of the social environment the student lives, in a way similar to Paulo Freire's "liberating education". Medical students quickly learn the rules of behavior by seeing those with influence behaving one way or another.

Some physicians are more prone than others to become moral exemplars, some even moral heroes and saints, but we cannot, nor should we, require from all physicians to be like that. However, we can, and indeed must, require that physicians be, at least, virtuous. The virtuous physician would be one who strikes the mean between the excesses. Once physicians have good character and are virtuous, playing the role of good mentors and ideal role models ensues naturally.

Zeina (not her real name), like many other students, was happy and proud to share a personal experience where she felt proud to be at AUBFM, proud to have such a great role model to emulate. "The surgeon gently welcomed the patient who has been suffering from her recurrent knee ailment. She could not climb the stairs without serious discomfort. Instead of asking her to go up and sit on the examination bed, he kneeled next to her, bent down gently decorously raising, with permission, the border of her skirt and explained everything the patient needed to know. I have never seen such remarkable humility on behalf of a physician, such genuine consideration of the patient's discomfort, nor such a wonderful grateful look in the patient's eyes. That is when I decided: I want to be like him".

Recently, bioethics and medical humanities have become part of the AUBFM-MC Impact Curriculum because of the belief that such training plays a role in shaping the character of students and in sculpting their moral fiber. Notwithstanding these courses, students of medicine often note a gap separating what they have learned from what the concrete life on the floors is. Something else is needed to bridge the gap between theory and practice that will allow students to behave in a certain way and to be a certain kind of person. Authentic education cannot happen if students are taught one thing during lectures and witness the opposite during rounds.

In order to reinforce the moral development of students and ensure that moral erosion is minimized if not eliminated, a number of activities need to be done to support, enhance and improve role modeling. However, and perhaps most importantly, there needs to be an exposure to views from the perspectives of patients, which was done lately with the Caring Spotlight Experience 1 & 2 modules developed by the Salim El-Hoss Bioethics and Professionalism Program (SHBPP) and required by medical students as well as with the recent release

of the first SHBPP-FROST (From the Other Side of the Stethoscope) event. Ethical thinking cannot remain descriptive. It has to move a little further into the realm of moral imagination for the student of medicine and the attending physician to try to think what life might be like for the person on the other side of the stethoscope, backed up by an organizational culture that supports a culture of ethics and professionalism.

Gofton and Regeher argue that "in moving towards the goal of a truly concordant curriculum, it will be important to ensure this is more than a one-time change. To be successful, we will have to design a mechanism to facilitate continual evaluation not only of the formal curriculum, but also of the informal and hidden curricula to ensure that together they transmit a strong message continuing to meet the changing needs of society." The medical student needs to find her own path guided by a role model who teaches not only in lectures, OPD rounds and private clinics, but also a role model who walks the walk and is a living embodiment of the ethics he is teaching.

Monsieur Germain, of course, replied to Camus with another beautiful letter from which I quote main excerpts:

**My dear child,**

I do not know how to express the delight you gave me with your gracious act nor how to thank you for it. If it were possible, I would give a great hug to the big boy you have become who for me will always be "my little Camus."

Who is Camus? I have the impression that those who try to penetrate your nature do not quite succeed. You have always shown an instinctive reticence about revealing your nature, your feelings. You succeed all the more for being unaffected, direct. And good on top of that! I got these impressions of you in class. The pedagogue who does his job conscientiously overlooks no opportunity to know his pupils, his children, and these occur all the time. An answer, a gesture, a stance are amply revealing. So I think I well know the nice little fellow you were, and very often the child contains the seed of the man he will become.

(...)It gives me very great satisfaction to see that your fame has not gone to your head. You have remained Camus: bravo.

*Louis Germain*

For many of us who are in medical education, the Camus-Germain / Camus-Grenier legacies cannot but be admired. The hidden curriculum is not so hidden after all.

1. Toby Garfitt, "Situating Camus: the formative years," in *The Cambridge Companion to Camus* (Cambridge: Cambridge University Press, 2007): 26-38.
2. Ibid.
3. Gofton, W., & Regeher, G. (2006) 'What we don't know we are teaching: unveiling the hidden curriculum', *Clinical Orthopaedics and Related Research*, no. 449, pp. 20-27.

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## RESOURCES FOR MEDICAL EDUCATORS - BEST EVIDENCE MEDICAL EDUCATION



(BEME) <http://www.bemecollaboration.org>

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The BEME Collaboration is an international group of individuals, universities, and professional organizations committed to the development of evidence-informed education in the medical and health professions. The emergence of the BEME Collaboration reflects the evolution of medical education into a fully-fledged scholarly discipline. Just as sound medical practice must rely on scientifically obtained evidence, so must educational practice be based on scientifically derived educational recommendations. BEME provides reviews that present best available evidence that may be used by educators and administrators to make decisions about programs, curricula, teaching and assessment methods, and other related matters. Currently, there are 43 such reviews on topics as diverse as teaching communications' skills, use of high fidelity simulation, portfolios, educational games, faculty development, teaching professionalism, team-based learning, longitudinal clerkships, etc. BEME reviews are published in *Medical Teacher* – the journal of the Association for Medical Education in Europe.

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# PERSPECTIVES IN MEDICAL EDUCATION - HOW THEORY INFORMS PRACTICE

*By Ramzi Sabra, MD, MHPE and Zakia Dimassi, MD*

“He who loves practice without theory is like the sailor who boards ship without a rudder and compass and never knows where he may cast”.

*Leonardo da Vinci, Polymath*

There is nothing so practical as a good theory.

*Kurt Lewin, Psychologist*

The field of medical education has witnessed major upheavals over the past 100+ years. Some of these have resulted in dramatic shifts in perspectives on education, e.g. from a near total dependence on didactic teaching to a near abandonment of this approach in some places. Any educator who aims to develop a medical curriculum is faced with the arduous task of sifting through multiple curricular models, educational approaches, methodologies and emphases, some of which are contradictory. A teacher is frequently faced with new approaches and recommendations for teaching and assessment of students, that may be counter-intuitive or that may run against the way things have happened for a long time. Without a proper understanding of where these various claims to the truth come from and what their theoretical underpinning is, one cannot make sense of all these offerings and make an informed decision about one's practice. Theory, as the saying goes, informs practice. In this article, we provide a very brief and general overview of various theories and perspectives in medical education, and how they may be reflected and implemented in medical curricula.

## The Two Opposing Philosophical Underpinnings

There are two broad philosophical traditions that have shaped thinking about medical education in the 20th century: positivism and constructivism. Positivists believe in a real world, with absolute reality that can be known objectively by an observer. In their view, knowledge exists outside the knower and is free of contexts and values. Constructivists, on the other hand, view it differently: reality is not absolute but is more of what is apprehended by the knower in the form of mental constructions that are influenced by the physical, socio-cultural, and psychological contexts, and the values and experiences of the knower; knowledge, therefore, is constructed by the knower. Positivist thinking would favor situations where an authority figure, who already has the knowledge (the teacher), reveals the reality to the student (who receives it and stores it); this favors a more didactic approach to learning. Constructivists view the role of the teacher as facilitating the learners' efforts to construct their own realities (giving them a more active, participatory role in creating meaning and understanding), thus shifting away from didactic approaches.

The history of medical education in the last 100 years had been largely, though not absolutely, a gradual shift from positivism to constructivism.

## Orientations and their Application in Medical Education

Within the positivist and constructivist epistemologies are four broad orientations that encompass one or more theories of learning; they are the behaviorist, cognitivist, social, and humanist orientations. While each theory within these orientations has its own distinctive features, many of them, nevertheless, overlap and derive from each other.

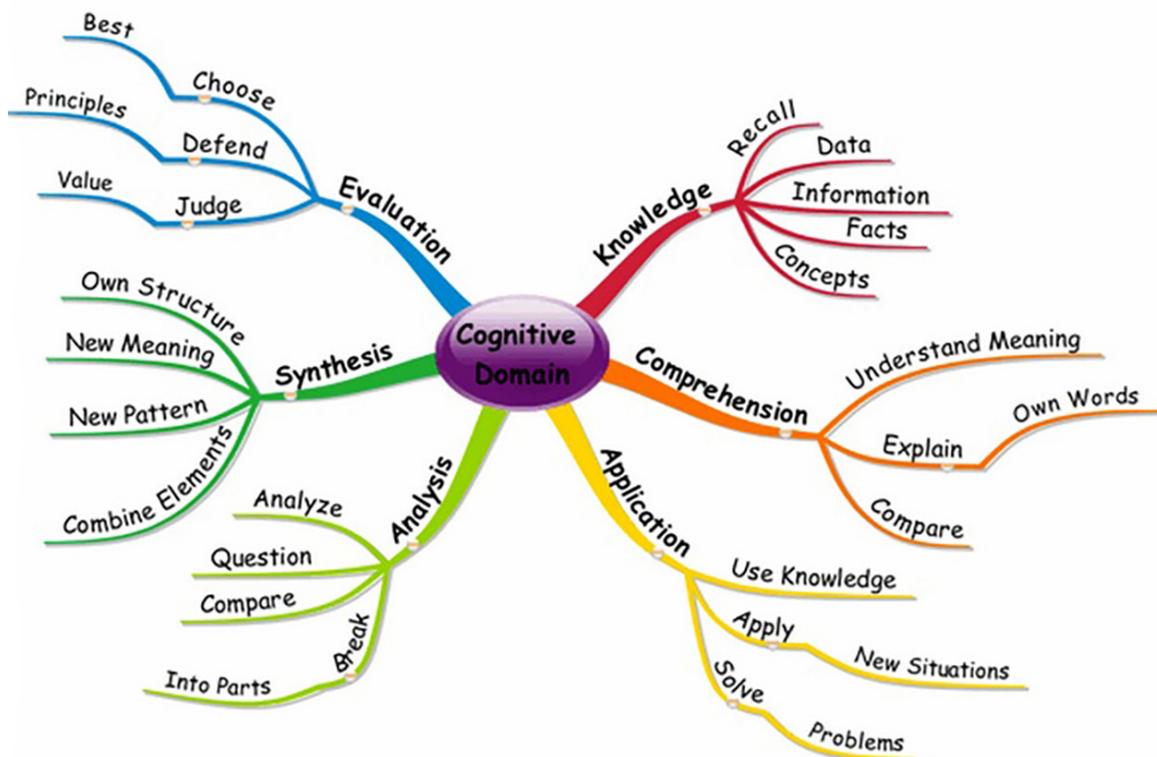
**The behaviorist orientation** focuses on the role of the external environment in stimulating and shaping behavior. It occurs when there is a behavioral change in response to these external stimuli. Learning is influenced by the nature of rewards or punishments associated with the behavior. Behaviorist theory originated with I. Pavlov (recall Pavlov's dog experiments) and J.B Watson. Behaviorists view the learner as a passive person who responds to stimuli. They are not concerned with processes that occur inside the learner, but only the observable behavior. Behaviorism, although supposedly replaced by other theories – particularly constructivist orientations - still finds expression in current curricula through the emphasis on objectives, competencies, and the whole movement towards outcomes-based education, which in turn focuses on demonstration of observable, measurable behaviors, under specific circumstances and in response to specific stimuli. Curricula that emphasize sophisticated grading schemes, prizes and honors, as external rewards and motivators for learning, also embody some of the principles of behaviorism. Behaviorism is also very relevant in learning practical skills.



**This is brilliant! Every time I press this button I get a reward.**

<http://blog.questia.com/2014/10/behaviorism-is-one-of-the-best-psychology-research-paper-topics/>

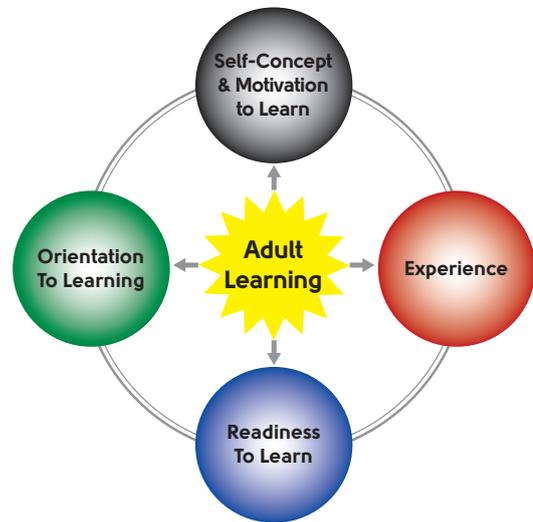
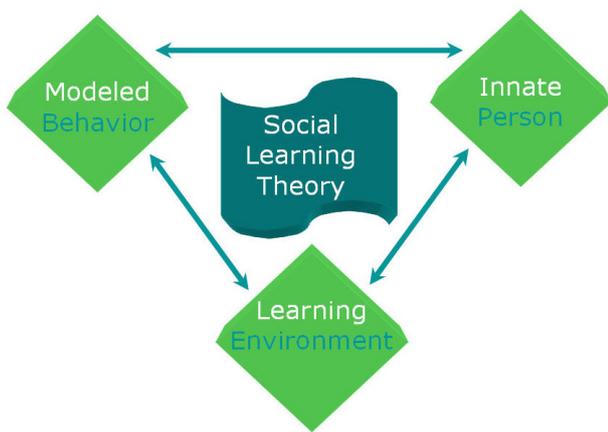
The **cognitivist orientation** arose as a response to behaviorism, since it was realized that not all learning occurs through shaping and changing of behaviors. In this theory, learners are active participants in their learning, and the mind functions like a computer processor: information comes in as input, the mind processes the information for the time being, and the information is stored away - to be retrieved later. Concepts of learning as perceiving, comprehending, memorizing, retrieving and integrating knowledge, and as "finding meaning", are components of cognitivist approaches. The ideas of rote memorization as opposed to meaningful learning (or surface vs. deep learning) are rooted in constructivist thinking. Learning by reflection, problem solving, and by "transfer" of knowledge to new situations are also aspects of cognitivism.



<https://opentextbc.ca/teachinginadigitalage/chapter/3-3-cognitivism/>

The **social orientation** posits that learning is a social activity, not only an individual effort or a response to environmental cues. Learning happens when the learner interacts with other people and with the environment as a whole. In this process, the learner is not passive but also contributes to the molding of the environment itself. Thus learners acquire skills, knowledge, attitudes, and behaviors by observing others, emulating them, and actually participating in the community of practice. One can clearly see the application of this theory in medical education – through apprenticeship models (in modern terms, rounding with senior physicians or with a group of physicians at various levels of training), role modeling, and with the gradual movement of medical students from observers to doers as they progress through medical school then residency programs. The concepts of hidden and informal curricula (see the article in this issue by Thalia Arawi) derive from social perspectives of learning.

Finally the **humanist orientation** to learning emphasizes the freedom of the learners and their potential for growth. Theories of adult learning fall within this tradition, where learners are seen as self-directed, internally motivated, goal oriented, self regulating individuals, who value learning that is directed to problems and questions that they must address in their daily lives. They must be given the freedom to pursue their goals by means that make sense to them and fit with their learning styles. The concepts of self-directed learning and lifelong learning have their roots in the humanist perspective of learning. PBL (problem-based learning) is a learning method that incorporates the goals of self-direction by encouraging learners to determine what and how to learn. Reflection is important here as well, as it allows the learner to become self-critical, know him/herself, and be transformed (transformational learning theory).



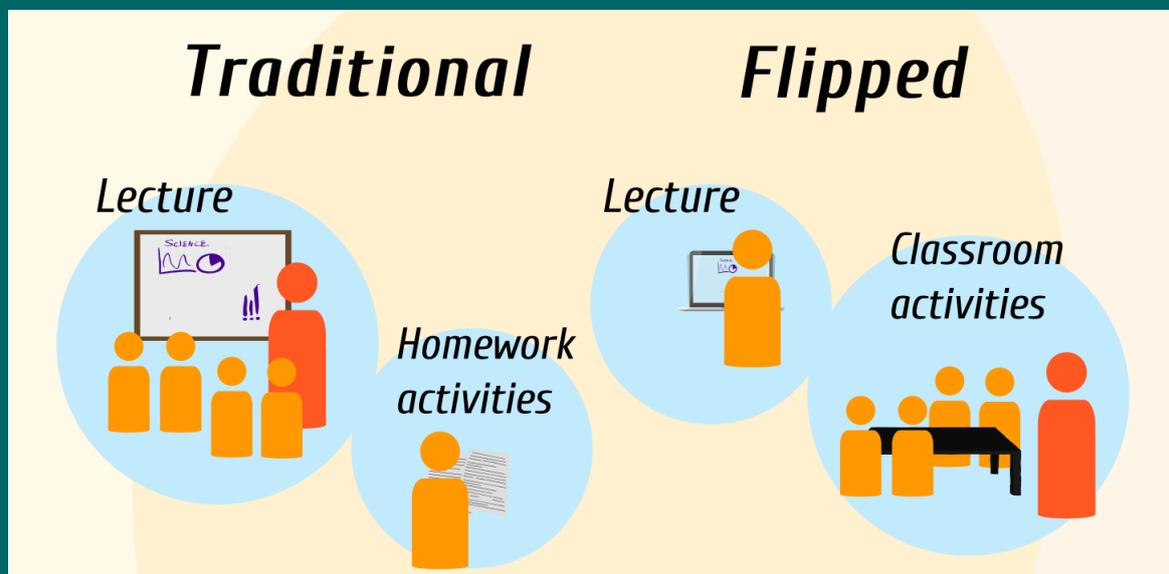
<http://ged578.pbworks.com/w/page/39338479/Banduras%20Social%20Learning%20Theory>  
<https://einstructionaldesign.wikispaces.com/Andragogy>

We have summarized four orientations of learning that encompass several theories or perspectives, some of which are abstract while others are more practical or applied; furthermore, some of them emphasize individual effort, while others see learning more as a social activity. All these perspectives and approaches are represented to different extents in modern medical curricula and all of them have something positive to contribute, though in some curricula one may be more dominant. It is good for educators to be familiar with them and examine and evaluate what their own perspectives are, since this will certainly influence their practice as educators and may also generate interesting research questions.

# RECENT INTERESTING LITERATURE IN MEDICAL EDUCATION: STUDENT PERCEPTIONS OF THE FLIPPED CLASSROOM



This review of the literature\* explores studies that examined the medical students' perceptions of the benefits and limitations of the flipped classroom (FC) approach to learning. This approach is proposed to replace traditional lectures by having the students exposed to the required content (information) before the in-class session, via recorded lectures, podcasts or texts. The actual in-class, face-to-face session with the faculty is devoted to student-centered activities that promote active student learning. These take the form of case-based, problem-based, team-based learning approaches, workshops, and discussion-based sessions, all conducted in small groups, or occasionally large group sessions that employ interactive approaches (e.g. clickers, think-pair-share...). The faculty acts as a facilitator in these sessions. Thus, the valuable in-class time is used not for the relatively lower level cognitive work of gaining and comprehending information, but rather for the higher order cognitive activities of application, synthesis, analysis and evaluation of knowledge and for problem solving.



<https://blog.animatron.com/2016/05/27/the-flipped-classroom-does-it-actually-work/>

The results of the review of 26 eligible studies found overwhelming and almost universal support for this approach among students, whether in preclinical or clinical contexts. Students reported increased motivation, interest and engagement, and they valued the incorporation of self-directed learning, active learning, and peer interactions in the face-to-face sessions with faculty. While students reported a better perception of their knowledge and learning using these approaches, little objective evidence exists to support this claim. Although many studies did not show a difference between traditional and FC approaches in terms of performance on multiple choice question tests, some showed better performance for the traditional approach. However, when the results were further analyzed (in the one study that allowed this), that performance was better on questions that required memorization, but, interestingly, FC approaches resulted in better performance on questions that required analysis. Thus, more is needed to examine the effect of these approaches on learning; the outcomes have to be clearly defined and the assessment tools adequately designed to assess those specific outcomes. The article identifies some practical limitations perceived by students regarding FC approaches, which can be easily addressed through proper design and preparation.

\*Advances in Medical Education and Practice: Student Perceptions of the Flipped Classroom. CJ Ramnanan and LD Pound. Adv Med Ed Prac 2017; 8: 63-73. <https://www.dovepress.com/advances-in-medical-education-and-practice-student-perceptions-of-the-peer-reviewed-fulltext-article-AMEP>

# NEW COURSES: BECOMING A DOCTOR: CLINICAL SKILLS I AND II

*Umayya Musharrafyeh, MD*

“Observe, record, tabulate, communicate. Use your five senses... Learn to see, learn to hear, learn to feel, learn to smell, and know that by practice alone you can become expert”.

*Sir William Osler (1849–1919)*

Mastery of clinical skills (CS) is central to the transformation of a medical undergraduate student into a competent health professional fit for medical practice. A clinical skill is defined as “any discrete and observable act within the overall process of patient care”<sup>1</sup>.

**There are three main categories of CS:**

1. Technical skills, such as clinical examination and procedures
2. Non-technical, skills such as teamwork and communication skills
3. Cognitive skills, such as clinical reasoning and decision-making

The traditional doctor-patient consultation incorporates several skills and components which, when effectively combined, constitute an advanced and complex approach. The consultation begins with the patient presentation and concludes with the formulation of a plan. Along the way, it involves general interview skills, specific medical history taking, physical examination, clinical reasoning and problem solving, explanation and shared decision-making, and finally, documentation of the encounter. Clinical reasoning extends beyond the doctor-patient interaction, so the component represented within the CS curriculum is recognized as being only part of the complete process. Clinical skills, therefore, include some skills which are essentially cognitive (rather than psychomotor), in particular clinical reasoning. These cognitive skills are made observable (and therefore measurable/assessable) by being explicitly articulated or communicated – either orally or in writing.



<https://meducation.net/hashtags>



<http://www.rguc.co.uk/best-practice-clinical-skills-educators.php>

Early exposure of medical students to clinical skills teaching helps to integrate students' knowledge in basic sciences with clinical concepts. This integration enhances students' understanding as well as their motivation and interest. Teaching clinical skills early on develops the students' abilities in history taking and physical examination, in preparation for their clinical years. It boosts their self-confidence, such that they become less self-conscious and can give their full attention to performing and perfecting those skills. This would translate into an increase in students' problem solving and clinical reasoning abilities and overall competence.

It has always been challenging for clinician tutors to structure learning events for their students with patients. Anecdotal accounts abound of pre-clerkship medical students going to the wards unsupervised to practice their clinical skills; this practice is no longer considered ethical by today's standards.

At the American University of Beirut-Faculty of Medicine (AUB-FM), and with the launching and implementation of the new student-centered, competency-based, integrated curriculum in 2013, a clinical skills course that aims to teach the basics of the medical encounter was introduced during the two pre-clerkship years, starting the first week of medical school. The course sessions are delivered over a single two-hour session on a weekly basis throughout the two years.

The clinical sessions are intended to complement and reinforce the ongoing organ-system based modules during the same period, in which students are learning the pathology and pathophysiology as well as the clinical manifestations of diseases related of that system. Thus, we designed the course to ensure that the learning of clinical skills occurs in parallel and in an integrated manner with the learning of the core curriculum in the basic and clinical sciences, which will demonstrate the relevance of what the students are learning, enhance their motivation and support depth of understanding and long term retention.

In each session, students are divided into small groups, each with one preceptor, that rotate around 4-5 stations. The aim of each station is to introduce a new task that is explained and demonstrated by the tutor, followed by direct application of the specified task by every student; immediate feedback is then provided. The tasks offered included history taking, communication skills, and physical examination. In an attempt to standardize the teaching across stations and groups, checklists that detail the learning objectives and learning material pertinent to every session are provided to both students and tutors ahead of the session's assigned date.

Early in first year, medical students are introduced to the medical encounter through videos and real encounters with simulated patients, allowing for hands-on application in a safe non-threatening environment. Students use checklists for common complaints that standardize their communication skills and history taking inquiry. As they progress, checklists are tailored to the module material and application is conducted on both simulated and true patients.

As students advance to the second year, they are led into translating a patient's problems into a coherent diagnostic formulation and management plan. Special clinical reasoning sessions using case-based learning approaches are introduced late in first year and throughout second year to allow students to navigate through some major patient problems or presentations such as chest pain, cough, dyspnea, swelling, fever, dizziness, etc. The teaching and learning of clinical reasoning should not just focus on outcomes or just on the process itself, but needs to focus also on the metacognitive aspects, or the student's insight into his or her own cognitive processes. This is helped by students and tutors articulating, and making explicit, how they reached their conclusions, and by taking account of the learner's level of knowledge and the nature of the clinical problem.

This model is an objective structured clinical teaching (OSCT) method that is initiated during the preclinical years and reinforced in the clinical rotations, and aims to establish solid clinical skills that should prepare our students for more demanding, true medical encounters.

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3. D.A. Schön. The reflective practitioner: how professionals think in action. Temple Smith, London (1983)

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