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Strategies and recommendations for medical education in the Emergency Department: It's good to remember

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ABSTRACT

This review paper examines the literature on tactics and suggestions for medical education in the emergency department, synthesizing insights and wisdom from a medical educator's perspective. Its focus is to emphasize the central role of medical educators as role models and to underscore the ongoing processes of professionalization.

Keywords: Emergency, medical education, undergraduate, professionalism, role model

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INTRODUCTION

What are medical students doing in the emergency department?

Have you ever seen a medical student who has not been trained in the emergency department (ED)? I do not think so. Emergency medicine is one of the most important fields of medicine. Please go back to your own studenthood and think about it; maybe you may have sutured the first suture there, you may have done the first resuscitation there. You may have even witnessed death for the first time there. Emergency is the place where the pleasure of dynamism is experienced as well as insomnia and violence...

We wanted to see more patients, we wanted to be able to diagnose, plan treatment, and be the hero of the patient with our student mind... Some of us could not find what we wanted there. Some of us were so impressed that emergency medicine became our dream. We did not care about the shifts, as long as we dreamed of being like our super teacher.

Emergency medicine has a place for medical students: to learn and experience in a real environment, with real patients, in a real team; to encourage bright and motivated students to choose emergency medicine; to establish future collaborations with colleagues and health personnel; and to understand the contribution of emergency medicine to the medical environment and, of course, to understand the emergency conditions of diseases and to be able to manage emergency patients...

Patients often present to the ED with a new illness, condition or exacerbation of a chronic disease. Therefore, students will learn the approach to a patient with undifferentiated complaints here. Cases coming to the ED are an essential learning environment for graduates who will work in primary or secondary care. A student in the ED will learn to develop a list of differential diagnoses, take history, perform physical examination, perform emergency procedures, and plan emergency treatment [1,2]. Teaching is difficult, requires preparation time and is rarely a natural talent. Just because you are a good clinician does not mean you will be a good educator. In the ED, students have many reasons to learn, but do you have many reasons to teach?

Teach for the right reason. First, if you are teaching it for personal gain and you do not see it as altruistic, it can be daunting for you; you may see it as a workload. Your students will quickly recognize your lack of enthusiasm for the task at hand, and your frustration with the workload will become apparent [3]. Ideally, the teaching situation and processes should be satisfactory for you. You should make teaching a passion and use this passion to improve your performance in teaching. Teach with caring.

The best learning comes from teaching. Use your teaching processes to enhance your own learning processes. Think about the powerful and direct impact of education on patient care. The knowledge and skills you pass on to students today will spread through their service tomorrow and for years to come. You have the potential to impact countless lives with every clinical pearl offered. From this perspective, could you need a more compelling reason to teach?

What to teach medical students in the emergency department?

One of the most important sources on what a medical student should know/be able to do is the Turkish National Core Curriculum.[4] In this resource, clinical symptoms, conditions and diseases are included, and their relationships with learning levels are presented. This material should be used as the bedside book of the faculties and should be used in accordance with the programme designs.

What are the competences of an educator teaching medical students?

Professional: Start by acknowledging the students' presence and your role as an educator. Students like and respect an educator who is respectful and caring and who takes on different roles when necessary. Your professional behavior also increases your interest in learning. Teach your students courage, accessibility, justice, health advocacy, ethics. The more enthusiastic you are about teaching, the more contagious it will be. Angry, sarcastic, disrespectful, undisciplined behavior breeds the same in your students and may one day be directed at you. The device is open and approachable. Do not be condescending or overbearing. If students do not feel comfortable asking a question, or if they get a plan or a difference wrong, they will avoid you or be reluctant to progress in their knowledge and skills. This hinders your ability to teach and their desire to learn.

Expert: Show how competent you are in your field. Start by being a good clinician. Clinical excellence is a

prerequisite for being a teacher and a role model. Teach your students to be good clinicians, to follow scientific studies, to constantly improve and, above all, to challenge themselves.

Communicator: Know and use your students' names. This shows that you care and value them. Let your communication with others be exemplary and expect the same from your student. They demonstrated how to communicate with patients, relatives, colleagues and other health professionals, especially in the emergency department, and how to address difficult and conflicting situations.

Mentor: Accept your students as adults, realize your education process by considering the principles of adult learning but with a disciplinary style. To be a good mentor, develop conceptual frameworks for learning and teaching, and transform theories into practices. Try to train your students gradually from apprenticeship to mastery in accordance with their own levels and experiences. In this process, fulfill your role as a teacher/counsellor/guide and eventually mentor.

Continuous learner: Develop yourself in new learning and teaching theories, methods and techniques. Put what you have learned into practice and motivate others to do the same.

Role model: Model the behaviors you want them to adopt. Actions speak louder than words. Do not allow your words and behavior to contradict so that a trusting environment can be established.

Educational Leader: As clinician trainers, they are leaders in monitoring the developments in educational processes, seeing the gaps in the programme and creating a qualified learning and teaching environment.

What works and what does not work in emergency medicine education?

Strategy 1: Set expectations

Setting expectations is the most important thing you can do before you start to foster an effective learning environment. It is necessary to listen not only to the individual needs/expectations of the learners but also to the expectations of the whole team. This behavior is important for creating and maintaining a supportive and collaborative learning environment while ensuring the active participation of each individual in the process. [3]

Recommendation one: _Scrutinize_

Analyze the current situation: What do we have and what do not we have?

First, we review the block objectives if they are already structured and still in use. Check the appropriateness of the objectives in terms of scope, wording, relevance to the examination questions and their place in the teaching materials. We ask whether the objective-method test matrix is structured and, if so, whether it is appropriate and how it is used in the process. This stage involves mapping the current situation. Your results will be an analysis of your curriculum, and what needs to be done/improved/regulated will become visible.

Suggestion two: _Make a fliskos_

Understand expectations: Who said what? Identify your audience's needs to create satisfying educational encounters. Whether you are teaching at the bedside, lecturing to a crowd, or presenting to a small group will help you align your learners' goals with your own. Assessing your learners' needs will allow you to target your teaching, determine the interest level of your subject matter and connect with your audience [3]. Expectations can vary: how to provide patient care, how to avoid litigation, or even how to pass an exam. It is appropriate to plan your programme to meet all these questions and expectations.

Learners' aims, wishes or expectations can be obtained in different ways. Feedback from the previous group of learners will be useful at this point. Which sessions were the learners satisfied with?

Which trainer did not deliver his/her lesson? Who was late for the lesson? Did they learn? Were the exam questions easy?

Feedback forms should be prepared for different training components, such as content, methods, testing, assessments, trainers, students, resources, the environment, and interactions. If the feedback forms do not question these components, create your own notes.

You can learn about students' expectations from formal feedback forms, but there are also informal methods. You can interview a student or group representative you know from the previous group. Your trainers or other members of the team, such as assistants, nurses or paramedics. The education manager, for example, the deputy dean... What do all these interviews provide? To determine the

optimal hidden curriculum. For example, you can determine what students do during their shifts, problems of interaction between health staff and students, unprofessional behavior by trainers or students, teachers who do not attend block committee meetings... You can obtain this and much more information through these interviews. The information you get from these interviews may not be official, but if you write it down, it becomes official. Although we usually tend to 'act like the previous person', that person may not be you, and you can break the cycle. Please formalize all the information you receive into a report and share it orally and in writing with the relevant committees.

Recommendation 3: _Determine the steps _

Understand the level of knowledge and experience of the learners. The educational process involves learners with different backgrounds and levels of education from a variety of professions and seniority, such as nurses, interns, trainees, and residents. It is important to see each team as a 'learning community' and to organize it to include peer learning, for which there is a need to learn about each other's prior knowledge and experience.[3]

Understanding students' backgrounds allows them to capitalize on the strengths and experiences each student brings to the clinical environment. Many have significant prior knowledge and experience, have worked in a variety of settings and may offer unique perspectives or expertise on a topic. Capitalizing on students' strengths is an effective way of increasing individual satisfaction and fostering a collaborative environment.[3]

When groups have a common level, it is easy to address the goals and objectives of your audience. Groups with different levels require a more organized approach. Pairing students with less prior knowledge or experience with more advanced students can be challenging, especially in a bedside setting, and can enable peer learning. On the other hand, pairing people with low prior knowledge/experience can provide them with the opportunity to fill in missing points at the theory-practice level.[3]

Strategy 2: Programme development

Preparation should be made for competence, proficiency, objectives, methods, testing, educational environments, resources and materials and evaluation of the programme at the stage of designing and developing the programme.

Recommendation 4: _Build a team_

The programme development process is defined as the process of organizing the programme for the first time or about the points that need to be improved. Teamwork is important in this process. The clinical education environment involves multiple methods as well as multiple interactions due to the context. In this respect, in addition to the faculty members involved in the programme, other health professionals in the clinic where emergency care is provided should also be involved in the process. The roles and duties of assistants, nurses and paramedics in the educational process should be defined, and suggestions for improvement should be taken into account.[3]

If this is an existing programme and the team members are specific, check the information about the existing team. Is the team working well? Is the team cohesive? If there are problems, where and with whom? These questions can be answered on two levels. You can throw out the bad apples and buy new ones. Or you can take the rotten part of that apple and make it shine. It is up to your team to decide.

Recommendation 5: _Build_

Design your programme. Build your programme like an architect. Determine training and testing methods appropriate for your objectives [2,3]. Remember that it is important to use methods that are appropriate and relevant to your objectives and that using a variety of methods will appeal to your students' learning styles and maximize learning. You can include presentations, case analysis, bedside encounters, simulation applications, distance learning support, and experience sharing sessions in your programme. You can spice up your program with film analysis, add quality with assignments, scientific research presentations, simulation tasks, patient management, mini clinical examination (miniCEX), and CORE. Would you rather build a makeshift hut or a solid house?

Do not forget to make a matrix when designing your program. Trust me, you will be very comfortable next year.

Recommendation 6: _Adapting to the Millennium_

Identifying appropriate educational technology resources for learners There are many educational resources for health professionals, but finding the most effective can be

time consuming. In addition, certain resources may be more appropriate for learners at certain levels. Learners may not know how to navigate to primary sources of information in an ever-expanding digital environment or may not want to bother. [3] Therefore, having a selection of resources that are readily available and teaching learners how to use these technologies appropriately has become an increasingly important part of health profession education.

Recommendation 7 -Find peers_

Peer learning is one of the methods used for quality education. It develops interprofessional dynamics, creates a collaborative learning environment and increases personal success as an active learner. Studies show that learners learn more from their peers than from trainers and that they prefer to benefit more from their peers in the learning process. Therefore, involving junior doctors and residents, and even other health professionals who are closer in age, in the educational process is avery useful method. The most important thing at this point is to create opportunities to bring students together with their peers. [3] It is good to include students in groups from different disciplines as part of the team and to designate/role one of them as a peer teacher. In this way, the student will see him/herself as part of a team and will be able to reach his/her peers more often and more easily and ask questions without hesitation.

For the other health professional, this role may be seen as a 'burden'. On the other hand, in an academic environment, learning, teaching and service go hand in hand, and this is a responsibility for everyone and, at the same time, beneficial to their own learning process.

Strategy 3: Implementation

Clinical teams are typically composed of learners from different backgrounds and levels of education. This can be daunting, but an effective interaction-oriented team that embraces diversity can easily be used to create an effective learning culture. Ensure that the whole team, not just you, acts in a timely, efficient and supportive manner when conducting practices.

Recommendation 8: _Create an environment_

Create a safe learning environment. A safe learning environment is essential for learners to go beyond their comfort zone. Make your learners feel that you are completely focused on them. If you belittle your learners, you can quickly develop an audience of passive listeners who fear humiliation and are afraid to speak up.[2,3]

By speaking up, encouraging questions and challenging conclusions, you will develop your learners' ability to think broadly, stand behind their reasoning and make a commitment. A nonthreatening learning environment will have incredible benefits that will be reflected in patient care.

Recommendation 9: _Be a professional role model_

Being a role model as a team leader is essential for a supportive learning environment. Talk about professionalism, professional behavior and professional behavior throughout the process.[2,3] In particular, talk to your team members about unprofessional behavior—especially those you identified in Strategy 1—and set targets for improvement.

Suggestion 10: _Capture the interest of your students_

Most adults learn through action, experience and reflection rather than passive assimilation of information. If the ideal teaching is case-based, clinically relevant and experiential, then opportunities abound in the ED. Rounds, for example, contain all these elements and provide highly teachable moments. The lead clinician selects teaching points based on the educational benefit to the team and asks questions of the group to create a collaborative learning approach. These sessions provide an opportunity to explain not only management plans but also decision-making processes. This forces learners to use critical thinking skills, review the management of their patients and take an active role in educating their peers. Students can be further stimulated by demonstrating physical examination findings and modeling communication skills.[2,3]

Whichever method is chosen, the common value is determined by the one-to-one exchange between the trainer and the student. A lecture can be an effective way of conveying information to a large group in a short space of time. The one-way flow of ideas from the lecturer to the audience can be enhanced if the material is case-based and relevant to the needs of the audience and if the presentation allows for open discussion. Llectures can provide a basis for the use of other teaching methods, such as small group discussions, simulation exercises or vocational skills training. These techniques are examples of more active learning that engage learners, facilitate questions and provide opportunities for timely feedback.

Recommendation 11: _Assign a specific role to each student_

Assigning specific roles to each student according to their prior knowledge/experience makes the process effective[3]. Each member of the team can be assigned a patient follow-up or presentation preparation task according to their prior knowledge/experience. When planning the tasks, ensure that the tasks are linked to the competences and that each learner completes one task for each competence.

Recommendation 12: _Go in small steps, keep it simple_

As trainers, it is important that you devote as much time to training as to service. For this purpose, it is important to have structured programmes with clear objectives and schedules. Trainers should plan their service and training processes in advance and deliver the training by making the time allocated interesting and valuable. On the other hand, teaching time may be limited by the clinical education environment, especially in the emergency department. Educational processes can be shortened and/or interrupted at any time for any reason, e.g., a patient, a trainee, an event, a situation, etc.[3]. Even if your objectives are clear, it is advisable to emphasize small and frequent efforts such as showing the big and small picture, showing clues, presenting contradictory situations or solving a problem, rather than stating these objectives as if you were giving a theoretical lecture.

Long lectures and extensive reviews are not only boring but also impractical for emergency services[3]. Focus your discussions and presentations on a specific problem and support your points only with relevant background information. Avoid trying to teach too many concepts at once. This applies to lectures, bedside teaching, simulation and all other teaching venues. Two or three main points were chosen, and other topics and repetitions were avoided. The same principles apply when demonstrating a procedure. It is broken down into logical components (e.g., indications, key points, site preparation, execution, troubleshooting, etc.), paused for clarification and reinforcement, and allowed time for students to ask questions.

Recommendation 13: _Use every encounter_

A lack of time is one of the most common constraints faced by clinical educators. This is often due to a concern that a topic needs to be covered in depth. This perceived limitation often results in missed opportunities for longitudinal learning and smaller but highly relevant teaching points.[3]

To make as many brief teaching moments as possible effective, educators need to become skilled at using each encounter. Moving away from a prepared talking framework on a topic such as heart failure and instead focusing on the immediate clinical encounter requires flexibility and creativity. For example, instead of focusing on the causes of heart failure, one might focus on objectives/topics such as the exacerbation of heart failure or reviewing specific radiographic findings in a patient with heart failure, discussing a differential for breathlessness, exploring the sensitivity or specificity of specific tests or demonstrating how to perform an examination.

Bedside rounding is one of the most important methods of teaching history taking and physical examination. It can also teach professionalism, communication skills and patient education skills. Bedside teaching is avoided due to disrespect for the patient, time constraints and the attitudes of trainers. However, studies have shown that bedside education does not take longer than corridor education. Patients, on the other hand, have a more favorable view of bedside education than thought; students say they feel more comfortable at the bedside, the quality of bedside education is better, and there is better discussion, especially of differential diagnosis and precautions.[1] Emergency medicine involves unique communication. It has the potential to jeopardize patient care and safety due to limited time, stressed and angry patients, multiple tasks, multiple interruptions and teamwork interactions. However, although the importance of communication in emergency medicine education is low, teaching communication skills in emergency medicine is essential. Interprofessional learning and simulation offer opportunities as learning tools. Students' perceived lack of importance of communication skills training and clinicians' time constraints were identified as barriers.[5] The inability of students to receive feedback from trainers and the lack of formal communication skills are seen as deficits.

The emergency department is a rotation that gives medical students the opportunity to stretch and challenge themselves. This environment allows students to encounter a wide variety of patients, integrate clinical skills, history taking, physical examination and professional skills, develop communication skills with these patients, work in a team and manage the patient in

an uncertain and stressful environment. The emergency medicine environment is different from other clinical education environments. Therefore, simulated emergency medicine environments can be used as better training environments. This can be an important step in improving students' competencies before they enter a real emergency environment. Students can learn in a safe, emergency-like environment—with simulated and virtual patients simulating different patient scenarios—and receive feedback and guidance. In this way, when they enter a real emergency environment, they will be able to work in the clinic as individuals who can work on a team to answer questions about what, why, how, where which tasks belong to them, and experience uncertainty and stress.

Recommendation 14: _Keep a treasure trove of clinical pearls_

Being an educator involves sharing experiences and using them as teaching material. The ability to extract valuable insights from these experiences is an important aspect of being a good educator.[3] A well-crafted parable can leave a lasting impression on a student. Additionally, it is advisable to maintain a list of clinical information and tips that can be readily applied when appropriate.

Recommendation 15: _Use longitudinal learning_

It is recommended that longitudinal learning be employed, whereby immediate learning experiences build on prior knowledge and reinforcement and mastery develop over time. This approach to learning provides educators with a significant advantage, even when there are only brief opportunities to teach in any setting [3]. If an educator has the advantage of repeatedly interacting with learners, they can introduce a topic, assign reading or additional homework, and then revisit the topic and expand on it in the next lesson. This approach can strengthen both the consolidation and retention of even short learning encounters. If the trainer does not have the benefit of repeated interactions with learners, it may be helpful to introduce the topic and provide learners with materials such as-prepared papers, manuals or online modules that they can explore independently.

Recommendation 16: _Show what/how you think _

Communicating your thinking to students is the essence of clinical teaching. Just as patients want to know the reasons for their tests and treatments, your students want insight into your decisions. Whether based on basic medical knowledge, simple observations, pattern recognition, or the latest evidence in the literature, your thought process is the most powerful mechanism for clinical teaching. Some educators "think aloud" when discussing a clinical case, giving students direct access to the differential diagnosis and an explanation of the management plan. Another effective teaching method is to explain your decision-making process to the patient and the student at the same time. This saves time, involves the patient in the discussion and allows you to model communication skills. This can be a useful technique if you are unsure of the appropriate patient disposition or if you perceive resistance to your plan from the patient. As learners watch you summarize the case, outline options, seek the views of the patient and family and reach a consensus plan, they will see a complete doctor at work. It will be an opportunity for them to see a model of how to manage not only the medical decisions made but also the clinical, psychosocial, follow-up and liability issues, all in one short encounter.

Strategy 4: Evaluation

The most important stage in the development and implementation of the programme is evaluation.

Recommendation 17: _Do formative examinations_

It is not a question of whether your student passes or fails but whether he/she has truly learned. There are many types of tests that test learning. The more tests that accelerate and motivate learning, the better. Get your students used to multiple testing, get them to use exams as a learning tool. This is the most obvious point in our educational processes. The student may pass your placement without knowing what he/she cannot do and why. They may not have a chance to catch up. Give feedback to your students after each exam so that they can see their missing/open points [2,3]. Use exams as a learning opportunity, so a two-question exam that you do bedside may be better than a single multiple-choice question.

Recommendation 18: _Give and receive feedback_

How did it go? Who was happy with the process? What were the reasons for dissatisfaction? Did students truly learn? Did the programme achieve its objectives? Getting answers to all these questions will give you clues about how to fill the gaps.[2,3] You will also have completed the first step of the next cycle of programme development.

Do not expect your students to become competent or proficient immediately. Students may have seen a lot of

knowledge and skills in the first three years, but they learned them in the first three years of medical school when they did not truly use them very often and no one took the time to monitor and reteach them. So please be patient, do repetition, identify their gaps and get them to fill those gaps and then add new knowledge.

Last word not conclusion

This article presents strategies and suggestions from medical educators to clinical educators regarding medical education in emergency medicine. It is important to draw attention to their significance, remind each other of forgotten values and approaches, and share effective practices. The aim is to increase the number of excellent teachers in the field.

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REFERENCES

1. Muck A, McNeil C, McHugh P, Bebarta V, Adams B. Bedside rounds versus board rounds in an emergency department. *Clin Teacher.* 2015;12(2):94-98.

2. Manthey DE. Practical Teaching in Emergency Medicine. In: Rogers RL MA, Winters ME, Martinez JP, Mulligan TM, ed. Teaching medical students. Wiley- Blackwell, A John Wiley & Sons, Ltd. Publication; 2013:189-203.

3. Vanka A, Hovaguimian A. Teaching strategies for the clinical environment. *Clin Teacher.* 2019;16(6):570-574.

4. Arıcı D, Demir A, Gürpınar E. Pre-Graduate Medical Education National Core Education Program-2020 (in Turkish).

5. Macqueen S, Woodward-Kron R, Flynn E, Reid K, Elliott K, Slade D. A resource for teaching emergency care communication. *Clin Teacher.* 2016;13(3):192-196.