Getting Started as a Medical Teacher in Times of Change

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Abstract

Medical school teaching is a skill that is very often learned on the job. The faculty comprised of researchers and clinicians are expert in many biomedical disciplines, but familiarity with learning theories and pedagogy are usually not included in their knowledge and skill sets. The pressure to see patients and acquire extramural funding leaves little time for faculty to learn how to teach. When coupled with the natural attrition of senior faculty it is necessary to start junior faculty on the correct path to being effective medical educators who are capable of lecturing and facilitating. Institutions cannot afford to have medical educators learn through trial and error. The standards set by the Liaison Committee on Medical Education (LCME) are also creating an urgency to produce competent teachers as quickly as possible. Novice teachers need to be able to use these standards to align their teaching with goals, objectives and the appropriate pedagogy. This article is designed to be a self-directed guide describing some essentials that a newly hired faculty member can quickly use to get started. An institutional faculty development program can then serve to build upon and enrich the experience for the new faculty member.

Introduction

What happens when a chairman assigns a newly hired faculty member their first teaching assignment? Where does that person go to get help? How and when does the preparation begin? How does the inexperienced instructor gain the knowledge and skills needed to perform at a competent teacher level? Discussions with department chairmen suggest that providing teaching tools and resources in a systematic manner for new faculty is not occurring.

A convergence of factors has created a situation in which the stakes for quality medical education are very high. There are more regulations from accrediting agencies and professional organizations, and the demands placed on medical educators to see patients, conduct research, perform community service, serve as role models, and acquire extramural funding are overwhelming. The limiting factor is time. How can medical teacher training be maximized for the individual by the institution? One answer may be to get them started on the right path early on. The trend in graduate education has been that more time is spent on conducting research and very little or no time on developing teaching skills [1]. Physicians can rely on their residency and perhaps fellowship training to provide them with the confidence to approach their clinical responsibilities. An interesting paradox arises - basic scientists and clinicians are recruited to join the faculty based on their content expertise and clinical skills, but not their teaching skills [2-4]. Many newly recruited faculty have experience presenting to their peers; however, few have received formal preparation as educators [5, 6].

Although extensive literature about faculty development programs exists [4], there appears to be a gap with regard to specifically targeting newly hired faculty and how to get started with their teaching. Essential skills for medical teachers have been described in detail and serve as a valuable resource [7]. Some schools have developed competencies for medical faculty [3]. Hatem and colleagues examined the attitudes, knowledge and skills that contribute to effective medical teaching [8]. They compiled a useful reference list for novice clinical educators. Cook reports that a considerable amount of non-formal learning can be obtained over time through observation, feedback

and collaboration outside of formal faculty development programs [9]. Steinert emphasizes that the path to becoming successful in medical education takes many steps and requires attainment of diverse characteristics and skill sets [10].

While the models for academic medicine may be changing, the foundations of quality teaching have not. Starting new faculty off with essential fundamentals is an efficient way to help transition them to becoming effective teachers while minimizing trial and error. The suggestions that follow provide a guide for new faculty to get started. Within each section are descriptions of what the faculty can do as well as tools and resources they can use. We have also developed a pamphlet that outlines the items discussed in this paper. The pamphlet serves as a quick and easy reference that welcomes new faculty and provides them with recommendations and resources. Those in faculty development roles might want to build upon this approach for newly hired faculty in their own institutions.

Identify a mentor

Establish a trusting relationship with an experienced and effective teacher to serve as a mentor (either informally or formally) as early as possible. Consult the mentor to provide knowledge about expectations and how the institution operates. Take advantage of opportunities to observe and then model effective teaching skills, attitudes and professional behavior. Seek information on internal and external faculty development programs. There is too much to know and not enough time to find it all out without guidance.

Some institutions have an established mentoring program in which a senior member is assigned to a junior colleague. Morzinski and colleagues report improved professional academic skills resulting from a formal mentoring program [11]. This can be beneficial, especially if the mentor is identified very early. Role models can have a tremendous influence on teacher training [12]. Beech and colleagues stress the importance of providing mentoring programs for all faculty including those from underrepresented minorities [13]. Steinert reminds us that mentoring can play a central role in providing a framework for self-improvement and suggests that mentoring is an underutilized strategy [14-16]. Steinert also suggests that mentors should be sought out and at times multiple mentors can be beneficial and used for different purposes [15]. Risley describes the importance of closely mentoring junior colleagues who are engaged in teaching [6]. A recent study by Morrison and colleagues, reports that a formal mentoring program can accelerate faculty promotion by more than a year [17]. If help is needed establishing a mentoring relationship, consult the department chair or office of education.

Become familiar with the educational goals and objectives of the school

Know and align teaching practices with the school's expectations. Gain an understanding of the goals and objectives of the school and the overall plan of the curriculum [7]. New faculty members should also familiarize themselves with the educational mission of the school. Wilkerson and Irby recommend that all faculty members should be oriented to the academic values and expectations upon entry to their new institution [18]. Much of this information can be found on the school's website. Read the most recent accreditation documents in order to get a snapshot of how the institution delivers its curriculum and how it complies with the acceptable standards established for medical educational programs.

DaRosa and colleagues noted that there are many barriers to effective teaching – the least of which are unclear learning needs [19]. These curricular barriers underscore the need to make changes in medical education in order to serve the needs of twenty first century physicians. Thus, it is imperative to get to know the curriculum and be aware of planned or pending changes including those that are focused on the needs of the learner.

The demands to understand medical education from the perspective of a national system are also vital. As new national standards are being established by the Liaison Committee on Medical Education (LCME) it is important to become aware of these. This will enable a new faculty member to contribute to a cohesive curriculum. For instance, medical schools in the USA will be uploading their curriculum inventory to the Association of American Medical Colleges (AAMC) in a standardized manner. This will require using the same terminology to identify different modalities (2012 AAMC Curriculum Inventory – Standardized Instructional and Assessment Methods and Resource Types). Getting to know this terminology and gaining an understanding of what is expected is becoming a necessity for medical educators.

Learn about the institution's teaching resources

Conduct an inventory of teaching resources before getting started. Where to go to get help? Who are the experts? The following are suggestions for identifying what is available:

- Seek help from the office of education in order to learn best practices
- Meet with course and clerkship directors
- Review the learning management system (LMS)
- Consult members of a recognized teaching academy of distinguished educators
- Schedule a meeting with an instructional design consultant in your school or educational technology support personnel
- Visit the library and speak with the librarians about teaching resources
- Become familiar with the various teaching venues that are available, such as lecture halls, conference rooms, small group teaching facilities and laboratories.

McLean and colleagues advocate for having well-trained professionals available for support and consultation within a medical education department or unit [20]. Some schools have a faculty development website with tools, tips and resources for faculty. In our institution we have established a website with resources for creating and teaching courses. Millennials (students born between 1981 and 1999) are familiar with using and sometimes favor content delivered via media such as podcasts or videos [21]. Instructors who employ technology will have a better chance of connecting with these learners. Some schools are building new educational facilities equipped with brand new technology and capabilities for simulation. It is important that faculty take the time to learn how to incorporate and feel comfortable with the technology.

Strive to become engaged in the course

Become engaged in the full course rather than an individual session in isolation. This is an important step in understanding the multiple roles of the teacher [22]. Even if asked to deliver one session in a course there are ways to be an effective contributor. Unfortunately, many faculty members make a fleeting appearance. They deliver a one-hour lecture and move on not knowing whether their effort built on prior material or set the foundation for upcoming content. We have labeled this practice of quickly appearing and disappearing as 'parachuting' into a course.

Obtain the course syllabus and see what content precedes and follows the presentation. Many schools maintain a searchable curriculum database – this is an invaluable resource to see what topics are covered and where they reside within the curriculum. This resource reinforces the horizontal and vertical integration of curricular content. For consistency of content and assessment, make a point of submitting exam questions so that students are evaluated on what was covered rather than having questions written by the course or clerkship coordinator. New faculty should also be accessible to their students by providing contact information and be encouraged to follow up with students to make sure they have grasped the concepts. Add a question and answer discussion forum on the course LMS for students to post questions and responses about the session. This could ultimately save time by not having to answer similar questions one by one. We have conducted several education grand rounds and course specific faculty development sessions which emphasize the need to become engaged in course responsibilities.

Select a pedagogy that fits the learner and you

Novice faculty should become familiar with the learning styles employed by the learners that they will be teaching. Millennials rely heavily on technology, prefer to work in groups, and seek active engagement rather than lectures [21, 23]. Instructors who recognize this can provide group activities that take advantage of the preferences exhibited by this cohort of students. When considering the appropriate instructional strategy, select a modality that lends itself to achieving the intended outcomes. For instance a doctoring session will focus on more experiential activities allowing students to practice what they are learning.

Pre-clerkship courses may rely on lecturing, but opportunities for small group facilitation, problem-based learning, and team-based learning, as well as case-based learning should be available throughout the curriculum. The traditional lecture has been shown to be a poor vehicle for long term retention; nevertheless, it continues to have its followers and practitioners [5]. Releasing a short podcast of key terms and background facts ahead of a lecture can allow more time for elucidating complicated concepts in class in what has come to be known as ‘flipping the classroom’ [24, 25].

Exposure to the many modalities that are available for educating medical students will help to formulate a strategy for selecting the most useful method to employ for your learner and your comfort zone [7]. Developing an individual preference and style will take time and practice, but the art of teaching can be performed using a diverse palette.

Structuring the presentation

Learning objectives are one of the key components of a well-organized session. Develop clearly written learning objectives (also referred to as behavioral objectives) as the first step towards creating the session content and structuring the presentation. Learning objectives should be aligned with the goals and competencies of the course and in turn aligned with the school’s goals and competencies. Because objectives are so crucial, our school policy requires they be included on the second slide of a presentation for all courses. Gronlund provides guidance and structured criteria to write effective learning objectives [26]. Bloom developed a list of verbs that describe observable actions to help write clear objectives [27].

Novice medical teachers often overlook and misunderstand the purpose of creating clear objectives. Objectives at the learning event level provide guidance for three key things: the organizing structure for the session or course, the instructional strategy and modality, and the evaluation criteria. However, every time a teacher delivers a session without clearly developed objectives, they are leading their

students through a maze of content without providing guidance and direction. If new faculty can grasp the concept of the importance of clear objectives right from the start, they will be more efficient and effective in developing materials and in teaching and assessing the students. Once objectives are created a coherent story with a clear beginning, middle and end can be developed.

Once a structure is in place it is easier to layer in the details. Carefully select images that help to illustrate the topics and make the presentation visually stimulating. Use brief phrases in bulleted statements rather than complete sentences. Too much on a slide can lead to a common error of reading the slides verbatim instead of speaking about the key items. Having the laser pointer dance along the screen depicting every word in a lengthy discourse evokes the image of 'karaoke' rather than lecturing. When linked to an audience response system PowerPoint becomes a mechanism for engaging students by assessing their knowledge, surveying and quizzing them. Interrupting the formal presentation for a teachable moment can also be very rewarding for the teacher and the learner.

We have created an online PowerPoint lecture template that is designed to help new lecturers develop a well-structured presentation. It serves as both a tool and reference for faculty. We also have a two page overview based on the template which we have included in the Appendix. A lecture preparation checklist like the one below is also featured. Many schools and organizations are starting to develop online tools such as these to make it easier and quicker to create clear and effective instruction.

Lecture Checklist

1. Know your audience
2. Fit the content to the time frame
3. Select a manageable number of objectives
4. Organize the content
5. Tell a story – Introduce, develop and summarize
6. Choose appropriate images to illustrate the topic

Plan for and practice teaching

It is essential to plan for the teaching session whether serving as a lecturer or as a facilitator [22]. The former requires content expertise and public speaking skills, while the latter requires the faculty member to moderate, stimulate, question and debrief effectively while providing guidance and structure. These skills do not come easily or quickly but if learned early can help to prevent poor teaching habits later on.

It is important for the lecturer to have their own story to tell. Inheriting a slide set from a previous presenter might seem like a time saving shortcut. Unfortunately, it can result in a general lack of ownership of the material. Schedule adequate time to develop and prepare the background information, gain knowledge of the audience, and collect suitable material. Harden and Laidlaw emphasize that "much of the stress can be alleviated with good planning and preparation" [7]. It is easy to underestimate the time needed to prepare an effective teaching session. Rehearse the content aloud, time it, and consider recording it to make improvements before delivery and to increase confidence. A first time lecturer can ask someone from the faculty development office or a mentor to listen to their rehearsal and provide feedback. Visit the room ahead of time in order to become comfortable with the surroundings, the technology available and even finding the light switches. This will provide the feeling of being in a familiar space. Especially if new technology is being used, it is important to rehearse it with an instructional technologist or other technology staff. This can help make it a successful experience. If technology is tried for the first time and it doesn't go well, it

probably won't be used again. Compile reference material as part of the preparation so that curious students can be challenged with additional resources.

Small group teaching/facilitating also requires preparation. This is necessary in order to achieve consistency since multiple small group sessions usually occur simultaneously. Although not dependent on content expertise a good facilitator has to moderate, question and summarize, while maintaining a productive learning environment for the group. Becoming a competent facilitator means employing the skills necessary for helping students take shared ownership of their learning. Kitchen has catalogued a number of important skills (e.g., setting the ground rules and managing the session), that can be used to facilitate student learning in small groups [28]. His brief guide discusses the importance of inexperienced faculty attending staff training and or observing sessions in order to maximize the experience for the learners and the facilitator. The facilitator may not be the author of class materials; however, they must become familiar with them in order to run an effective session. The final task of the facilitator is to give feedback to individuals and the group so they can continue to grow professionally.

Providing and receiving feedback

Provide constructive feedback to learners

Providing constructive feedback is one of the most important and difficult roles for the faculty especially in a clinical setting [29, 30]. The focus is to provide accurate and clear feedback about particular observed performance of the learner with the intent to improve [29]. Establish a comfortable setting that affords privacy for an individual feedback session [30]. Limit feedback to only a few items [29-31]. Give timely and regular feedback so that positive behaviors are enforced and poor behaviors are corrected [32]. Establishing a culture in which timely, accurate and relevant feedback based on observed facts is provided will improve the professionalism and performance of both learners and teachers [29, 30]. Accrediting bodies are also acknowledging the need for students to receive formative feedback. Bing-You and Trowbridge acknowledge that for effective feedback to occur more faculty development programs are needed [33].Faculty can attend workshops which provide opportunities to role-play and view videos of successful feedback encounters.

It is also important to encourage an opportunity for student self-reflection [31]. Providing feedback to learners and encouraging self-reflection is a lifelong professional skill that requires practice. Students need to be exposed to the significance of feedback and self-reflection upon entry into medical school so that they will continue to use them throughout their training. In our school, we have begun distributing feedback 'tickets' to first-year students and require them to collect faculty signatures when soliciting feedback. On the ticket is a recommendation for students to spend a few minutes of self-reflection before receiving the feedback.

Solicit feedback in order to develop as a teacher

Use student evaluations to improve teaching performance. Time should be taken to carefully review the scores and comments on student evaluation forms. Sometimes this is hard to do particularly when receiving negative ratings. It is important to respect the views of the students and to reflect on the teaching event focusing on how to make the next session better. In particular, reflect upon the open-ended responses that are provided by the students for specific details on what to address [34]. Make adjustments based on the common themes that emerge from the comments rather than on any isolated statement. Assimilating this information and reflecting upon it is a significant step toward becoming a better teacher. Positive feedback illustrates that hard work and preparation have been rewarded.

Feedback should also be solicited from peers, mentors and course directors within a program. Work with them to devise a plan for improvement and invite them to observe the next teaching session to see how their suggestions have been implemented. Risley recommends that institutions need to follow through with corrective actions that help bring about improvement [6].

Summarize and synthesize effectively

It is important for any teaching event to include a summary – this reinforces students' expectations of the session. Place the content into context – what did you tell them? Where will it be revisited? How does it impact clinical medicine? Providing an opportunity to bring a small group session to a conclusion requires the group to reflect upon what has occurred [28]. Reserve one slide at the end of a lecture to summarize the material covered. This allows the learner to revisit the material and highlight the significant content (often referred to as the 'take home message'). Inexperienced lecturers may continue to talk right up to the end of the allotted time. This fails to provide closure. Creative ways to summarize a lecture are to: merge key statements and illustrative images in an animated slide to make a comprehensive visual synopsis of the presentation, or use an interactive technology such as an audience response system to briefly review important concepts and engage the learners. The summary also allows an opportunity to put the content in context within the curriculum [7]. This emphasizes the importance of horizontal and vertical integration across the academic program – an important requirement of the LCME and one that challenges institutions working toward compliance.

Create a professional development plan

Formulate a plan for continued development so that each year incremental steps will be achieved in becoming a skilled medical educator. At Mercer University the associate dean for faculty development meets with every new faculty member to tailor a career development plan [3]. There are many sources for identifying areas to develop, including feedback and evaluations, mentor discussions, and annual reviews with the department chairman. Make a point of trying a new technique to expand teaching skill sets. Participate in faculty development programs such as seminars, webinars and workshops. Include Continuing Medical Education programs in the development plan. Attend an annual education meeting to help keep up-to-date with strategies and technology, and network with colleagues to share ideas and experiences. Select an achievable number of development items to accomplish per year and review these with a mentor and department chair. In addition, keep track of teaching accomplishments in a teaching portfolio.

Discussion

The goal of reaching out to new faculty early is to help them become effective medical teachers as expediently and efficiently as possible. This is important in an era in which medical schools are experiencing faculty attrition, protected time for teaching is being reduced and a new cohort of teachers needs to fill the void. As the new faculty members move along the continuum from novice to expert, they have the opportunity to appreciate the importance of lifelong learning – a characteristic that they will be cultivating in their learners. Providing faculty with tips and tools and resources similar to those described here should help toward this goal.

Faculty development programs have become part of the fabric of medical schools and have been acknowledged for maintaining the vitality of medical instruction [4]. We are proposing a collection of actions that can aid the newly hired faculty member launch a career in medical education. It is

important for new faculty to become familiar with the medical education standards and expectations of today. “We need to catch them when they are young” was a comment made in a focus group study conducted by Steinert and colleagues on clinical educators [35]. Investing in the next generation of medical educators is an important step for medical institutions to take [5]. Starting off new faculty in the right direction should benefit them, the institution and the learners, with the ultimate goal of improving patient care.

Key Words

Faculty development, new faculty member, novice medical teacher, changes in medical education

Notes on Contributors

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References

1. Handelsman J, Ebert-May D, Beichner R, Bruns P, Chang A, DeHaan R, Gentile J, Lauffer S, Stewart J, Tilghman SM, Wood WB. Scientific teaching. Science. 2004; 304:521-522.
2. McLeod PJ, Steinert Y, Meagher T, McLeod A. The ABCs of pedagogy for clinical teachers. Med Educ. 2003; 37:638-644.
3. Harris DL, Krause KC, Parish DC, Smith MU. Academic competencies for medical faculty. Fam Med. 2007; 39(5):343-350.
4. Steinert Y, Mann K, Centeno A, Dolmans D, Spencer J, Gelula M, Prideaux D. A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education: BEME Guide No. 8. Med Teach. 2006; 28:1-30.
5. Swanwick T. See one, do one, then what? Faculty development in postgraduate medical education. Postgrad Med J. 2008; 84:339-343.
6. Risley MS. Teacher training for students and faculty in a medical school environment. Med Sci Educ. 2013; 23(2) 284-289.
7. Harden RM, Laidlaw JM. Essential skills for a medical teacher. London: Churchill Livingstone. 2012.
8. Hatem CJ, Searle NS, Gunderman, R, Krane, NK, Perkowski L, Schutze GE, Steinert Y. The educational attributes and responsibilities of effective medical educators. Acad Med. 2011; 86:474-480.
9. Cook V. Mapping the work-based learning of novice teachers: Charting some rich terrain. Med Teach. 2009; 31(12):608e-614e.
10. Steinert Y. Developing medical educators: A journey, not a destination. In: Swanwick T, editor. Understanding Medical Education, Evidence, Theory and Practice. West Sussex, UK Wiley-Blackwell. 2010. pp 403-418.

11. Morzinski JA, Diehr S, Bower DJ, Simpson DE. A descriptive, cross-sectional study of formal mentoring for faculty. Fam Med. 1996; 28:434-438.
12. MacDougall J, Drummond MJ. The development of medical teachers: An inquiry into the learning histories of 10 experienced medical teachers. Med Educ. 2005; 39:1213-1220.
13. Beech BM, Calles-Escandon J, Hairston KG, Langdon SE, Latham-Sadler BA, Bell RA. Mentoring programs for underrepresented minority faculty in academic medical centers: A systematic review of the literature. Acad Med. 2013; 88 (4): 541-549.
14. Steinert Y. Staff development for clinical teachers. Clin Teach. 2005; 2(2):104-110.
15. Steinert Y. Faculty development: From workshops to communities of practice. Med Teach. 2010; 32:425-428.
16. Steinert Y. Faculty development: The road less traveled. Acad Med. 2011; 86:409-411.
17. Morrison LJ, Lorens E, Bandiera G, Liles WC, Lee L, Hyland R, McDonald-Blumer H, Allard JP, Panisko DM, Heathcote EJ, Levison W. Impact of a formal mentoring program on academic promotion of department of medicine faculty: A comparative study. Med Teach. 2014; 36:608-614.
18. Wilkerson L, Irby DM. Strategies for improving teaching practices: A comprehensive approach to faculty development. Acad Med. 1998; 73:387- 396.
19. DaRosa DA, Skeff K, Friedland JA, Coburn M, Cox S, Pollart S, O'Connell M, Smith S. Barriers to effective teaching. Acad Med. 2011; 86:453-459.
20. McLean M, Cilliers F, Van Wyk JM. Faculty development: Yesterday, today and tomorrow. Med Teach. 2008; 30:555-584.
21. Borges NJ, Manuel RS, Elam CL, Jones BJ. Differences in motives between millennials and generation X medical students. Med Educ. 2010; 44: 570-576.
22. Harden RM, Crosby JR. The good teacher is more than a lecturer – the twelve roles of the teacher. Med Teach. 2000; 22(4):334-347.
23. Borges, NJ, Manuel RS, Elam, CL Jones BJ. Comparing millennial and generation X medical students at one medical school. Acad Med. 2006; 81: 571-576.
24. Prober CG, Heath C. Lecture halls without lectures – A proposal for medical education. N Engl J Med. 2012; 366:1657-1659.
25. Prober CG, Khan S. Medical education reimagined: A call to action. Acad Med. 2013; 88(10): 1407-1410.
26. Gronlund NE. Writing instructional objectives for teaching and assessment. Pearson Education Inc. Upper Saddle River, New Jersey, USA. 2004.
27. Bloom BS. ed. Taxonomy of Educational Objectives: The classification of Educational Goals: Handbook I: The Cognitive Domain. New York: David McKay Company, Inc.; 1956.
28. Kitchen M. Facilitating small groups: how to encourage student learning. Clin Teach. 2012; 9:3-8.
29. Ende J. Feedback in clinical medical education. JAMA. 1983; 250:777-781.
30. Hewson MG, Little ML. Giving feedback in medical education J Gen Intern Med. 1998; 13:111-116.
31. Cantillon P, Sargeant J. Giving feedback in clinical settings. BMJ 2008; 337:a1961.
32. Sachdeva, AK. Use of effective feedback to facilitate adult learning. J. Cancer Educ. 1996; 11:106-108.
33. Bing-You RG, Trowbridge RL. Why medical educators may be failing at feedback. JAMA. 2009; 302(12): 1330-1331.
34. Schiekirka S, Reinhardt D, Heim, S, Fabry G, Pukrop T, Anders S, Raupach T. Student perceptions of evaluation in undergraduate medical education: A qualitative study from one medical school. BMC Medical Education 2012; 12:45.
35. Steinert Y, Macdonald ME, Boillat M, Elizov M, Meterissian S, Razack S, Ouellet M, McLeod PJ. Faculty development: if you build it, they will come. Med Educ. 2010; 44:900-907.