

Chapter 8: Faculty Development

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“Give me six hours to chop down a tree and I will spend the first four sharpening the axe.

-Abraham Lincoln

Clerkship directors are responsible for overseeing all components of their student program, but even a well-constructed syllabus with clearly articulated learning objectives, the use of state-of-the-art instructional strategies, and sophisticated performance and program evaluation methodologies will be compromised if the faculty, residents, and community preceptors are not effectively prepared for their roles in the clerkship. It has been said that mediocrity is the enemy of excellence.¹ Clerkship directors seeking excellence in their student programs must optimize the contributions of the teachers who are involved as educators, administrators, researchers, communicators, and advisors to students. However, facilitating faculty members' success in these roles has grown increasingly difficult because of competing pressures of patient care and research. Thus, clerkship directors need to frame faculty development initiatives as part of the continuous cycle of life-long learning and professional development. Katz and Henry² remind us that teachers need to see themselves as more than transmitters of received knowledge. They need to see themselves as professional and accountable educators who comprehend the connection between teaching and learning, a concept that harkens back to the work of John Dewey in the early 1900s.

Purpose

The purpose of this chapter is to advise clerkship directors on how to justify, develop, implement, and evaluate faculty development programs designed to equip full-time and volunteer faculty and residents with the knowledge and skills needed for them to foster excellence in the student clerkship. Faculty development is defined as a process by which teachers in the clinical setting work systematically to improve their skills in (1) education, (2) mentoring, (3) the scholarship of teaching, and (4) designing and implementing a professional development plan as educators.

The chapter's content is organized to help readers with the:

- Why? (why should clerkship directors invest in faculty development?),
- Who? (who should be involved in doing faculty development?),
- What? (what should be taught and learned in a faculty development program?),
- How? (how might a clerkship director plan and implement a faculty development program?),
- So what? (How do you measure the process and impact?).

Why Should We Invest in Faculty Development?

Faculty development is critical for meeting accreditation requirements, helping teachers succeed as facilitators of effective and efficient learning, enabling faculty to pursue teaching as scholarship, ongoing quality improvement of the clerkship, and establishing a professional development plan for faculty members' continued growth as teachers and educators.

Accreditation Requirements

The Accreditation Council for Graduate Medical Education (ACGME) and the Association of American Medical College's Licensing Committee on Medical Education (LCME) both include language in their accreditation requirements stipulating the need for faculty and resident development as teachers.^{3,4}

LCME

LCME Standard ED-24 states that "residents who supervise or teach medical students, as well as graduate students and postdoctoral fellows in the biomedical sciences who serve as teachers or teaching assistants, must be familiar with the educational objectives of the course or clerkship and be prepared for their roles in teaching and evaluation." In 2004, the AAMC website stated that 38% of medical schools undergoing an accreditation site visit were cited for violating this standard. A similar requirement relevant to faculty (FA-4) states, "members of the faculty must have the capability and continued commitment to be effective teachers." (See also Chapter 16, The Clerkship Director and the Accreditation Process).

ACGME

The ACGME's Outcome Project describes each of the six competencies that residency programs are responsible for to ensure resident proficiency. One of the competencies entitled "Practice-Based Improvement and Learning" includes in its definition the need for residents to "facilitate the learning of students and other health professionals." Therefore, both residency program directors and clerkship directors have responsibilities to their education programs to ensure that those individuals involved in teaching the learners are knowledgeable about the clerkship's learning objectives and have opportunities to advance their teaching skills.

Helping Teachers to Succeed as Facilitators of Effective and Efficient Learning

The need for efficient and effective learning increases as the time available to spend with students decreases. This is due to competing responsibilities for faculty and limited work hours for residents. McKeachie makes this argument in his book *McKeachie's Teaching Tips* by stating: "Teaching skillfully may be less time consuming than teaching badly. Teaching well is more fun than teaching poorly. Thus some investment of time and attention to developing skill in teaching is likely to have substantial payoff in self-satisfaction and effectiveness in your career."⁵

Faculty development programs aimed at teaching skills have been shown to have both a positive impact on participants' self assessment of these skills, as well as assessments from their learners.⁶⁻¹³ These programs may be a series of workshops or courses, retreats, self study, small group longitudinal coaching, or a combination.

Ongoing Quality Improvement of the Program

Evaluations of Individual Faculty and Residents

As part of their clerkship evaluation system, clerkship directors should receive reports on the quality of individual faculty and resident teaching skills as well as reports on other components of the clerkship reflecting its strengths and weaknesses. These ratings often originate from students, but can also reflect peer, outside review, or self-assessment ratings. These evaluation data can serve as powerful justification for faculty development. If faculty or residents who receive negative teaching ratings are to improve, they need to be given feedback, the feedback must be viewed as credible, and they need to learn HOW to change their teaching behaviors.¹⁴ Faculty development can help bolster their self awareness and provide them with strategies for enhancing their teaching skills.

Evaluations of the Clerkship Program

Evaluation data about the clerkship program can serve as another source for quality improvement. Data from the AAMC questionnaire completed by medical students show how each clerkship is rated by its students and offer comparisons with other medical schools. Mediocre or poor clerkship rotation ratings completed locally at the end of the clerkship can also be used to justify support for faculty development to the chairman. A faculty development plan connected to the noted weaknesses in the clerkship might serve as part of a convincing set of strategies for ongoing clerkship quality improvement (See also Chapter 7, Evaluation of the Clerkship: Clinical Teachers and Program).

Scholarship of Teaching

There is increasing acceptance of teaching as a basis for scholarly work. In 1990, Ernest Boyer's book, *Scholarship Reconsidered*, extended the traditional definition and criteria of scholarship to include teachers who keep up with current developments, who devise better ways to help students learn, or who pursue research on questions relevant to education.¹⁵ Faculty development programs can provide opportunities for faculty to learn how to apply their interests in education to produce scientific papers or "products" that are original, peer reviewed, and disseminated for others to use (See also Chapter 14, Educational Scholarship).

These points of justification provide a much stronger argument in support of faculty development at institutions that value, reward, and recognize the broader definition of scholarship in their tenure and promotion policies. Given the growing development of clinical-educator career tracks, clerkship directors are increasingly better poised to argue for faculty development to foster skill sets of these individuals using education and teaching as their basis for promotion.

Continuing Professional Development Plans as Teachers and Educators

Faculty development is often viewed as a collection of "Train the Trainer" type workshops. One of the important justifications for faculty development is that it isn't just a "one-shot" intervention, but a continuous series of efforts that help faculty evolve in their knowledge and skills as educators. Effective faculty development stimulates reflection – thinking about what each teacher wants to accomplish and what they and their learners need to do to achieve these goals. Without the faculty development component, faculty members often view teaching and

its associated responsibilities as an expectation of others, rather than a privileged responsibility sought by the teacher.

Well-orchestrated faculty development programs can also have a positive effect on recruitment and retention. Most faculty, community preceptors, and residents want to be good teachers, and welcome the opportunity to hone their skills if it is made available in a user-friendly and meaningful way. Retention can be affected if solid, front-line teachers aren't offered opportunities to fine tune their skills as educators, or learn how to translate their efforts as educators into scholarly work.

Faculty development is justified because it

- is required by accreditation standards,
- can enhance faculty members' abilities to teach more efficiently and effectively,
- is an essential component of ongoing clerkship quality improvement,
- advances the scholarship of teaching, and
- provides for the continuing professional growth of the institution's teachers.

Faculty development requires resources. The level of resources available to the clerkship director will determine the scope of faculty development efforts.

Resources

Resources, which can include money, space, technology, human resources, print materials, and time, can be sought from several funding sources, including the Dean's Office, Graduate Medical Education office or hospital, Educational Resource units, and departmental leadership. Resources for faculty development should be a line item in any clerkship director's budget.

Who Should Conduct Faculty Development Programs?

It is convenient, but not necessary, for the clerkship director to be an expert in faculty development. However, clerkship directors should be aware of various available sources and resources. Different types of faculty development programs are available through most professional societies (for example, the Association for Surgical Education, Society of Teachers in Family Medicine, and the Clerkship Directors in Internal Medicine).

Many medical schools and hospitals have education specialists who are available to help plan or deliver faculty development programs for their faculty or staff. Some medical schools work with internal professional educators, clinical or basic science faculty in other departments or in affiliated schools. The main responsibility of the clerkship director is to orchestrate the efforts in faculty development, preferably with a team, to help those involved in the clerkship program succeed.

What Should Clerkship Directors Address in Faculty Development for Clerkship Teachers

Clerkship directors feel the pressure of these diverse preferences. To ensure that their faculty members are effective educators, which includes teaching for learning, providing feedback efficiently, grading reliably, and revising the curriculum and pedagogy in response to program, system, and discipline-specific needs, each clerkship director must establish an explicit agenda for faculty development.

Setting the Faculty Development Agenda

Setting the faculty development agenda is a three-step process. The first step is to review the learning objectives for medical students in your clerkship, as well as those across discipline competencies. The second step is to articulate the various roles and functions of the people involved in your clerkship who will support and facilitate meeting those learning objectives. The third step involves the clerkship director's careful consideration of what topics and issues are most appropriate in the local context, given the roles and expectations of faculty, residents, and volunteer faculty in their clerkship. Taking those various roles and needs into account, clerkship directors can then select appropriate topics for faculty development initiatives.

Step One: Identify Learning Objectives for Medical Students

First, clerkship directors should review the general competencies (such as those provided in the AAMC Medical Students Objectives Project (MSOP)).¹⁷ Then they should review the LCME accreditation standards, medical-school-wide curriculum competencies, and their specialty-specific learning objectives associated with the clerkship. It is helpful to also review associated data sets (e.g., AAMC Graduation Questionnaire) to identify potential foci for faculty development.

Step Two: Review Roles and Functions of Clerkship Participants/Stakeholders

Bland and colleagues¹⁸ identified four types of faculty (preceptors, non-tenure-track faculty, tenure-track community-based, and tenure-track university-based faculty) and five categories of faculty development based on roles (educator, administrator, researcher, written communicator, and professional academic). The faculty development needs for the individuals involved in your clerkship will vary depending upon the individual's role. By examining the types of individuals in your clerkship and their role(s), you can determine priorities for faculty development. When the same individuals fill multiple roles, a longitudinal faculty development program may be cost effective. A brief description of each role and potential faculty development topics follow.

Potential Faculty Development Topics for the Faculty in the Educator Role

Setting/Revising Curriculum

Faculty members need to be aware of the clerkship goals and objectives. Helping teachers to stay connected with curricular purpose is one way to encourage curricular growth and change. Individuals in the Educator role need skills in curriculum development for their assigned curriculum components (for example, a rotation or lecture series) for which they are responsible. Being able to align and properly document how their curriculum unit fits with the clerkship goals and objectives, and then matching instructional methods and materials (which may include education technology) to those objectives is key to having a sound and consistent program.

Strategies for Helping Students Learn (Educational Delivery)

Faculty need to expand their repertoire of effective educational delivery strategies specific to the contexts in which they teach. Whether engaged in one-on-one teaching or facilitating large group interactive lectures, good educational delivery requires thoughtful understanding of the learning process and connection between teacher and student.

Topics for faculty development in this area might include:

- Clinical teaching (bedside, ambulatory)
- Small group facilitation (case reports, morning report, PBL)
- Large group interactive lectures
- How to provide effective feedback
- Technology (e.g. access to and use of EBM electronic resources, e-learning applications, etc.)
- Mentoring and advising skills

Learner Assessment and Clerkship Evaluation

Pop quiz: What's the difference between assessment and evaluation? Where does "grading" fit in? Unfortunately, we have moved away from the original intention of the word *assessment*, which comes from the Latin *assidere* and means sit by. In an ideal educational world, assessment would involve teacher and student, side by side, comfortably discussing the learning-to-date and the learning to come. In reality, we struggle with tests, checklists, and other evidence that the learner has somehow transformed because of the experience, and that these changes will last. In aggregate, these sources of evidence are used to derive the student's grade (See also Chapter 6, Evaluation and Grading of Students). Faculty development in this area needs to be carefully crafted to match the needs of the faculty responsible for assessing the students.

For multi-site clerkships, equivalent grading across clerkship sites is important to the program and the students, and mandated by the LCME accreditation standards. If site directors are expected to submit grades for their students to the clerkship director, they will need assistance in how to assimilate performance assessment data consistent with the agreed-upon standards for the clerkship (See also Chapter 9, Directing a Clerkship Across Geographically Separated Sites).

Learner assessment results provide the clerkship educator with evidence of whether the students have learned. However, to determine the value or worth of the educational experiences, the effectiveness of teachers, the relative contribution of core curriculum to the achievement of objectives, the educator must conduct an evaluation of the program. The specific foci for the evaluation are determined by multiple stakeholders, (e.g., the clerkship director, the department chair, the school-wide curriculum committee, or accreditation standards) and the purpose (e.g., formative data to improve the clerkship) (See also Chapter 7, Evaluation of the Clerkship: Clinical Teachers and Program).

Educator-role related faculty development topics in the area of assessment and evaluation include:

- Assessment and Grading Policies for the Clerkship
- Grading and Standard Setting for the Clerkship Grading System
- Introduction to Scoring Rubrics
- Formative and Summative Evaluation

- How to Write Meaningful Narratives on Student Performance¹⁹
- Student Expectations Related to Outstanding, Marginal, and “Average” Learners
- Formative and Summative Evaluation of the Clerkship

Potential Faculty Development Topics for the Faculty in the Administrator Role

Faculty development topics may relate to the environment, organization, leadership, or management. Examples of each follow.

Environment

Good education administrators (e.g., clerkship director, rotation or site director, chief resident) know about the economic, political, and organizational landscape that impacts academic medical centers and subsequently the clerkship. They also are aware of resource availability and their learners’ needs. Site directors need to understand the impact of the culture and learning environment on their students, and work to systematically improve their site-specific learning climate.

A faculty development topic to achieve an optimal learning environment might include instruction on resource negotiation for the clerkship program.

Organization

Organizations are composed of inter-related and inter-dependent departments and programs. Each has its own goals and priorities, and yet maintains a strong connection to the larger group. Effective administrators recognize the parts, the whole, and the interrelationships among them. Clerkship Directors need to help other administrators appreciate what is taught in other components of the clerkship (e.g., core curriculum) so that unnecessary redundancy can be avoided, and purposeful repetition planned. All faculty members need to understand the mission and core values of the institution as it relates to education. However, clerkship-related administrators must effectively use their role in furthering the mission through the clerkship.

Sample faculty development topics on organization might include:

- The mission and core values of institution
- All other clerkship objectives to identify overlap
- “Best practices” used in other clerkships or courses
- Institutional policies and procedures related to medical students
- Student Handbook content

Leadership

Providing leadership in a clerkship can be challenging because it requires ability to recognize various leadership and work styles in oneself and others, work with the content and process of group interaction to achieve desirable outcomes, and foster collaboration among team members. For example, residents need to learn how to run a patient service while at the same time attending to the educational needs of the learners.

Faculty development topics related to leadership issues include:

- Vision and goal setting
- Conflict negotiation
- Role modeling
- Motivating learners and faculty
- Mentoring and advising learners

Management

Managing people has never been as complicated as it is in today's health care environment.

Faculty development topics related to management might include:

- Time management (balancing teaching with patient care in the operating room or clinic)
- Managing multiple levels of learners
- Conducting effective meetings
- Team learning
- Managing problem students

Managing learners and educational programs today also requires an astute awareness of legal boundaries and issues, institutional student evaluation policies, and a clear appreciation of due process related to failing students.

Potential Faculty Development Topics for the Faculty in the Researcher Role

Teachers interested in educational research need access to instruction on social science research. Depending on the individual's background experiences, instruction on research design, statistics, critical evaluation of the literature, accessing literature in education, and how and where to disseminate scholarly work related to education may be needed. Because these knowledge domains often fall outside the clerkship director's area of expertise, the clerkship director can direct the interested individual to available resources and programs locally and nationally. However, the clerkship director should be apprised of any anticipated research occurring on the clerkship to ensure compatibility with the clerkship goals and relevance to student learning. The clerkship director also may have to play the role of "gatekeeper" if too many individuals are interested in students as research subjects at one time.

Topics that might be included in a faculty development program on educational research might include:

- How to develop a research question and hypotheses
- How to conduct a literature review in the social sciences
- Educational research design
- Questionnaire and survey development
- Instrument design and development
- Measurement studies
- Statistics for the social sciences
- Qualitative analysis
- Scientific writing

Potential Faculty Development Topics for the Faculty in the Written Communicator Role

Topics associated with this role include how to:

- Effectively write comments on student performance evaluation forms
- Write effective letters of recommendation
- Use e-mail and other communication technologies.

Potential Faculty Development Topics for the Faculty in the Professional Academic Role

Full-time faculty seeking excellence as teachers, educators, researchers, communicators, and administrators must translate their activities into evidence consistent with academic promotion. To achieve academic promotion, these individuals need to develop several additional domains of expertise, including defining and revising a career plan with key benchmarks, understanding the written and unwritten values and policies of academia (e.g., academic promotion, committee

service) and developing and maintaining a local and national network of professional colleagues. As with the other role types in forming the faculty development plan, the clerkship director should be aware of local and national resources that can be tapped to meet the needs of these individuals.

Step 3: Selecting the Faculty Development Topics

After determining the teachers' learning needs by examining their roles, clerkship directors can begin developing a faculty development plan and agenda. There is certainly no shortage of fodder for faculty development initiatives, and so the trickiest step in setting the agenda is this last step: Determining what is most appropriate based on your local context, highest priority needs, and resources available to help frame the faculty development plan.

First, determine priorities by examining the assessment and evaluation data regarding your clerkship objectives outlined in Step 1. Second, determine who has the roles related to those identified priorities and the associated faculty development topics in Step 2. Third, select those topics that are most common across groups as a set of topics with which to start.

For example, if evidence from Step 1 indicates that the quality of learner assessment varies by rotation site, the clerkship director will want to focus on the topic of learner assessment.

Table 1 reflects a listing of major topic areas by faculty role, with the assessment category expanded to draw on the above example.

Methods and Strategies to Accomplish Faculty Development

Once the clerkship director has identified the focus for faculty development, s/he must decide on the most effective methods and strategies for delivering it. As with the design of any instructional activity, the learner (in this case the clerkship faculty and residents), the environment, and the topic must be finalized.

The Teacher as Learner: Motivating Faculty to Participate in Faculty Development

Many faculty members enter the world of academic medicine with an avid interest in teaching. However, as their clinical, research and administrative responsibilities increase, their commitment to teaching (and learning how to be better educators) often wanes. How, then, can the clerkship director successfully provide faculty development to colleagues who may feel they don't have the time and incentives to devote to teaching, to say nothing of faculty development?

Just as motivating your medical students and residents to learn is a critical component of effective clinical teaching, motivating your colleagues to excel as teachers is an essential component of faculty development. Ideally, the clerkship director can connect to faculty members' desire to be excellent teachers and identify a gap or opportunity to enhance their skills.

Common Strategies to Entice Faculty to Participate in Faculty Development

Highlighting Incongruities

Use clinical teaching evaluation ratings or comparative clerkship ratings to point out opportunities as individuals and/or the department to enhance teaching and improve programs.

Addressing Obstacles

Clinical educators increasingly perceive that time to teach is in conflict with expectations for clinical productivity. Teaching time is further stressed by resident duty hour restrictions, and/or a lack of understanding about specific ACGME competencies or other objectives. Identifying such obstacles and then selecting a faculty development strategy to address the obstacle explicitly can help you get started. Providing faculty with compliance strategies (e.g., how students can chart notes consistent with regulatory guidelines, or presenting easy-to-remember “mnemonics for systems-based practice competence” is a critical element in selecting the right faculty development strategy to help faculty improve teaching efficiency and effectiveness.

Providing Incentives

Clerkship directors must actively work with their department chairs and institutional leadership to provide meaningful incentives to faculty who excel as teachers. It may be as easy as increasing the public recognition of the work of teachers or as challenging as providing a relative value units system to provide incentives for educational work.

Types of Faculty Development Programs

Once the appropriate motivational trigger(s) for your faculty have been identified, then the clerkship directors can choose from a large variety of programs to present information and develop or hone skills specific to the clerkship and faculty needs. These offerings vary in cost and time commitment and can be used in various combinations to provide a broad exposure of topics and strategies. Table 2, building on a categorization developed by Ullian,²⁰ lists faculty development strategies and examples. The examples are illustrative and not meant to be exhaustive. The examples were found by searching the literature, the Web, and the authors' knowledge. A brief description of each category and sample resources follows.

Internal and External Faculty Development Programs

Journal Articles

Educators, administrators, researchers, and professional academics often review the literature in their specialty to keep up-to-date. Keeping up-to-date in education is frequently complicated by the relative naiveté of faculty regarding the appropriate journals to read and how to evaluate the articles. Fortunately, the increase in electronically available journals makes disseminating key articles relatively easy.

Disseminate Key Education Articles to Faculty

As clerkship director, you can review the contents of journals (electronic or paper versions) such as *Academic Medicine*, *Medical Education*, and *Teaching and Learning in Medicine* as well as specialty journals that frequently print articles pertaining to medical education (e.g., *Journal of General Internal Medicine*, *Ambulatory Pediatrics*, *American Journal of Surgery*, and the *Journal of the American Medical Association*). Review of relevant journal increases your knowledge and allows you to send important articles to all/many of your faculty. Several costs should be considered, including the subscription costs and duplication costs for dissemination of paper copies. Some of these costs may be limited if the institutional library offers electronic access to these journals. Regardless of how you access them, make sure you appropriately address copyright issues.

Start a Medical Education Journal Club

Education journal articles can also be used to establish a Medical Education Journal Club. Several examples, including journal clubs that focus on evidence-based medical education, are described in the literature.^{43, 44} Suggestions for how to succeed with an evidence-based journal club can be found in Phillips and Glasziou.⁴⁵

Review Published Proceedings and Reviews of Education Articles Outside Your Specialty

The Alliance for Clinical Education (ACE), an organization of representatives from the seven clerkship director organizations, fosters across-discipline, education-related collaboration. This guidebook was developed by members of each of the ACE constituent organizations. ACE has begun an initiative with *Teaching and Learning in Medicine* (TLM) to publish proceedings from annual meetings of ACE specialty societies. TLM is also now publishing the ACE Journal Watch, a review of educational publications in internal medicine journals. These can serve as a helpful repository of pertinent articles in medical education regardless of discipline.

Newsletters

Creating a newsletter will allow you to summarize some of the articles and evidence you read in the literature and disseminate it to your faculty. This may increase the likelihood that the faculty will become aware of pertinent information because it decreases the time they would need to spend to “read” the literature. An “evidence-based journal club” approach has been adapted for use in a newsletter, *The Pediatric Educator*, created by COMSEP (the pediatric clerkship directors’ national group). You can further adapt this method for your own use, asking others in your department to scan one or two specific journals, summarize pertinent articles, and write a review for the newsletter.

Newsletters can also highlight educational activities that are occurring or are planned for your department. Finally, a newsletter is a great way to recognize accomplishments and activities of those you teach. Recognition of this kind is well received and can promote the importance of maintaining educational skills. On-line newsletters will minimize the cost, but paper versions are often relatively inexpensive. Each version requires the time you and your colleagues spend on creating the publication.

Grand Rounds

Highlights the Importance of Education

Creating a regular (annual/bi-annual) Grand Rounds focused on education and teaching highlights the importance of education. Invited experts from outside your department or institution often draw a larger audience than the experts in your own department, but add to the cost. Using internal experts allows others in your department to learn of innovations and expertise that are readily available and may emphasize the value of educational scholarship in your school.

Opportunity to Model Teaching Strategies

Interactive strategies may be used to demonstrate the very skills you want your faculty to use in their teaching.

Opportunity to Recognize Outstanding Educators

You may want to recognize full-time and volunteer faculty who have contributed to your educational program during Grand Rounds, enhancing their peer recognition.

Measuring the impact often stops at satisfaction with a grand rounds presentation. At least one example of how to measure changes following a clinical Grand Rounds is documented.⁴⁶ This study could be adapted for use following an appropriate educational topic, measuring group changes.

Seminars

Seminars, defined as brief, often didactic sessions, are a frequently used as a faculty development strategy. One-hour sessions can often be incorporated in a regularly scheduled series of presentations for your department. Frequently presented topics include providing feedback, principles of adult learning, clinical teaching skills, and evaluation skills. Role modeling, even in a 60- to 90-minute program, allows participants to observe and practice specific skills. Using standardized students and standardized teachers enhances your ability to demonstrate specific skills in a more controlled manner.

Seminars are often easy to provide and require few resources. One of the key issues to consider is the environment – having a room that is the appropriate size and with appropriate audio/visual capabilities. It is crucial to make the first few seminars outstanding. This will enhance the reputation of the program and encourage future attendance. Time limits for most seminars (60 minutes) often affect what can be adequately presented. Variable attendance, especially if a series is used, makes it difficult to present in a fluid manner. Finally, impact may be difficult to measure. However, you may be able to track the effect on teacher evaluations (if those data are available to you) based on frequency of attendance.

Workshops

Workshops are frequently presented as ½-day programs, but may be as short as 2 hours. The goal of workshops should include the opportunity for the participants to practice a skill or activity. Workshops should model the principles of adult learning! Optimally, participants receive feedback on their performance. Because of the longer duration, you may have time to collect pre-intervention data, which will enhance your ability to measure the impact of your program.

The major problem with workshops is also their strength – the longer time commitment by faculty. Given the demands for increased clinical productivity, many clinician-educators find it difficult to attend a local workshop. Workshops on campus are often interrupted because some participants must leave during the presentation to address other demands in their office, clinic or hospital. Interruptions can be diminished by conducting the workshop off-campus or by asking faculty not to bring beepers into the room. If beepers are not allowed, someone must attend to the beeps or beepers must be given to a colleague who is not participating in the session.

Comprehensive Programs

Comprehensive programs may be developed within your department, your school/university or through national programs and fellowships. Well-developed curricula can address important educational principles and skills, building from one session to the next. Each program can be designed for specific groups (e.g., junior faculty, senior faculty, subspecialty educators, or administrators). Impact of these programs can be measured over time and across several competency areas. Excellent examples of such programs are listed in the references found in Table 2. Do not hesitate to call the creators of these programs, as they are often willing to provide more input about the design and problems they encountered than have been delineated in the publication. Remember, they are educators and mentors!

Departmentally based programs allow the directors to create programs based on local needs assessment and can be changed relatively easily as needs change (e.g., Internal or external mandate for competency-based teaching and assessment). These programs also allow for enhanced networking among members of multiple divisions/sections and may result in new programs that minimize resource use as collaborators from several divisions create new initiatives.

University-wide programs can also be designed with local needs in mind. Including participants from other departments and from other professional schools (e.g. nursing, pharmacy) further enhances networking. This networking may increase the faculty's awareness of educational issues on campus. Being exposed to others who think differently may stimulate educators to try new strategies.

External Faculty Development Programs

External faculty development programs are becoming increasingly popular, especially as strategies evolve to maximize resource use and expand the impact through national dissemination. The Association of American Medical Colleges (AAMC) provides both national and regional meetings focused on medical education. Educational tracks (lectures and workshops) are also offered during national specialty meetings, such as the Society for Teachers of Family Medicine, Society for General Internal Medicine, the American College of Surgeons, and the Pediatric Academic Societies. Longitudinal programs have also been developed to provide more in-depth training. "Train the trainer models" further expand the potential impact of the program when graduates return to their own setting and provide programs locally, regionally or nationally. Tracking dissemination of strategies learned at "train the trainer" program is a program outcome that can be measured. An advantage of external programs is the expectation of a time commitment, from the participant and, often, his/her chair. The extended programs often result in a relative decrease in distractions when the faculty member is away from the routine workday. However, the cost of these programs may exceed the faculty member's and/or department's resources and may limit the numbers of faculty who participate.

Fellowships and advanced degree training are increasingly available for faculty members who are able to commit more time to pursuing a career as an educator. Primary care fellowships often combine clinical training with an educational track. Degrees in medical education are being offered as full-time obligations, weekend programs, and on-line programs and combination programs (on-line with some face-to-face sessions required). There is little literature that discusses the outcomes of these programs.

Resident as Teacher Programs

Importance

Results of the AAMC graduation survey, administered each year to the 16,000 graduating medical students, reveal that residents play a significant role in teaching medical students. The Liaison Committee for Medical Education (LCME), the accrediting body for medical schools, recognizes the importance of residents as teachers and has established Standard ED-24 requiring formal programs to teach residents to teach.

Resources

Numerous resources are available to assist in creating such programs.

Books

Books, such as those by Schwenk and Whitman,⁴⁷ and by Dunnington and DaRosa (www.surgicaleducation.com) have been used to develop a curriculum for residents.

Online

The Internet is a rich source of information and presentations.

The Society of General Internal Medicine and the family medicine residency directors provide programs: (www.sgim.org/Handouts/am04/Workshops/WB08.pdf and www.afprd.org/objective4.php). A bibliography on teaching residents to teach was developed at the University of New Mexico and is available at <http://hsc.unm.edu/som/tes/ResidentTeachers/bibliography.htm>.

Strategies

Many programs focused on resident teaching use the same strategies outlined in Table 1. Seminars and workshops are common and focus on skills such as clinical teaching,^{48, 49, 50} providing feedback and evaluation,^{51, 52} and teaching communication skills.⁵³ Often these sessions are incorporated into a routinely scheduled educational series or as part of a retreat. This allows for transmitting information but, as with faculty, limits the opportunities for practicing the skills presented. A few residencies have initiated block rotations to address teaching skills. This allows for more explicit instruction, practice time for residents and often provides multiple opportunities for observing the resident in teaching situations. Scheduling these rotations depends on the needs of the program, with some residents participating very late in their residency.

Logistical Considerations in Beginning a Faculty Development Program

Faculty development programs offered for your own department or school can use many of the strategies discussed in the previous section. When developing these programs, you will need to address the issues outlined below.

Curriculum Design

Identifying the needs of your faculty is crucial to developing sustainable programs. Helpful resources include Bland's¹⁸ delineation of the skills needed for successful academic faculty as well as Skeff's⁵⁴ and Irby's⁵⁵ descriptions of clinical teaching competencies. After completing a needs assessment, you can tailor your program (and strategies) to focus on key issues in your department. Collaborating with others who need to develop faculty skills (e.g., residency program directors) enables optimal resource use.

Availability and Attendance of Faculty

Getting buy-in to prioritize these sessions is often the major barrier to developing sustainable programs. Your chairman will often set the tone in the department. Obtaining his/her visible support is crucial to ensuring that the programs will be valued. Even with the chairman's support, other direct supervisors may make it difficult for faculty to take the time needed to participate in a more longitudinal program. Address these issues with the appropriate division/section chiefs first to avoid developing great programs that no one is able to attend.

Another option is to collaborate with your program director, other clerkship directors, or the office of medical education in your institution. By collaborating with others, you can build on the

importance of faculty development across groups and may be able to identify resources that aren't usually available for clerkship programs.

Administrative Staff

Administrative tasks for any program include identifying a speaker, distributing notification of the session, scheduling a room (and refreshments if possible), reminders as the date draw nears, tracking probable attendees, making handouts and evaluation forms, and follow-up after the course. You may be able to use available departmental resources for seminars and workshops. As the programs expand and become more longitudinal, you are likely to need staff dedicated to this responsibility. Make sure you know who can assist you in these administrative tasks or you will find yourself doing it all, creating a system that quickly becomes difficult to sustain.

Tapping Into Others' Expertise for Faculty Development

Finding the appropriate presenters for faculty development programs can be a challenge. External experts often lend credibility to a program but may add expenses that exceed the budget. Experts in your own institution can usually be identified, perhaps through the office of medical education or through educators in other departments. As faculty development continues, you can create your own internal experts, asking graduates to assist with presentations and leadership activities.

Demonstrating outcomes

Evaluating faculty development programs is a key component to demonstrating their value and benefits (See also Chapter 7, Evaluation of the Clerkship: Clinical Teachers and Program). Program design must include plans for evaluating participants' satisfaction and measurable outcomes such as scholarly productivity, improvement of skills, career advancement, and leadership activities.^{30, 38, 56}

Cost

The cost of internal programs is often under-reported, and few published studies address the issue.⁵⁷ The cost of a single didactic presentation for faculty development is measured primarily in preparation time (approximately 8 hours for a 1-hour new presentation). However, more extensive programs require support staff and the participants' time away from revenue-generating activities, in addition to faculty time for preparation and presentation.

Negotiating for sufficient support prior to initiating an in-depth program will help you define the limits of activities you can provide. Options for support may include internal funds from the dean, academies or faculty scholars' programs and/or alumni endowment for education. You may need to initiate and set up your own account.

Resources for Faculty Developers

Getting Started

If you are just getting started, make sure you build on the expertise of the many dedicated faculty developers who work in the field. Build on previous work by adopting or adapting programs that:

- Have been developed and presented in the literature
- Are listed in peer-reviewed educational repositories or specialty society bookstores
- Are downloadable directly from author or institutional Web sites.

Literature Searches

Perform a literature search to identify programs that have been disseminated in the peer-reviewed literature. Manuscripts may provide sufficient description of the program, but you can avoid pitfalls by also contacting the author to discuss what worked, what didn't, and how your setting may require some adaptation of their program.

Internet Searches

Excellent resources are also available through the Internet. Recently, a search using "faculty development" and "medical education" as the search strategy resulted in 229,000 hits, including sites that describe programs and provide some resources (e.g., PowerPoint® presentations). Many of these lead to offices of medical education or faculty development at various medical schools.

Contacting Faculty Who Have Developed Programs and Modifying Their Work

The faculty and staff in other medical schools can be of great assistance, and may even identify people you were not aware of in your own institution. If you use a program readily available on the Web, even if you modify it, be sure to give appropriate attribution for the basis of your program (i.e., explicitly identify the person who developed the original program during the presentation). It is also professionally polite to contact the original author to let him/her know you have adopted or adapted his/her materials.

Strategies for Finding Faculty Development Resources

Educational Repositories

The AAMC, with guidance from the Group on Educational Affairs (GEA, a professional development group open to all individuals at AAMC-affiliated institutions), has created MedEdPORTAL (Providing Online Resources To Advance Learning), a resource databank to house education materials. MedEdPORTAL includes education materials that have been developed, submitted, peer reviewed, and made available for public dissemination. The plan is for MedEdPORTAL to include resources relevant for teaching and assessing the Accreditation Council on Graduate Medical Education (ACGME) competencies. Materials may be appropriate for students (undergraduate medical education), residents (graduate medical education), faculty (faculty development or continuing medical education). View a conceptual model of the repository at the AAMC's Web site www.aamc.org/members/gea/cube.htm.

Literature Search

A literature search (through Ovid or other databases) can provide background. If you are not sure what to search for, the Stanford Faculty Development Center Web site (<http://sfdc.stanford.edu/>) provides access to its literature databases, including one on clinical teaching. Once you identify a potential strategy, make sure you meet with people who have expertise in designing such programs. Make sure that your program will address what you want it to address and incorporate evaluation methods that will allow you to determine the program impact. Evaluation is a crucial step in sustaining faculty development and will help you disseminate your work.

Network with National Colleagues

You can network with colleagues at the national level by:

- E-mailing your national or local clerkship director list serve.
- Posting a question to the GEA Undergraduate Medical Education (UGME) list serve.

Network with Local Experts

Some schools have recently formed academies or societies for medical education. They are typically composed of individuals who have been recognized for excellence in education and these individuals are a vital resource for both teaching your faculty development initiatives and/or guiding you to appropriate resources.

Contact your medical education office or curriculum dean to see if they have access to resources (e.g., funds, individuals, books, and journals) and/or can assist you in designing, implementing, or evaluating a faculty development effort. A listing of offices that support medical education by schools is available through the Society of Directors of Research in Medical Education at www.sdrme.org.

Summary: Methods and Strategies

Clerkship directors are responsible for the development of faculty so they meet their teaching responsibilities to the student education program and clerkship directors and seek to excel as educators. We have described a wide variety of strategies for faculty development that will help you to match your local needs and resources with the goals of your programs.

The most important step is to just get started. Follow Steps 1 – 3, described above. Use data already available (e.g., comparative evaluation of your clerkship and teaching evaluations) and the results of a needs assessment to select the topics by education roles that are priorities for faculty development in your clerkship. Design a faculty development curriculum targeted to improve your educational program. Many resources are available to help you get started and there are opportunities to advance your own scholarship by adding to the knowledge about what works in faculty development.

But, how will you know if your program works? The next section focuses on how to evaluate the success of your faculty development initiative. Evaluation is a critical element in the design of any instructional program and to advance faculty development as a field of scholarly inquiry.

So What? Or, How Do You Evaluate Faculty Development?

Focus and Design of the Evaluation Plan

Evaluation focuses on determining the value or worth of a specific program or activity. Evaluation of faculty development programs should: (1) determine the degree to which the individual faculty obtained the knowledge, skills, or attitudes taught in the program and (2) create a management system that promotes program accountability, efficiency, and cost-effectiveness. Outline the objectives for your faculty development program so your program can monitor participants' progress toward your objectives (e.g., excellence as teachers and educators).

An evaluation plan should be designed to provide formative and summative data to assess the degree to which targeted objectives are achieved. Formative data are used during the program to mold participant performance, enhance the outcomes by addressing barriers, overcome challenges, and build on identified strengths. Summative data are used to judge the overall success and outcomes of the program, highlighting the products and impact the program has on participants and on your institution.

Types of Evaluation: Progress, Process, and Product/Results

Definitions

Progress Evaluation monitors the timely implementation of the plan.

Process Evaluation identifies the strengths and weaknesses of day-to-day program operations, thereby guiding program revision to ensure that you are on-task toward meeting program objectives. Feedback from participants can highlight strategies that are working well and those that need revision. Attendance problems can be identified early, allowing you to determine whether changes in scheduling or content are needed or whether there are issues with prioritizing the program in the life of the faculty member or department.

Product and Results Evaluation assesses the degree to which participants have achieved required objectives. Available data from clerkship and residency evaluation, clinical teaching ratings, and learner outcomes (e.g., residency choice) are often used for product and results evaluation.

Progress and Process Evaluation

An implementation timeline facilitates tracking the progress of your program and identifying problems proactively.

Progress Evaluation

Be sure to answer questions like: Are the tasks needed to prepare and present the program organized so as to occur on time? Are participants attending the sessions and completing their assignments?

Process Evaluation

Process data evaluate the effectiveness of the methods to achieve your objectives so that on-going program revisions can be made to keep the program targeted to its objectives. Strategies for monitoring progress and obtaining process evaluation data vary by program, but often contain a basic set of tasks (see Table 3). Using the timeline will keep you on track and identify areas that become barriers for success.

Product/Outcomes Evaluation

Faculty development programs should be designed to advance the legislated and department-specific priorities (e.g., improve teaching, implement competency-based education and assessment). Product evaluation provides data to assess the degree to which the program achieves its objectives.

Product evaluation should be designed to assess four levels of impact, as defined by Kirkpatrick.⁵⁸ These are reaction, learning, behaviors, and results.

Evaluation of participant **reaction** measures the satisfaction with the program, often through surveys. Evaluation of **learning** may use self-assessment or tests of cognitive skills. These are strengthened by assessing the knowledge, skills, or abilities before and after the program (pre-post assessment). Measurements that document the use of the newly gained knowledge or skills provide the evidence of the next level – changing **behaviors**. Finally, the **results** of the program may be measured by quantifying its impact. Examples of results measurements

include improved clinical teaching ratings, increased productivity, improved quality of service, or changes in recruitment and promotion rates.

The data used to determine success in achieving these objectives may include:

- Faculty and community-based preceptor retention statistics
- Longitudinal comparison of learner ratings of faculty participants
- Clerkship and residency ratings before and after implementation of an innovative program
- Results of internal and external accreditation reviews
- Enrollment in targeted rotations or electives
- Comparative rates of learners' outcomes (e.g., choice of residency type, choice of care in primary care vs. fellowship)
- Educational leaders' ratings of project congruence with divisional/departmental priorities
- Number of products/projects that are disseminated beyond the local level
- Faculty promotion rates.

The use of existing data demonstrates progress towards the development of an efficient, cost-effective program evaluation system. To assure that you are evaluating the key components of your faculty development program, you may want to create a table, similar to the example shown in Table 4, that matches the evaluation data source you will use for each objective and key performance indicators. This will vary for each project.

Conclusions

There is a need for faculty development in all levels of higher and professional education. A clerkship director's responsibilities include equipping faculty and residents with the knowledge and skills necessary to help them succeed in their various roles in the student education program. The clerkship director is not expected to directly deliver all faculty development programs, but he or she should help lead the development of faculty development initiatives needed to meet faculty and resident learning needs relevant to student education.

This chapter was written to help guide those efforts by addressing who, why, what, how, and so what questions that must be answered before rolling out faculty development activities. Following through will require an investment of time, resources, and energy, but the benefits are that you may help faculty discover, or some cases, rediscover the joy of teaching, learning, and the world of education.

Table 1					
Faculty Development Topics by Faculty Roles					
Faculty Development Topics	Educator	Administrator	Researcher	Communicator	Professional Academic
Curriculum	X	X	X	X	X
Teaching Methods	X	X			
Learner Assessment	X	X	X	X	
Sampling of performance	X	X	X	X	
Frame of reference training	X	X		X	
Performance benchmarks	X	X		X	
Standard setting		X			
Program Evaluation		X			
Leadership	X	X	X	X	X
Career Planning		X			X

Table 2 Faculty Development Strategies and Resources	
Publications & Resources	Examples
Journal Articles & Medical Education Journal Club Books	Journals: <i>Academic Medicine; Medical Teacher; Clinical Teacher; Medical Education, Teaching and Learning in Medicine; Journal of General Internal Medicine; Family Medicine; Ambulatory Pediatrics; Academic Psychiatry; Focus on Surgical Education; Medical Education</i> Books: Springer Series on Medical Education; <i>Handbook on Research in Medical Education; Teaching and Learning in Medical Surgical Education; Tools for Teaching; Jossey-Bass series on Advances in Teaching</i>
Newsletters and electronic “tip” sites	The Pediatric Educator (www.comsep.org) EPERC (www.eperc.mcw.edu) STFM “For the Office Based Teacher” Departmental newsletters (www.stfm.org/teacher/hub.html) e2-tips (electronic education-tips: 1-screen e-mails on best teaching strategies); American College of Physicians community preceptor newsletter/site www.acponline.org
Educational Repositories Invited/peer reviewed submissions to educational resource repositories.	EPERC www.eperc.mcw.edu ; Society of Teachers of Family Medicine Bookstore www.stfm.org ; Association for Surgical Educators www.surgicaleducation.com/educlear/index.htm AAMC’s new Med-EdPORTAL (Providing Online Resources to Advance Learning) www.aamc.org/members/gea ACGME’s RSVP www.acgme.org/outcome/implement/rsvp.asp Society for Directors of Research in Medical Education www.sdrme.org HEAL (Health Education Assets Library) www.HEAL.org
Continuing Medical Education	Examples
Grand Rounds	Consider working with other clerkship directors to co-sponsor around topics of shared interest.
Seminars & Webinars (Webinars are increasingly offered by various medical education organizations and societies on topics relevant to medical education)	Local Seminars: Feedback 21; Communication22; Evaluation 23 Webinars: www.iamse.org
Workshops (There are numerous examples found in search engines such as Ovid)	Examples include: Clinical Teaching 24 Microteaching: 25, 26 National organizations (AAMC) and specialty societies often have workshops and targeted programs for educators. Check the websites for your AAMC region (www.aamc.org) or specialty specific sites

Comprehensive Faculty Development Programs	Examples
Departmental programs	Clinical Teaching:27 Peer support28
Organization-wide programs	Administrative Colloquium 29; Medical Education Scholars Program30; Mentoring: Pololi31; Clinical teaching32 ; Teaching Skills13
National programs	Faculty Development Scholars Program33; Undergraduate Medical Education in the 21st Century34; Stanford Faculty Development Program35 At meetings of organizations (AAMC, IAMSE, etc)
Certificates, Fellowships	Certificates: AAMC/GEA Medical Education Research Certificate (MERC) www.aamc.org/members/gea/rimebrochure.htm AAMC-Central GEA http://shaw.medlib.iupui.edu/cgea/cgeabrochure.html Fellowships: Primary Care Faculty Development Fellowships (family medicine, pediatrics and internal medicine) including Michigan State; Master Educator Fellowship, University of Florida, Scholars Programs at UCSF, University of Arkansas, Baylor, University of Michigan, Harvard Specialty Specific Fellowships: SERF (Surgical Education Research Fellowship); APGO/Solvay Educational Scholars Program
Individual Activities	Examples
Self Assessment and Reflection	Reflection:36,37 Teaching Evaluations 38,39 Critical Teaching Incidents http://www.mcw.edu/display/router.asp?docid=1083
Direct observation	Peer coaching 40,41 ; Videoanalysis:42
Degree programs	Online Master's Program for Healthcare Professionals (Cincinnati); Master's in Health Professions Education (University of Illinois-Chicago);

Table 3				
Example of a Timeline for Planning and Evaluating the Progress and Process of a Faculty Development Program				
	Time Period			
Program Activities for Clinical Teaching Workshop	1	2	3	4
Planning Meeting with core team (eg, other faculty, administrative support)	X	X	X	X
Reserve room and parking + order food	X			
Define workshop objectives	X			
Develop invitation list/contact list	X			
Create documents (eg, contact info, schedule)	X	X		
Finalize schedule dates, topics, speakers	X	X	X	X
Obtain CME credit		X		
Send out invitations/announcements		X		
Obtain pre-program assessments		X		
Implement workshop			X	
Obtain program session evaluation				X
Obtain evaluation data from external sources				X
Collect, analyze, and report product/outcomes data				X
Meet with chair/supervisor to report on results, Review faculty development plan and realign	X			X

Table 4				
Sample Progress and Program Evaluation Plan for Evaluating a Faculty Development Initiative				
Objectives: Clinical Teaching	Learner Teaching Evaluations	Evaluation Comments about Preceptors	Downloads of EBM resources from library	Preceptor Completed Rating Forms
Increase use of EBM in teaching interactions	X		X	X
Use strategies to increase efficiency as teachers	X		X	X
Accurately rate learners using required clerkship form and submit	X	X		X
Improve overall effectiveness as a clinical teacher	X	X	X	X

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