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TWELVE TIPS

Twelve tips for preparing residents as teachers

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Abstract

Background: Residents are frequently identified by medical students as their most frequent and memorable teachers; residents also teach their peers, junior and senior colleagues, other health professionals, and their patients. Many will teach in their future practice. Developing the skills to become a teacher is an important part of postgraduate education, and warrants a systematic, planned approach that may include many complementary learning opportunities.

Aims: Our purpose is to describe one such approach: a 4-week elective experience in medical education offered to postgraduate learners.

Method: The paper describes the background and goals for the elective, and the various steps in planning, implementing, and evaluating such a course, drawing on the literature and mining our own experience for examples. Specifically, we address the following: needs assessment; the determination and selection of content, sequence, and teaching and learning methods; the experiential learning opportunities offered; and the emphasis on the participants' developing self-awareness of themselves as teachers, and as part of a community of teachers.

Results: The program implementation, program evaluation, and response to feedback received are described.

Conclusion: A 4-week elective experience in medical education was positively received by participants.

Introduction

Residents are identified by medical students as being their most frequent and memorable teachers. Residents themselves identify more senior residents as important teachers for them. The medical-education literature supports these anecdotal reports (Morrison et al. 2002; Whittaker et al. 2006). Further, residents do not teach just knowledge and skills; they are also important role models and teachers of values and professionalism (Stern 1998). Several organisations have begun to consider professional practice as multifaceted, and these facets have been identified as competencies or roles (Royal College of Physicians and Surgeons of Canada 2005; General Medical Council 2006). Explicit or inherent in these roles and competencies is the teaching function—teaching colleagues, other professionals, learners, and patients. Last, but not least, many residents will wish to pursue academic careers, in which they will be expected to teach in more diverse settings and to more diverse groups.

Notwithstanding this increased emphasis on teaching as part of the resident’s role, only half of US residency programs in 2001 offered formal teaching skills to their residents (Morrison 2001). Formats vary, from 1-hour workshops to full-day retreats, but month-long electives are rare (Bing-You & Greenberg 1990; Bensinger et al. 2005). Our experience at Dalhousie University with preparing residents as teachers has developed rapidly over the past 2–3 years. Educational activities range from 1-day workshops to 1-week courses, and these are provided annually for several departments. It has been our concern, however, that such short, often one-off, interventions are unlikely to produce any lasting improvement of teaching ability and motivation, as the time is insufficient to acquire the appropriate skills, practice them, and transfer them to the clinical setting.

In response to these concerns, we developed a 4-week elective in medical education and, for the past 2 years, have offered it to those senior residents in specialty and family-medicine programs who were interested in medical education. Those who participated committed to the entire 4-week elective experience; they were released from clinical responsibilities, in order to allow them to immerse themselves in what they were learning, and to build their skills over the 4-week period. The elective was multi-disciplinary, with participants from family medicine, anesthesiology, pediatrics, and surgery and internal medicine and its subspecialties.

On the basis of this experience and our understanding of the experiences of others, we have developed a twelve tips on the organization, development, and implementation of this kind of elective experience.

Tip 1: Identify the need

As noted above, there are good reasons for preparing residents as teachers, both in terms of their teaching responsibilities during training and in terms of their later practice. Residents and faculty often voice the need for some preparation for teaching. For instance, in our institution, where small-group
and problem-based learning (PBL) are major teaching and learning methods, concern was expressed at the Medical Doctor Curriculum Committee about the preparedness of residents for teaching medical students in these settings. Lastly, accreditation bodies look for evidence of how prepared residents are to teach medical students.

**Tip 2: Lay the groundwork**

**Build a partnership between clinicians and educators**
Faculty development programs are increasingly called on to develop programs for residents. To succeed, such programs need support and input from people in the clinical area who are involved with resident education programs. Our small team of one clinician and two educators drafted goals for such a program to serve as basis for discussions within a wider group.

**Connect with someone at the decision-making level**
We began our discussions with the associate dean for postgraduate education, to gain his support and input before presenting the proposal to the Committee of Program Directors for Postgraduate Medical Education. In principle, the program directors were supportive of an elective in medical education; however, some expressed concern that residents would be away from their training programs for a 4-week period, raising both educational and service considerations.

**Tip 3: Plan the program**

**Identify the target audience**
Although all residents probably have teaching opportunities, the context and resources will determine the audience selected. After discussion with the program directors, we decided to offer the elective to senior residents. For the family-medicine programs, this meant second-year residents; for other programs, third-year, fourth-year and fifth-year residents were included. This decision was made because it was felt that senior residents had a firm grasp of the disciplinary content.

**Determine broad educational goals**
Broad goals for the elective had originally been developed for discussions with stakeholders. With the information gathered from our discussions with residents and faculty, the goals were revised and refined. Our goals for the program were to go beyond just teaching skills: we wanted to help learners to develop as educators.

**Work within the existing structure**
Removing challenges to participation is critical. In order to facilitate both residents’ and programs’ planning, we set the elective dates to coincide with rotation dates already planned.

Scheduling the elective to be congruent with other elective experiences is likely to encourage resident participation.

**Tip 4: Determine the content**

**Consider existing models**
Although we had ideas about the appropriate learning goals and content of the program, we approached the planning systematically. We first reviewed existing models (Bensinger et al. 2005; Bharel & Jain 2005; Hafler et al. 2005; Parrott et al. 2006). On the basis of that information, we developed a model that suited our particular context and constraints.

**Look at relevant literature**
There is a considerable amount of literature that can guide the program’s content. We examined the relevant literature on resident education to understand what content and skills were consistently deemed important.

**Gather input from the target audience**
Needs assessment is critical to effective program planning. Our discussions about content were based mainly on teachers’ perceptions of need, rather than on learners’ perceptions. We therefore asked residents to provide us with feedback on our plan, and revised it accordingly.

**Identify what residents do as teachers**
An analysis of the tasks involved in teaching can also inform program design (Dunn et al. 1985). Our clinical team member developed, with resident input, an inventory of teaching tasks that residents and clinical teachers were expected to perform (e.g. teaching a clinical skill, or providing feedback to students).

**Select educational content**
On the basis of the above sources, we drafted a framework for the elective. We chose to also include some educational topics that would help residents to make informed choices about the teaching and learning methods they wished to use. These included some approaches to understanding themselves as learners—for example, through identification of their learning styles and teaching perspectives (Pratt et al. 2001; Kolb 2005). Lastly, we included current educational approaches and topics, for example, problem-based and small-group learning, diversity, and teaching through role-modeling.

**Develop a curriculum plan and sequence**
We developed a sequence for the elective ‘curriculum’ that would promote effective learning, link theory and practice, and enhance application of newly acquired learning (Bransford et al. 2001).
Tip 5: Choose teaching and learning methods

Choose principles that guide design

Principles that guide design and development can enhance program cohesion (Harden 2005). We agreed on the following principles: a variety of methods would be included; active learning was to be encouraged; relevance was important; time for self-directed study was to be provided; opportunities were provided to pursue individual interests; time for discussion and networking were built in; and activities to enhance transfer of new skills and knowledge were explicit (Bransford et al. 2001).

Include a variety of methods

In any instructional design, it is tempting to select those methods with which one is most comfortable or experienced. However, our aim was to include a variety of teaching and learning methods, and to demonstrate how they might be used to meet different educational goals. These methods included observation, reflection, small group discussions, practice teaching opportunities, and experiential learning.

Utilize existing resources

Our local educational resources are not sufficient for us to devote an entire 4-week period to one activity. Therefore, we invited other teachers in our division, as well as clinical teachers, to present aspects of the elective. Participants were thereby exposed to a variety of teaching styles and had a broader expertise on which to draw.

Plan for experience and practice

In addition to the theoretical aspects of teaching and learning, we wanted a large part of the elective to involve experiential learning and application. Each resident was assigned to co-tutor with an experienced tutor for 4 weeks in a PBL group of first-year medical students. A microteaching exercise was also included, in which the residents gave presentations and provided constructive feedback to each other on their teaching (Lang et al. 2005). They also practiced and received feedback on teaching clinical skills and developed multiple-choice questions and OSCE stations, with guidance.

Include observation and reflection

Learning through observation is educationally powerful (Bandura 1986). Learners took part in planned observations of teachers and methods, including observations of the PBL groups in which they were tutors, and of a lecture to first-year students. This provided a basis for reflection on their observations and how they matched or did not match their personal beliefs about teaching. Reflection was included also to help participants transfer what they had learnt to the clinical setting.

Include an independent project

Each participant was required to undertake a medical-education project of personal interest, to further enhance application of what was taught. These projects drew on what the participants had learned, and usually related to a teaching problem they had encountered. One example was the development of a tutorial guidebook for students.

Provide individual experiences if possible

Our intent had been to arrange for individual experiences as identified or requested; however, no requests were received. Several participants sought individual consultations with members of the elective faculty and others.

Tip 6: Plan for authentic teaching practice

Learning experiences that are authentic or similar to the real tasks of teaching are more likely to be perceived as relevant, and transferable to the work or practice setting (Bransford et al. 2001).

Assign students as co-tutors in PBL groups

As noted above, there were several extended opportunities for authentic teaching practice. While the residents found them all valuable, they consistently rated their experience as co-tutors as their best and most challenging experience. They had the opportunity to practice tutoring and to receive feedback on their tutoring from the tutor and students over a 4-week period.

Assign clinical teaching tasks to students

Our views on this changed over the 2 years of the elective. We intended to assign the participants to clinical teaching with a mentor. However, several participants were already clinical teachers, and it proved difficult for them to change roles and be learners in that situation. In the second year, participants practiced with each other in teaching a clinical skill and providing feedback. This experience was well-received.

Include a teaching presentation

Each participant presented a 10-minute teaching segment to the group. The presentation was videotaped for the individual to review and critique; the other group members provided feedback that added to the individual's self-critique. Not surprisingly, the teaching presentations caused some anxiety among the participants. The videotaping was viewed as particularly stressful. However, both the environment and the class were supportive, and all participants reported finding this experience more valuable than they had anticipated.
**Tip 7: Build residents’ awareness of themselves as teachers**

**Encourage self-awareness**

An explicit program goal was to help the participants think of themselves as teachers, and to think of teaching as not limited to the acquisition of specific skills (although these skills are very important). We continually asked residents to relate what they were learning to their personal experience and values, and provided opportunities for this activity.

**Microteaching with self-assessment**

The microteaching model that we used (Lang et al. 2005) involves the teacher completing a self-assessment as part of the process. Initially, this engendered some reluctance; however, most residents reported learning from assessing their own performance, regarding things they might do differently as well as things they did well.

**Weekly reflections**

Each week, the group reflected collectively on the previous week’s experiences, and on the strengths and weaknesses of these experiences, both for their own learning, and as educational approaches.

**Examine personal teaching and learning styles**

As part of building self-awareness, participants completed two surveys, the Learning Styles Inventory and the Teaching Perspectives Inventory, as a basis for reflecting on the implications of those results for them as teachers and learners (Kolb 2005; Pratt et al. 2001). They also completed a reflective exercise focused on their teaching experience.

**Tip 8: Anticipate challenges and plan**

Challenges and unexpected occurrences are sure to happen. Teachers are often required to reflect-in-action (Schön 1983).

The most important challenge was encountered when residents had not been fully released from clinical responsibilities. Anticipating this problem in the second year, we emphasized the importance of the whole experience to both the participants and their programs. Despite that approach, however, there were a variety of reasons why various members were absent from time to time, including ambivalence about missing educational sessions in their home programs.

**Tip 9: Gather feedback regularly**

Have weekly feedback sessions, and adjust the programme accordingly

We gathered written and verbal feedback each week, during both years, and that was used both during the course and to prepare for the second year.

Gather formal feedback at the end of the course

A few months following the experience, participants were invited to a focus group to discuss the experience and to reflect on whether and how it had affected their teaching. Residents reported on which aspects of the course were most effective when they returned to their clinical setting, and on some of the more enduring aspects of their learning. They also reflected on the value of learning together with and from residents from other programs.

**Tip 10: Plan for follow-up**

Plan for ongoing support for teachers (e.g. clinical mentors)

The faculty-development literature suggests that lasting effects of interventions to improve teaching are associated with opportunities for follow-up in the teacher’s own setting (Steinert et al. 2006). We are considering the most effective ways to address this need. One approach would be to assign each resident a clinical teaching mentor. Another approach is to assign them as sole tutors of a PBL tutorial group the in the year following the elective, with regular meetings with a mentor in this second exposure; this would provide for ongoing development and experience.

Follow up regularly

In addition to, or in the absence of such ongoing support, we believe that regular follow-up is important, and we intend to follow our participants and offer support and assistance; we will continue to explore mechanisms of effecting this.

**Offer ongoing events**

The residents who have spent a month immersed in education about teaching have begun to build a community (Wenger 1998). It is important to maintain connections with and among them, by including them in the mailing for faculty development events, and other activities that might be of interest.

**Tip 11: Evaluate the program’s effect**

Consider all feedback

Evaluation of the program’s effectiveness is very important. Beyond gathering regular feedback during and at the end of the course, an important question remains: how do such courses and learning opportunities affect the teaching behaviours of the participants, and the experience of their learners? While the faculty development literature suggests some benefit for teaching faculty, there are fewer reports of

Follow participants over time to determine what worked and what didn’t
Specific feedback about which aspects of the experience were successful and unsuccessful, and which elements could or could not be transferred and applied, is also important for ongoing course improvement. Ultimately, our goal is that the course will be relevant and useful in the development of effective teaching behaviours and ongoing learning.

Provide feedback to stakeholders
All people who supported the course should receive feedback on the course and the evaluations conducted, including the teachers and program directors. In our case, the tutors to whom the residents were assigned were interested in receiving feedback. For these senior tutors, an unexpected bonus was feedback on their own teaching.

Tip 12: Have fun
Include time for talking and connecting
An essential aspect of learning is the environment in which it occurs and the relationships built there. We believe strongly that the building of an educational community within which to discuss teaching is critical. Learning should also be fun! We strove to be relaxed, and to support interaction among the residents that might continue beyond the confines of the course.

Encourage ongoing connection
One way for resident participants to maintain contact is electronically. We plan to set this up for the latest group. This allows those who want it an opportunity to communicate about teaching with others who have shared their experience.

Summary
Despite expectations that residents function effectively as teachers, little formal teaching preparation is provided to residents during their training. Although 1-hour, half-day, and full-day seminars can be effective, a more prolonged immersion in medical education provides participants opportunities to explore different methods of learning, develop teaching skills and strategies, and develop and practice a core set of teaching competencies that can be built on in the future. Our experience with a 4-week elective in medical education is offered to others so that they might consider implementing our approaches in their own postgraduate medical programs.

Of the tips presented, perhaps the most important in our experience is getting buy-in from the post-graduate dean and program directors. To free residents from clinical service for an entire month demands accountability that the time is well spent. This is particularly important in these days of perceived loss of service and teaching through mandatory work-hour restrictions (Steinbrook 2002; Cockerham et al. 2004; Zuckerman et al. 2005; Kerfoot et al. 2005). Although there are no guaranteed, immediate, tangible benefits to programs whose residents participate in the elective, we anticipate that the programs will reap the rewards of having enthusiastic, trained, and effective teachers; these residents will be role models to medical students and many will become valuable members of faculty on completion of their postgraduate education.

The residents who participated in the elective found the experience valuable and enjoyable. Their enthusiastic response helped to increase the popularity of the elective and the number of applicants doubled from one year to the next. A third year of the elective is fully subscribed. Our challenge now is to ensure that the elective continues to develop as an effective program, and one that upholds its principles and goals.

In summary, we have presented our experience in the development and offering of a 4-week elective in medical education. We continue to learn from our experiences, and would be interested in those of others. We offer practical suggestions for setting up a medical education elective and highlight some potential challenges, which we believe are clearly outweighed by the benefits to participants, their colleagues and learners, and the learning environment.

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