Residents as Teachers: A Process for Training and Development\(^1\)

Janet P. Hafler\(^2\)

Office of Educational Development, Harvard Medical School, Boston, MA 02115

ABSTRACT Of the many roles that residents fill, an important one is that of teacher. Residents spend many hours teaching a variety of learners—peers, patients, medical students, the general public—in a range of environments, from the bedside and clinic, to the OR, conference room and lecture hall. Such diverse audiences and surroundings almost command the use of a wide array of teaching strategies appropriate both to the setting and to the learner. This paper addresses how residents can learn to be effective teachers without taxing an already-overloaded schedule. This focus is on the process of developing a learning format that is appropriate to any given discipline by means of a partnership among an educator, a faculty member and residents from within a discipline. A brief review of the educational literature provides the basis on which are built actual teaching strategies for teaching residents to be teachers. J. Nutr. 133: 544S–546S, 2003.

KEY WORDS: residents • education • teaching • program • development

The goals of this residency teaching program were the product of a partnership among and educator, faculty members (which included specifically the residency program director and the clerkship director) and residents. Their overarching objectives included: 1) to design and implement an enduring resident-as-teacher program that would be integrated into a resident’s daily work, not added to it; 2) to incorporate approaches that teach residents how to facilitate learning in all settings and with a variety of learners; and 3) to help residents learn how to use role modeling as a teaching strategy. Two other elements of a resident teaching program that were considered essential involved developing an awareness, specifically that of helping residents understand the importance of their relationship with the student; and acquiring a skill, specifically that of learning to observe in the context of teaching. The key activities in the development process were: a needs assessment; program design; program implementation; and an evaluation.

Residents as teachers: a process for training and development

Of the many roles that residents fill, an important one is that of teacher. Residents spend many hours teaching (1) a variety of learners—peers, patients, medical students, the general public—in a range of environments, from the bedside and clinic, to the OR, conference room and lecture hall. Such diverse audiences and surroundings almost command the use of a wide array of teaching strategies appropriate both to the setting and to the learner.

The premise of this paper is that residents can learn to be effective teachers through the use of strategies and approaches that can enhance and promote learning, all without taxing an already-overloaded schedule. This focus will be on the process of developing a learning format that is appropriate to any given discipline by means of a partnership among an educator, a faculty member and residents from within a discipline. A brief review of the educational literature provides the basis on which are built actual teaching strategies for teaching residents to be teachers.

For that to be realized, the goals of a teaching program for residents must 1) include the design and implementation of an enduring resident-as-teacher program that is integrated with a resident’s daily work, not added to it; 2) incorporate approaches that teach residents how to facilitate learning in all settings and with a variety of learners; and 3) help residents learn how to use role modeling as a teaching strategy. Two other essential elements of a resident teaching program involve developing an awareness, specifically that of helping residents understand the importance of their relationship with the student; and acquiring a skill, specifically that of learning to observe (2) in the context of teaching. The key activities in that process are: a needs assessment; program design; program implementation; and an evaluation.

To understand residents’ needs around teaching and learning it is important to realize that as early as 1970, Brown (3)
reported that at one medical school, two-thirds of residents surveyed stated they received >40% of their teaching from fellow house staff. Although the trend continues through today (4), resident physicians are only rarely taught an essential skill: how to teach. In a 1993 national survey, just 20% of internal medicine residency programs featured teaching skills improvement programs, this despite the fact that residents provided 62% of in-patient teaching for medical students, according to residency directors’ estimates (5). Morrison (6) recently found that there are still very few programs to teach residents how to be teachers.

In developing resident teaching programs at Harvard Medical School, the program development involved partnering residency program directors, clerkship directors, residents and an educator to discuss and assess what the specific needs of their residents were. Surveys from 3rd-y medical students were also helpful to gather data on the student perspective of teaching in the clinical setting. With the data and core content in mind, the design team next considered the variety of formats and types of sessions that could be offered and, very importantly, what might be achieved from each. As an example, it is known that a workshop or retreat can stimulate and motivate residents but retreats plus coaching, observation and feedback help to address changes in behavior. Other useful program elements, such as the use of e-mail, to ensure a flow of communications and continued interest in a resident teaching program, also support the process of change.

Essential resources of resident teaching programs are the residents themselves, who have a wealth of information that they can draw upon from within their own experiences and which can be used as important starting points in their learning to be more effective teachers. This program component is supported by the literature on learning that uses experience as a focus. Mezirow (7) described the process of learning as follows: one makes an assumption explicit from experience, validates the assumption and then generalizes from it. He further held that meaning exists within us and is derived from our experiences, rather than from someone or something external, such as books, for example. The process of how people could change their view of themselves based on experiences Mezirow called transformative learning and led him to examine how people alter the structure of how they make sense of meaning. Learning by experience is also embedded in the work of theorists from Dewey (8–12) to Piaget (13) to Kolb (14). According to experiential learning theory, learning happens in four stages:

- Experience
- Observation
- Reflection
- Experimentation/Generalization

Schön (15) describes the process of learning in the context of professional practice. He describes professional knowledge as grounded in professional experience that is articulated by the residents who often know more than they communicate verbally and exhibit a “knowing-in-practice,” which Schön calls tacit knowledge. Residents are often teaching in rounds and may not even be aware that is what they are doing, such as when they are simply serving as role models. For example, helping residents simply talk about what they saw or verbalize their thinking helps them become effective and time-efficient teachers as role models who are promoting learning. Because learning is embedded in context, one important aspect of clinical teaching is that teaching is done within a context in which students must draw upon their knowledge. Knowing how to be an effective role model is critical for residents as teachers.

However, because so much of our learning is cast in the form of problem solving, it was natural for Dewey (8) to deal with reflection in the context of hypothetical-deductive problem solving, the logic and approach followed with great success by the natural sciences. The literature posits that learning is most effective and most likely to lead to behavioral change when it begins with an experience and includes reflection (15) as the process of critically assessing the content, process or premise(s) of the efforts to interpret and give meaning to an experience.

Taking the value of experience as central to teaching residents to be teachers, one can focus on two basic principles of learning that can be applied to any of a resident’s teaching encounters. The first is to have students actively involved in the learning process (e.g., by setting their own goals); the second is to be sure that feedback, necessary to any learning, is provided.

There are a variety of implementation strategies for residents to learn how to teach. On the one hand, if you aim to promote problem solving, then you might likely select a “discussion-teaching strategy”; on the other, if you aim to develop a skill you would more likely select such strategies as observing an actual situation or using simulated patients or even “standardized students.” Another method to engage learners and motivate them to learn is to have them use their own examples and cases to frame a discussion. Thus, one might ask obstetrics residents how they would teach Leopold’s maneuvers to a 3rd-y student who is on his or her first clinical rotation; or, one might ask a group of residents in a learning situation to turn to the person sitting beside them and brainstorm some possible interactive ways to teach a student new to the discipline. It is effective for the facilitator to write all the ideas on a board or a flip chart as a first step toward having a group generate some core principles of learning.

In the approach used at Harvard Medical School, residents were taught to decide with the learner what should be taught, as well as what goals could be set. Pratt and Magill (16) refer to this as a negotiated agreement between a teacher and a learner that is developed via an explicit negotiation between the teacher and the learner. This personal agreement will include the area of knowledge that is to be addressed in the time together and how, within their respective roles, both the teacher and learner will go about accomplishing the set goal. With practice, this all can happen even in the few seconds available to them as they walk into a patient’s room.

Residents were then encouraged to routinely structure the work and the learning environment so that the learner can have experiences appropriate to the goals that have been set. The tasks should be challenging but not intimidating and should try to take into consideration the prior knowledge of the student.

Within that context, however, residents need to develop a conscious awareness of the assumptions they hold about how teaching facilitates learning. For example, if the resident corrects wrong answers every time, the student learns to depend on the resident not only for the answer but also for knowing what is correct and incorrect. One consequence is that over time the student would likely begin to exhibit a lack of critical thinking skills. In our scenario, the resident’s implicit assumption was that by immediately correcting the student each time, good learning was taking place when in fact the opposite was the case. Helping residents understand the impact of their assumptions about teaching is central to the program.

Assumptions can shape our perceptions, influence our behavior and virtually regulate the way we teach. Such knowledge will give residents the freedom to make changes when
they see change is necessary. By itself, understanding one’s own personal philosophy and assumptions about teaching enriches and enhances one’s own teaching practice. One way to teach a group of residents how to explore and understand their own personal philosophy and assumptions about teaching is to structure an exercise such as the following: residents are asked to think back to a recent teaching experience and to reflect on the following three questions:

- What was your teaching strategy?
- Why did you pick that strategy?
- What assumption do you hold about learning related to the strategy?

Residents then break into pairs and engage in a one-on-one discussion around issues generated from their own reflections of the teaching experience each has selected.

In the clinical setting, where so often there is little time to interact immediately with learners, we stress that residents learn, via a set of exercises, how to observe teaching and learning and then to reflect on those observations. This use of observation and reflection is a form of on-going training that can be used any time and can be focused according to what needs to be learned.

Another strategy for residents to learn is the one-minute teacher (17), which has shown itself to be a very effective tool in promoting learning. The essential elements include: 1) get a commitment from the learner about what he or she wants to learn; 2) diagnose the learner while diagnosing the patient; 3) probe for the learner’s level of understanding; 4) teach a general rule, not facts; 5) reinforce what was done correctly (often the forgotten step); and 6) elicit the learner’s participation in identifying and correcting mistakes. Practiced regularly, the method is one residents can learn in becoming effective teachers.

Finally, but very importantly, both positive and negative feedback are essential for learning and residents need to learn how to give both. Because most people learn from actual practice, feedback should be integrated with teaching and learning throughout the workday. For the learner, feedback answers: what am I doing correctly and incorrectly and what should I be working on? Through observation and in any interactive session, residents can give a learner feedback, throughout an experience. Feedback should occur frequently and provide the learner with information that helps him or her assess how they carried out a set task.

The process of developing a program that teaches residents to teach needs to be designed to meet the unique needs of each specific discipline. It should involve a partnership among educators who bring knowledge of the literature and pedagogy; residents who bring their own life’s learning and personal experiences; and faculty who bring the knowledge of the discipline and the clinical environment. It should focus on a train-the-trainers model designed in such a way that elements are integrated into the residents’ workday and not added to it. Finally, it must incorporate approaches that teach residents how to look at their assumptions and to facilitate learning, whatever the settings or the variety of learners. In this way have we found that residents can learn to be effective teachers.

LITERATURE CITED