How Do You Get to the Improvement of Teaching? A Longitudinal Faculty Development Program for Medical Educators

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Background: Among nonmedical educators, longitudinal faculty development programs most effectively increase teachers' abilities.[1] Despite most medical settings providing little reinforcement for new instructional skills, teaching improvement programs infrequently have explicit ongoing activities.[2-6] We carried out a longitudinal program for medical educators designed to reinforce and firmly establish new teaching skills.

Description: We conducted a longitudinal (18 months of biweekly 1-hr meetings) faculty development program. Its activities followed an initial structured seminar series, and the ongoing meetings involved reviewing videotapes of participants' teaching, enacting and debriefing role-plays, and a modified Balint group for medical educators.

Evaluation: We assessed the program's process and outcomes using attendance, self-reported teaching behaviors, perceived program usefulness, educational administrative responsibilities, and qualitative analysis of audiotapes and session notes.

Conclusions: Participants maintained high attendance during 18 months of meetings. Ratings of usefulness were high, comparable to other faculty development activities with established utility, and qualitative data support unique benefits of the ongoing meetings. The longitudinal component built on the initial seminar series; it seemed to enhance collegial support, to allow observation of instructional outcomes to reinforce new instructional skills, and to foster greater involvement in the institution's teaching activities. Teaching improvement programs for physician educators have taken several forms, from workshops and expert consultations to month-long minisabbaticals.[2-6] However, most are single or sequenced interventions, without an explicit long-term component. We present the structure of an 18-month program for clinician teachers and report observations supporting the program's utility. We hope that this descriptive study promotes greater attention to and subsequent prospective research of longitudinal faculty development.

Faculty development focusing on improving teaching abilities is similar to other programs designed to alter behavior, such as interventions to deter substance abuse[7] or promote regular exercise.[8] Skill acquisition follows an established sequence, during which individuals intend to use new behaviors, attempt new activities, and then practice and finally incorporate the skills into their repertoire of abilities.[9,10] Initial attempts at any new behavior can feel awkward, and establishing a new ability depends on its being reinforced. Means to sustain new teaching behaviors would include direct reinforcement when practicing the skills and observing an action's positive effects on learning.[11,12] Similarly, vicarious reinforcement could result from watching outcomes of others' effective teaching.[13,14] Finally, behaviors could be promoted by social support of peers endorsing the new actions[15] and with institutional rewards for efforts to enhance teaching abilities.[16,17]

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Unfortunately, the medical education context has deficiencies in each of these potentially reinforcing processes. In a classroom, the setting, content, and educational method can be controlled.[12] However, rotations with students and housestaff often are limited, and educational content constantly varies so that clinicians cannot easily observe the positive or negative effects of specific teaching behaviors. Vicarious reinforcement is unlikely because medical educators rarely observe each other teaching. In addition, clinicians infrequently discuss instructional activities to establish behavioral norms and enlist collegial support for new educational skills.[18] Last, most medical institutions provide few rewards for advancing teaching skills.[19] Therefore, in the relative absence of these means to sustain behavior change, other methods are needed to support medical educators' acquisition of new abilities.

Program Description

We established a longitudinal faculty development program specifically designed to foster incorporation of new educational activities, and we examined its perceived effectiveness. The faculty development program, implemented at Oregon Health Sciences University, began when one of the authors (Elliot) participated in the month-long Stanford Faculty Development Program (SFDP) in Clinical Teaching. This program prepares selected faculty to lead a series of seven teaching improvement seminars at their home sites. Each 2-hr seminar covers one of the seven educational topics.[20] The seminars present a framework for analyzing clinical teaching, enhancing participants' ability to recognize and practice teaching behaviors, and guiding individuals to identify personally relevant educational goals.[21]

During the 1st year of implementation, 20 individuals (in three separate groups) from the Division of General Internal Medicine and the Department of Family Medicine took part in the seven 2-hr SFDP seminars. Approximately 14 months after the initial seminar series, we surveyed all nine individuals based at one hospital concerning their interest in follow-up faculty development activities. Seven expressed interests in continued meetings, and two elected not to participate. The seven participants mutually agreed to hold 1-hr meetings every other week to discuss teaching challenges and consolidate new teaching abilities. The group negotiated agendas, and sessions were divided approximately equally among three activities: videotape review, role plays, and discussion of specific teaching encounters.

Faculty participants brought videotapes of their teaching—supervising in clinic, attending on rounds, precepting students, or lecturing. The taped individual or another group member previewed the recording and selected portions for discussion. During the meeting, the group viewed the tape and the teacher recalled thoughts during the interaction, identified intended and actual behaviors, and assessed educational outcomes. Participants discussed the observations, brainstormed other teacher actions, and addressed potential consequences of alternate behaviors.

Role-play scenarios were generated by group members based on actual encounters or exemplifying skills to be practiced. For example, topics included bedside feedback, motivating uninterested learners, and managing competing patient care and teaching tasks. The role play author prepared a simple script for a 3- to 5-min interaction. During the meeting, the role plays were videotaped and immediately discussed with a debriefing strategy similar to that used for participants' teaching tapes. Role plays allowed study of specific encounters that were troubling or instructive. In addition, because the exercises involved group members in student, housestaff, and patient roles, faculty could experience and share the perspectives of nonfaculty participants.

The third activity, discussion of clinical teaching incidents, used a process analogous to a Balint group's doctor–patient inquiry.[22-25] During faculty development sessions using this format, one participant briefly presented a personal interaction with a learner, providing enough detail that others could recall similar episodes in which they participated. The subsequent discussion involved analyzing teaching behaviors and, specifically, exploring the feelings that preceded an action. Participants identified the connections between an educator's emotional response and behaviors. Balint groups can be a means to capture and amplify observations about an encounter.[24] In this way, unconsidered thoughts and actions can be discussed, with members achieving greater understanding of themselves.[24] When used with doctor–patient interactions, the personal insights and rethinking of actions can increase participants' clinical effectiveness.[23]

Evaluation

We used faculty attendance and a postprogram questionnaire as outcome assessments. The survey instrument contained three questions asking participants to rate the effects of the initial seven 2-hr seminars and the longitudinal biweekly sessions on their understanding and analysis of educational issues, teaching behaviors, attitudes about education, and overall teaching abilities using a 5-point agreement scale ranging from 1 (*no impact*) to 5 (*strong impact*). In addition, following the last longitudinal meeting we interviewed participants concerning changes in their

educational responsibilities. We conducted additional qualitative assessments to identify themes and recurring issues by reviewing the facilitator's session notes and audiotapes of four successive meetings during months 15 and 16.

Attendance and Questionnaires

All participants continued attending the biweekly meetings for 18 months. Faculty ratings of the initial seven seminars and the longitudinal sessions were similar (Table 1). When asked which of the two formats—the original seven seminars or the longitudinal series—had greater influence, participants were divided equally. Three selected the initial series, three chose the longitudinal meetings, and one selected neither, commenting that they were equivalent.

Completion of 18 months of longitudinal meetings coincided with the beginning of a new academic year, and several participants' schedules changed. A compatible meeting time became unfeasible, and the group agreed to end the biweekly meetings.

Educational Responsibilities

During the longitudinal meetings, individual participants took on many new educational activities (Table 2). Each assumed at least one additional educational administrative role, with a total of 23 new duties among the seven participants.

Qualitative Analysis

Recurrent themes emerged from the qualitative assessment. First, when debriefing role plays and viewing tapes, participants used the language and structure established during the initial seven SFDP seminars. Review of session transcripts revealed use of terms such as learning climate, self-directed learning, types of questions, and session control, which were concepts of the original SFDP seminars.

Faculty enthusiastically provided the role plays and videotapes for the group's use. Videotape review

and role plays allow teachers to identify discrepancies between intended and actual behaviors, to analyze outcomes, to recognize covert attitudes, and to learn from colleagues.[26] Each original SFDP seminar included a structured role play in which behaviors for that module were practiced and discussed. Thus, before the longitudinal sessions, group members had experienced that process, observed themselves on videotape, sometimes been humbled by their own experiences, and recognized the format's power as a learning method. The intense anxiety that role plays and videotape review provoke can inhibit learning.[27] This potential was reduced because of participants' collegial respect, shared experiences, and common framework for discussing clinical teaching acquired during the initial SFDP seminars.

The utility of playing the nonphysician part in role plays was apparent during the debriefs. For example, during a role play concerning teaching physical examination at the bedside, the resident was asked to perform an abdominal exam. Although the resident performed correctly, the faculty member added an additional maneuver, after the house officer had finished. The participant playing the resident remarked how the faculty's additional input—"getting in the last word"—diminished the resident's sense of accomplishment and positive feelings about the interaction, something unrecognized by others in the role play.

Almost uniformly, teachers' assessments of their behavior differed from those made by other participants. In particular, group members usually underestimated positive outcomes of their own new teaching behaviors. For example, after the initial seven SFDP seminars, one faculty member tried to be less directive and didactic, negotiating topics and using more questions during interactions. However, he felt awkward and concerned that not as much was being learned. He was considering returning to prior methods. When reviewing a taped interaction, during which the faculty member demonstrated his new less directive and more democratic style, the group observed that considerable relevant information was provided and processed by trainees. Learners also displayed their ability to understand and set priorities. Although he may not have "taught" as much, more seemed to be learned, and the clinician could evaluate

Table 1. *Ratings of the Impact of Faculty Development Activities*

	Initial Seven Seminars		Longitudinal Biweekly Sessions	
	M	*SD*	*M*	*SD*
Cognitive Processing of Teaching	3.7	1.0	3.6	0.9
Teaching Behaviors	3.0	0.6	3.2	1.1
Attitudes About Teaching	3.5	1.2	3.6	1.1

Note: Ratings used a 5-point scale ranging from 1 (*no impact*) to 5 (*strong impact*).

Table 2. *Educational Activities Undertaken During the Longitudinal Faculty Development Sessions (Number of Individuals)*

Member, Task Force for New Rural Clerkship (3)
Member, Steering Committee for Medical School Course (3)
Coordinator, Medical School Course (3)
Coordinator, Clerkship (1)
Developed New Student Elective (1)
Introduced New Educational Strategy in a Course (2)
Coordinator, Behavioral Medicine Curriculum for Residency (1)
Director, Fellowship Program (1)
Funded Faculty of Faculty Development Grant (3)
Chair, Departmental Education Committee (1)
Member, Departmental Education Committee (1)
National Presentation(s) on Educational Topic (3)

the trainees. Despite the group member's initial concerns about the new skills, with other participants' input, the observed teaching behaviors were supported and reinforced.

Review of audiotapes of the sessions revealed that verbal interactions spanned a spectrum of discourse. Faculty members made observations, asked questions to clarify or stimulate others' analyses, provided interpretations of observations, offered alternate behaviors, and related interactions to their own experiences. An additional theme to emerge from the qualitative analysis was that mutual support occurred frequently and predominated during Balint-type discussions of teaching incidents. For example, one individual recounted an interaction and described his resultant anger toward a learner. Other participants described similar reactions of their own, including one member who came to communicate with a house officer only in writing because verbal interactions routinely ended in arguments. Faculty participants may have perceived that certain attitudes and behaviors were unique to them, and the group's discussion allowed members to hear others describe their struggles with teaching challenges and counterproductive reactions. As one individual said, "I have learned to better appreciate weaknesses without feeling discouraged, as I also see these problems in colleagues."

Although the quantitative comparison did not differentiate the initial SFDP seminars from the longitudinal sessions, written comments suggested the utility of the ongoing meetings. One individual wrote that the ongoing sessions were useful because "medical educators are not usually educators at all and need to be spoon-fed the skills they need." Another indicated that the "initial series just sharpened my interest … longitudinal meetings were more relevant and [had a] freer discussion." Participants noted that the longitudinal meetings "provided techniques to change behaviors and shore up weaknesses … without feeling discouraged," "were an excellent way to continue my personal improvement," and "had been invaluable to my effec-

tiveness not only as a teacher of students but perhaps more importantly as a teacher of teachers."

Discussion

The medical environment's complexity and lack of reinforcing influences suggest that long-term professional development activities may be important for achieving durable changes in a teacher's abilities. We describe a longitudinal program to enhance clinician educators' teaching skills. Our quantitative data, 18 months of faculty attendance, and the qualitative results suggest the benefits of these ongoing sessions.

The group meetings provided information about teaching outcomes, and the perspectives of others were especially useful because individuals underrecognized positive outcomes of their new teaching techniques. This finding is not unique to clinician educators. In nonmedical settings, staff development programs can cause teachers to recognize limitations in their educational abilities. That recognition, and the awkwardness of any new behavior, can increase teachers' hesitancy to try new skills and can bias them to discount beneficial outcomes.[11] Because of this, although faculty development strives to facilitate new educational abilities, paradoxically, it can have the opposite effect. The longitudinal group meetings seemed important for identifying behaviors' effectiveness and reinforcing participants' new teaching skills.

Others have suggested that individuals' educational activities are a measure of a faculty development program's success,[28] despite the many confounding factors that might influence that variable. We found that participants were major contributors to our institution's instructional activities. We cannot define whether the sessions led to these roles or whether the ongoing meetings provided support for those who would normally take on these educational duties. In either case, providing financial support for longitudinal faculty development may be a way for organizations to encourage greater participation in important educational roles and to furnish ongoing assistance for individuals in those positions.

The collegial support realized in these sessions seemed most evident when using the modified Balint group format. This approach can increase physicians' insight into the emotional consequences of doctor–patient interactions and allow recognition of connections between feelings and behaviors.[24] Balint groups are a feature of many family medicine training programs[25] and a familiar activity for some clinicians. They were adapted easily for teacher–learner encounters. The self-disclosure exhibited in these discussions resulted in mutual support and underscored the attitude that peers shared challenges and valued educational activities. Social support is a valuable coping mechanism for

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physicians,[23,29] and, as has been shown in nonmedical educational settings,[30] longitudinal faculty development meetings can enhance participants' companionship, camaraderie, and interpersonal support.

Collegial exchange concerning medical issues and patient management is common in clinical care. Writing about interactions among educators from nonmedical fields, Smith and Acheson[31] defined a continuum of exchanges between peers, from "coaching," in which an expert provides an analysis and prescriptive advice, to "consultation," in which colleagues facilitate self-reflection and collaborate on alternate actions. Verbal interactions among group members were varied and could be categorized all across this spectrum. Years ago, the medical interview was not explicitly taught, with the supposition that those abilities were a concomitant of being able to converse.[32] The absence of a curriculum in teaching suggests the belief that teaching abilities, too, are implicit and a given if one has experienced clinical education as a learner. Once clinical instruction is recognized as a learned ability, medical teaching becomes another domain for clinicians' consultation and collegial exchange.

Our observations reflect the design limitations often present in faculty development program assessments, and our findings underscore the need for a research agenda and faculty development funding.[33–35] Generalizing conclusions from program ratings and self-assessments—the traditional gauges of staff development[36]—often is a challenge. Volunteer participants may be talented as teachers and more motivated to carry out long-term educational innovations.[17,37] Our description pertains to a unique group in a particular educational environment, and results may not apply to other medical teachers and settings.

The SFDP's Clinical Teaching seminars have been assessed critically. Combining findings from many faculty members at several institutions, learner ratings demonstrated a significant increase in seminar participants' teaching abilities.[21] Our select group of faculty indicated that both the longitudinal and the initial SFDP seminars were valuable, and written comments showed the contribution of the ongoing meetings. A much larger study population, appropriate controls, and more objective outcome measures are needed to assess that impression adequately.

Reports from nonmedical settings suggest that teacher improvement programs best achieve change when they include ongoing practice and feedback.[1] In our longitudinal meetings, clinician teachers analyzed clinical teaching encounters and experimented with alternate behaviors. Enhancing those skills, that is, reasoning about experiences and using that understanding to inform subsequent actions, has been proposed as a primary goal of teacher education.[38] Without means to reinforce and consolidate new behaviors, medical edu-

cators cannot shift from valuing new activities to mastering those skills and incorporating them into their teaching.[15] We suggest that staff enhancement for clinician educators include means to move beyond educational consciousness raising and foster the process of teacher change. Our experience indicates that longitudinal faculty development can help clinician educators in establishing new teaching abilities and maintaining the vitality necessary for academic success. In doing so, they benefit both individuals and institutions.

Acknowledgments

References

1. Sparks GM. Synthesis of research on staff development for effective teaching. *Educational Leadership* 1983;40:65–72.
2. Skeff KM, Stratos GA, Mygdal W, et al. Faculty development: A resource for clinical teachers. *Journal of General Internal Medicine* 1997;12:S56–63.
3. Skeff KM, Berman J, Stratos G. A review of clinical teaching methods and a theoretical framework for their evaluation. In JC Edwards, RL Marier (Eds.), *Clinical teaching for medical residents* (pp. 92–120). New York: Springer, 1988.
4. Bland CJ, Schmitz CC, Stritter FT, et al. Curriculum implementation models. *Successful faculty in academic medicine* (pp. 238–55). New York: Springer, 1990.
5. Ullian JA, Stritter FT. Types of faculty development programs. *Family Medicine* 1997;29:237–41.
6. Bland CJ, Simpson D. Future faculty development in family medicine. *Family Medicine* 1997;29:290–3.
7. Flay BR, Petraltis J. Methodologic issues in drug use prevention: Theoretic foundations. In CG Leukefeld, WJ Bukowski (Eds.), *Drug abuse prevention intervention research: Methodological issues* (DHHS Publication No. 92-1761, pp. 81–108). Washington, DC: U.S. Government Printing Office, 1991.
8. Grodin G, Shepard RJ. Use of attitude-behavior models in exercise promotion. *Sports Medicine* 1990;10:103–21.
9. Kandel DB (Ed.). *Longitudinal research on drug use: Empiric findings and methodologic issues.* Washington, DC: Hemisphere, 1978.
10. Prochaska JO, Velicer WF, Guadagnoli E, et al. Patterns of change: Dynamic typology applied to smoking cessation. *Multivariate Behavioral Research Journal* 1991;26:83–107.
11. Guskey TR. The influence of change in instructional effectiveness upon the affective characteristics of teachers. *American Educational Research Journal* 1984;21:245–59.
12. Glaser R, Bossok M. Learning theory and the study of instruction. *Annual Review of Psychology* 1989;40:631–6.
13. Levinson-Rose J, Menges RJ. Improving college teaching: A critical review of research. *Reviews of Educational Research* 1981;51:403–34.
14. Smylie MA. The enhancement function of staff development: Organizational and psychological antecedents to individual

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teacher change. *American Educational Research Journal* 1988;25:1–30.

15. Bandura A. *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice Hall, 1986.

16. Feletti GI, Clarke RM. Construct validity of a learning environment survey for medical schools. *Education and Psychological Measurement* 1991;41:875–82.

17. Guskey T. Teacher efficacy, self-concept and attitudes toward the implementation of instructional innovation. *Teaching & Teacher Education* 1988;4:53–9.

18. Nelson MS, Clayton BG, Moreno R. How medical school faculty regard educational research and make pedagogical decisions. *Academic Medicine* 1990;65:122–6.

19. Cantor JC, Cohen AB, Barker DC, et al. Medical educators' views on medical education reforms. *Journal of the American Medical Association* 1991;265:1002–6.

20. Skeff KM. An educational framework for the analysis of teaching. *Substance Abuse* 1988;9:61–75.

21. Skeff KM, Stratos GA, Berman J, Bergen MR. Improving clinical teaching. Evaluation of a national dissemination program. *Archives of Internal Medicine* 1992;152:1156–61.

22. Balint M. *The doctor, his patient and the illness.* London: Churchill, 1986.

23. Novack DH, Suchman AL, Clark W, et al. Calibrating the physician: Personal awareness and effective patient care. *Journal of the American Medical Association* 1997;278:502–9.

24. Hull SA. The method of Balint group work and its contribution to research in general practice. *Family Practice* 1996;13: S10–2.

25. Scheingold L. Balint work in England: Lessons for American Family Medicine. *Journal of Family Practice* 1988;26:315–20.

26. Joyce B, Weil M., Showers B. Role playing. Studying social behavior and values. *Models of teaching* (pp. 53–72). Needham Heights, MA: Allyn & Bacon, 1992.

27. Fuller FF, Manning BA. Self-confrontation reviewed: A conceptualization for video playback in teacher education. *Reviews of Educational Research* 1973;43:468–528.

28. Benor DE, Mahler S. Teacher training and faculty development in medical education. *Israeli Journal of Medical Sciences* 1987;23:976–82.

29. Quill TE, Williamson PR. Healthy approaches to physician stress. *Archives of Internal Medicine* 1990;150:1857–61.

30. Guskey, TR. Staff development and the process of teacher change. *Educational Research* 1986; 15:5–12.

31. Smith NS, Acheson KA. Peer consultation: An analysis of several types of programs. *Oregon School Study Council* 1991;34:1–30.

32. Coulehan JL, Block MR. The poor historian. *The medical interview: A primer for students of the art* (pp. 1–4). Philadelphia: F. A. Davis, 1987.

33. Irby DM, Hekelman FP. Future directions for research on faculty development. *Family Medicine* 1997;29:287–9.

34. Reid A, Stritter FT, Arndt JE. Assessment of program outcomes. *Family Medicine* 1997;29:242–7.

35. Meurer LN, Morzinski JA. Published literature on faculty development programs. *Family Medicine* 1997;29:270–4.

36. Dinham S, Stritter FT. Research on professional education. In MC Wittrock (Ed.), *Handbook of research on teaching* (pp. 952–70). New York: Macmillan, 1986.

37. Stein M, Wang MC. Teacher development and school improvement: The process of teacher change. *Teaching & Teacher Education* 1988;4:171–87.

38. Fenstermacher G. Philosophy of research on teaching: Three aspects. In MC Wittrock (Ed.), *Handbook of research on teaching* (pp. 37–49). New York: Macmillan, 1986.