

# Long-Term Follow-Up of a Dental Faculty Development Program

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*Abstract:* Many, if not most, dental faculty members have not received formal training to be educators. However, the importance of faculty development programs in improving teaching skills, fostering career development, and reinforcing relationships with colleagues and mentors has increasingly been acknowledged. In 2005, the Excellence in Clinical Teaching Program at New York University College of Dentistry (NYUCD) was created to enhance the clinical teaching skills of NYUCD faculty members. As of spring 2009, fifty-nine faculty members had participated in eight separate cohorts. The program consists of five formal group sessions supplemented by readings, reflection papers, and a final project. This study examined the short- and long-term effectiveness of the program. Participants were asked to complete a short pre-program survey to self-assess their teaching abilities and, at the last session, a satisfaction survey. In fall 2011, forty-eight faculty members who completed the program from spring 2005 to fall 2009 and were actively teaching at least one session a week at NYUCD were asked to complete a follow-up survey asking about the long-term value of the program and their academic career progression since program completion. Thirty-three faculty members responded for a response rate of 69 percent. Ninety-seven percent of the respondents indicated they would recommend the program to their colleagues, 94 percent said program participation led to a greater likelihood of conferring with peers about teaching issues, 79 percent had increased their teaching responsibilities, and 62 percent said that presenting the final project improved their presentation skills. In addition, the retention rate of those still teaching at the school (81 percent) exceeds national retention rate averages for dental faculty. This follow-up study suggests that participation in the Excellence in Clinical Teaching Program is associated with meaningful professional growth.

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*Keywords:* faculty development, academic careers, dental faculty, clinical faculty, professional growth

*Submitted for publication 6/19/12; accepted 8/31/12*

Many, if not most, health care professional faculty teach with little formal training in educational principles and methods. As such, they often develop teaching techniques on-the-job via a combination of instinct, trial and error, and personal experience. However, the importance of faculty development programs in improving teaching skills, fostering career development, and reinforcing relationships with colleagues and mentors has increasingly been acknowledged.<sup>1</sup>

In 2006, Steinert et al.<sup>1</sup> conducted a systematic review of medical faculty development initiatives that included workshops, seminar series, short courses, longitudinal programs, and fellowships. These studies were analyzed based on Kirkpatrick's Four Levels of Hierarchy—a framework frequently used to evaluate training programs.<sup>2</sup> The most basic level is evaluation of participant “reaction” or satisfaction with the experience. Level 2 or “learning” measures program effects on knowledge and attitudes. Level 3 or “application” assesses changes in teacher behavior and performance, and Level 4 or “results” level of the hierarchy measures the effects of training on participants' careers and work environments. Because new

educational activities, improved peer relationships, and networking are noted after completion of faculty development programs, Steinert et al. recommended long-term studies to assess program value over time.<sup>1</sup>

The long-term impact of health care professional faculty development programs has been evaluated with pre-program, immediate post-program, and follow-up surveys given from six months to several years after the program.<sup>3,4</sup> Program participation has been associated with long-term changes in teaching behaviors and engagement in educational activities and projects.<sup>4-7</sup> Other studies have documented the initiation or strengthening of career-important relationships with peers, mentors, and academic consultants and the implementation of informal learning networks after participation.<sup>4,8-12</sup> Such relationships are positively associated with academic achievements.<sup>10</sup> Participants in other studies indicated that they had been or were being recommended for promotion or had assumed leadership roles after completing a development program.<sup>7,13,14</sup>

There are few studies of dental faculty development programs with long-term outcome measures. In 2005, the effectiveness of a training program to

enhance dental hygiene faculty members' ability to assess student professionalism was conducted over a three-year period.<sup>5</sup> In 2008, a follow-up survey of a fifty-hour development program designed for new and transitioning dental faculty members was conducted two years after program completion.<sup>15</sup> More recently, a retrospective survey to assess the value of communities of practice in changing teaching practices was administered a year following program completion.<sup>12</sup>

Our study reports on the short- and long-term impact of a faculty development program, the Excellence in Clinical Teaching Program, implemented in 2005 at New York University College of Dentistry (NYUCD). This program was created primarily to impart pedagogical skills to clinical faculty members. As of May 2009, fifty-nine faculty members had completed the program.

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## Description of Program

The Excellence in Clinical Teaching Program developed from a special certificate program that was created in partnership with NYU's Center for Teaching Excellence in 2004. This program provided participants with a foundation in learning theory, student motivation, effective methods of feedback, student evaluation, and the concept of adaptive expertise. In 2005, the director of professional development (the third author), in response to participant feedback and other concerns, consulted two NYUCD clinical faculty members with master's degrees in education to create an intensive program specifically geared to clinical faculty named the Excellence in Clinical Teaching Program.

In 2007, one of the collaborators left to pursue other opportunities at the college, and in 2008, the director of professional development left NYU. Since 2009, the remaining collaborator (the first author) has facilitated all the sessions. Subsequently, a new position was created; this director of clinical faculty education now spends half of her time (0.5 FTE) conducting various types of training for the faculty. Since 2010, the program has been administered under the auspices of the NYU Academy of Distinguished Educators, an organization created in 2010 and dedicated to recognizing excellence in teaching and advancing educational innovation and scholarship.<sup>16</sup>

The Excellence in Clinical Teaching Program was originally intended for NYUCD faculty in the Department of General Dentistry (later renamed Cariology and Comprehensive Care). This depart-

ment was selected because it is the college's largest, and most of its faculty members are involved in the preclinical and clinical teaching of predoctoral students. Department faculty members who had been teaching at the college for at least six months and at least one day per week were invited to attend. As of spring 2012, seventy-seven (68 percent) of the 113 cariology faculty members currently teaching at least one day per week have successfully completed the program. Since 2010, the program has been open to clinical faculty members in other departments.

The course is conducted in a small-group interactive setting with no more than ten participants per cohort with the aim of encouraging the formation of communities of practice. Communities of practice are defined as "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly."<sup>17</sup> In order to not conflict with participants' teaching responsibilities, the five one-and-one-half-hour training sessions were scheduled during the evening clinic break. In addition to video presentations, role-plays, in-class exercises, interactions with students, and sharing of best practices, faculty members completed between-session readings, reflection papers, and a final project. The final project requirement was added to the program in 2006.

There are five sessions in the program (see the Appendix for course syllabus). Session 1: Project Millennials discusses millennial students' unique characteristics and educational expectations as compared to those of past generations. Session 2: Adult Learning Theory presents a broad overview of current educational theory and compares novice and expert behaviors. Session 3: Setting Expectations considers the various challenges faced by both students and faculty in the clinical setting. Participants practice setting expectations to create a positive learning climate. In Session 4: Giving Effective Feedback, the participants practice various feedback methods, using video presentations and role-plays. In Session 5, the participants are asked to complete a project on a dental education topic and present their findings to their peers. Past projects have included surveys of students and faculty, discussions of best practices, and presentations on the latest research in health professions education.

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## Methods

From spring 2005 to fall 2009, fifty-nine faculty members successfully completed the Excellence

in Clinical Teaching program. These participants were asked to complete a short pre-program survey and an immediate post-program satisfaction survey (both are available from the corresponding author). Eleven of the participants are no longer teaching at the college. Therefore, forty-eight graduates teaching at least one session a week comprised the population eligible to participate in this study. In fall 2011, they were asked to complete a follow-up survey to self-assess their teaching skills and perceptions about the program's value and to provide information about peer relationships, scholarly activities, and career development. The content of the survey questions was based on prior studies in faculty development seeking information on long-term outcomes.<sup>10,14,18</sup> The Qualtrics survey was pilot-tested for clarity and ease of use before distribution via e-mail. Two reminder e-mails were sent out.

The project was reviewed by NYU's Institutional Review Board and granted exempt status. The data were analyzed using descriptive statistics.

## Results

Thirty-six (61 percent) of the participants in the study were male, and twenty-three (39 percent) were female. Forty-eight (81 percent) were part-time and eleven (19 percent) were full-time faculty members at the time of program completion.

In the initial post-program survey (given after the respective last session), fifty-five of the fifty-nine

participants (93 percent) reported making changes in their teaching habits as a result of the program. Ninety-eight percent of the participants indicated that the program met or exceeded their expectations. Ninety-two percent gave the program an excellent or very good overall rating, and 94 percent found the interactive format excellent or very good (Table 1). The individual sessions were rated highly, with 82 to 92 percent of the participants giving each session a rating of excellent or very good (Table 2).

Thirty three of the forty-eight faculty members still teaching at the college responded to the follow-up survey, yielding a response rate of 69 percent. Twelve of the respondents indicated that they completed the program in 2009, eight in 2008, six in 2007, four in 2006, and three in 2005. However, upon cross-checking actual dates of participation of the respondents, we found that, in fact, four respondents completed the course in 2009, five in 2008, eleven in 2007, ten in 2006, and three in 2005.

Kirkpatrick's four levels model was used to guide analysis of the results.<sup>2</sup> Thirty-two (97 percent) of the respondents indicated they had or would recommend the program to their peers (Level 1, satisfaction), and thirty-one (94 percent) indicated that they were more likely to confer with peers about teaching issues after taking this course (Level 3, behavior change). Sixty-two percent of the twenty-five faculty members who indicated that they completed a final project in the course reported increased confidence in their presentation skills as a result of presenting the project (Level 3, behavior change).

**Table 1. Participants' ratings on survey conducted immediately after completing program (n=59)**

	Excellent	Very Good	Good	Fair	Did Not Complete
Format	59%	35%	4%	2%	
Homework	22%	42%	22%	4%	10%
Readings	33%	47%	12%	8%	
Overall	53%	39%	7%	1%	

**Table 2. Participants' ratings of individual sessions (n=59)**

Session	Excellent	Very Good	Good	Fair	Did Not Attend
Project Millennials	55%	34%	11%		
Learning Theory	46%	42%	9%	3%	
Setting Expectations	50%	35%	9%	5%	1%
Effective Feedback	58%	34%	7%	1%	
Final Project (n=42)	62%	26%	10%	2%	

To ascertain changes at Kirkpatrick's Level 4 or "results," respondents were asked about their final projects and about their academic careers since program completion. Notably, almost 80 percent had increased their responsibilities at the college; 52 percent had increased their teaching hours; and nearly 50 percent had presented an abstract or poster at a professional meeting. In addition, 41 percent (n=27 because six respondents were full-time at time of program completion) had been promoted to a full-time position, and 33 percent had taken additional teaching skills courses since completing the program (Table 3). Thirty-five percent of those who presented final projects had used the project as a springboard for other presentations and/or further study.

Because faculty retention is a continuing and growing concern for dental education, retention rates or percentage of the participants still teaching at the college were studied. Faculty retention rates are considered Level 4 on Kirkpatrick's hierarchy.<sup>18</sup> Of the fifty-nine faculty members who successfully completed the program, forty-eight remain, producing an overall retention rate of 81 percent. This retention rate compares very favorably with an American Dental Education Association survey that found 8 to 11 percent of dental faculty members leave academia each year.<sup>19</sup> In the 2005 cohort, six of seven faculty members remain (85 percent); in the 2006 cohort, thirteen of fourteen (92 percent); in the 2007 cohort, twelve of fifteen (80 percent); in the 2008 cohort, eleven of sixteen (69 percent); and all seven from the 2009 cohort are still teaching at the college (100 percent).

## Discussion

Faculty development programs for dental educators have frequently been evaluated based on the participants' satisfaction with the learning experience, including reporting the results of a post-program evaluation that closely followed the program's conclusion.<sup>1</sup> In an attempt to provide an assessment of outcomes beyond the year of the intervention, participants in our study were surveyed both directly after completion of the Excellence in Clinical Teaching Program and, again, two to six years later in order to ascertain any long-term effects. Immediately following program completion, the vast majority of the participants gave excellent or very good ratings to the overall program, the format, and the individual

**Table 3. Participants' indication of professional accomplishments reported in follow-up survey (n=33)**

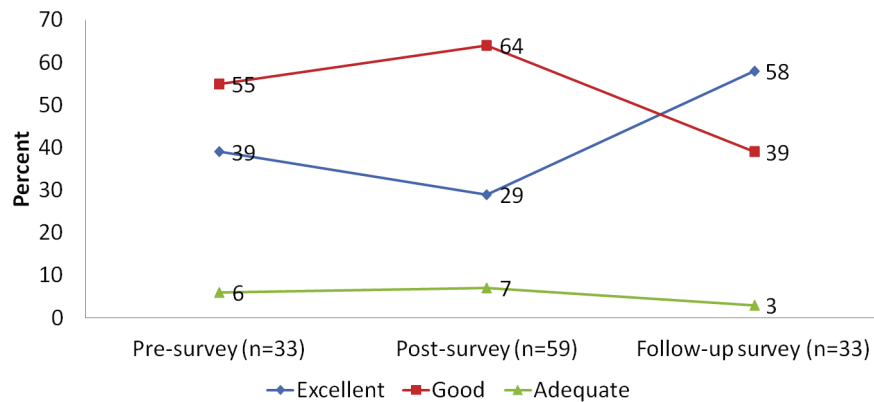
	Percentage	
Increased teaching hours	52%	6% Unsure
Increased responsibilities	79%	
Promoted to full-time position	41%	
Promoted to higher rank	12%	
Presented poster/abstract	48%	
Publication	36%	
Took additional teaching skill courses	33%	
Attended an ADEA meeting	21%	
Received a teaching award	18%	

sessions. Indeed, 95 percent indicated that they would recommend the program to their peers.

In the pre-program survey, participants ranked their teaching abilities higher than immediately after program completion. For example, 39 percent of participants ranked their clinical teaching ability as excellent before participation. After the program, this number dropped to 29 percent. This effect, known as response shift bias, is frequently noted in faculty development research. Participants may become aware of their limitations during training and recalibrate their self-assessments accordingly.<sup>20</sup> The 2011 follow-up survey saw increased ratings of teaching skills, which may be attributed to two to six years of additional teaching experience (Figure 1).

In the follow-up survey, all but one of the respondents indicated that they had or would recommend the program to their colleagues. Thirty-one of the thirty-three respondents indicated that they were more likely to confer with peers about teaching issues because of the program. Peer relationships help transfer best practices, as colleagues consult with one another and solve problems related to professional and career issues.<sup>16</sup>

The completion of a final educational project and the presentation of that project in a mutually supportive setting led to increased confidence in presentation skills for most participants and, in several instances, an academic product. As Steinert et al. recommended,<sup>1</sup> this study also asked about participants' academic career progression. A greater commitment to academia was evidenced by the reporting of increased teaching hours, responsibilities, promotions, and scholarly activity among respondents. Furthermore, the retention rate of participants exceeds national averages for dental faculty.<sup>19</sup> Even



**Figure 1. Participants' self-assessment of their teaching ability**

though the main objective of the program was to enhance teaching skills, program participation appears to be associated with positive effects on several aspects of participants' careers. Steinert et al. also recommended a re-examination of voluntary participation in faculty development programming due to the overall favorable outcomes of such programs on participants and their institutions.<sup>1</sup> They argued that efforts to promote teaching effectiveness may not be met until all faculty are required to participate in faculty development programs. Indeed, perhaps the faculty who are least likely to participate in faculty development would derive the most benefit.

This study has certain limitations. Faculty members volunteered for this program, so the possibility of selection bias exists. Without a control group, it is difficult to ascertain if the participants' academic career progression would have been comparable without participation. We also relied on self-report data for career achievements.

## Conclusion

The Excellence in Clinical Teaching Program was viewed positively by participants initially and from two to six years after their completion of the program. Although the program was primarily designed to improve clinical teaching skills, the nature of the activities—small-group discussions and the presentation of an educational project—led to an increased likelihood that participants would confer with peers on teaching issues and report greater confidence

in their presentation skills. In some instances, the project led to an academic publication or presentation. Moreover, program participation was associated with higher faculty retention than national averages.

The focus of faculty development programs should be expanded beyond the improvement of faculty teaching skills into a platform that encourages important career relationships and the creation of academic projects. Workshops designed to encourage and prepare clinical faculty members to conduct research and write for publication are strongly recommended. Long-term outcomes such as presentations, publications, and promotions can serve as reasonable evaluations for these programs. Future studies should employ comparison groups and document institutional changes that may result due to participation in faculty development opportunities.

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# APPENDIX

## Excellence in Clinical Teaching Program Fall 2011 Program

### Program Facilitator:

Maureen McAndrew, D.D.S., M.S.Ed., 212-998-9333, mm154@nyu.edu

### Program Overview:

This rigorous program is intended to provide you with the knowledge and skills to enhance your clinical teaching performance. Your training will focus on a breadth of topics from student development and learning theory to providing effective feedback and engaging your students in deeper learning. The program is comprised of five interactive small-group sessions with readings and reflection exercises. In addition, each participant will present a final project on an educational topic of interest. Suggested topics include curricular innovations, surveys of students or faculty, best teaching practices, etc. In recognition of your hard work and effort, graduates of the program will receive a distinctive lapel pin, which we hope you will wear proudly. The five-session program is scheduled from 4:15 to 5:45 pm on Wednesdays and is conducted in a small-group interactive setting.

**Reference:** Ramani S, Leinster S. AMEE guide no. 34: teaching in the clinical environment. *Medical Teacher* 2008;30:347-64.

### Session 1, October 12, 2011: Adult Learning Theory (Room 609)

Reading: Lang JM. Becoming a learner again. *Chronicle of Higher Education*, April 20, 2005.

Reflection exercise (due October 26, 2011): Recall a procedure or concept with which you had difficulty as a dental student, determine the faulty reasoning behind this error/misconception, and reflect on ways to get students to understand the reality.

Reading (due before class on October 26, 2011): Sandars J, Morrison C. What is the net generation? The challenge for future medical education. *Med Teach* 2007;29:85-8.

### Session 2, October 26, 2011: Introduction to Generational Theory (Room 609)

Reflection (due November 9, 2011): Based on the characteristics of millennial students, identify one or two examples you have observed that support this theory and discuss how these observations differ from your own generational characteristics. Choose one observation, and illustrate how this difference in generational viewpoint could create a problem on the clinic floor.

Reading (due before class on November 9, 2011): Irby DM, Bowen JL. Time efficient strategies for learning and performance. *Clin Teacher* 2004;1(1):23-8.

### Session 3, November 9, 2011: Expectations and Treatment of Students (Room 609)

Reflection (due November 30, 2011): Identify and write-up three examples of faculty not supporting students in the clinic.

Reading (due before class on November 30, 2011): NYU Macy Initiative Handout on Health Communication; guidelines for giving feedback.

### Session 4, November 30, 2011: Providing Effective Feedback (Room 4S)

Reflection (due before class on December 14, 2011): Practice using feedback techniques, and write a short reflection on your experiences.

### December 14, 2011: Program Wrap-Up and Final Project Presentations (Room 4S)

*Program expectations:* All participants are asked to come to each session having read the materials and prepared to engage in a lively discussion. Participants must attend at least four of the five sessions as well as submit all of the writing assignments and complete the final project in order to be awarded a program certificate and pin.