The Role of Organizational Context in the Creation and Sustainability of Dental Faculty Development Initiatives

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Abstract: Dental faculty development programs exist for a variety of reasons: to improve teaching skills, develop and reinforce relationships among colleagues and mentors, foster career development, and support curricular initiatives and institutional priorities. These activities impact individual faculty members as well as the institutions in which they work. Each institution has a distinct culture that should be acknowledged and understood alongside conventional outcome measures. As such, this article provides an expanded view of faculty development programming, associated educational activities, and related organizational changes at the College of Dentistry, New York University (NYU) since 2005. Contextual factors include the existence of an Office of Professional Development established in 1999, an Academy of Distinguished Educators founded in 2010, and other programs for present and future educators that support the college's educational mission. Outcomes include a comparison study of one program, the creation of new courses, the sustainability and expansion of existing programs, participants' retention rate, and an increase in awards and other educational accomplishments such as publication of abstracts, oral presentations, and related activities by NYU faculty at national forums in dental education.

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Faculty development is instrumental to the academic success of individual faculty members as well as their host institutions.[1,2] The Commission on Dental Accreditation (CODA) standard 3.2 requires that dental schools provide faculty development activities because they "maintain the vitality of academic dentistry as the wellspring of a learned profession."[3] Faculty development offerings include helping faculty members develop skill sets in the following domains: teaching, educational research and scholarship, mentoring, learning theories, presentation skills, leadership, emerging technologies, curriculum design and evaluation, and academic career advancement.[4-8]

The focus of this article is to describe the implementation of faculty development opportunities at New York University (NYU) College of Dentistry since 2005. Necessary context is provided to better explain the creation, sustainability, and evaluation of these initiatives. More specifically, this study sought to extend the traditional faculty development research methodology beyond a focus on individual faculty participants to include relevant contextual factors distinct to this one school.

Vibrant offices devoted to professional development emanate from cultures that support the teaching mission in pursuit of academic excellence.[9] In particular, they encourage "communities of practice" in which participants learn with and from each other in their own environment sharing a common knowledge base, history, values, and experiences.[10,11] Conducting faculty development activities in the workplace as opposed to off-site, as is frequently the case, is strongly advised because programs can be tailored to a particular organization's needs, structure, and culture, thus creating knowledge that is "situated."[10] Indeed, this knowledge is a product of the activity, context, and culture in which it is developed and used.[10-13] O'Sullivan and Irby suggested that professional development should be

integrated into the workplace to make professional development more relevant and applicable to the particular environment in which faculty members find themselves.[14] Furthermore, if the professional role of the dental educator is to be developed and fully actualized, they argued, faculty development must be embedded into an organization's very fabric and culture. Such participation can lead to direct and indirect stimulation of innovations and achievements in the organization wherein the participants work, ultimately transforming the institution itself.

In 2006, Steinert et al. conducted a systematic review of medical faculty development initiatives.[6] They studied the effects of development interventions on the knowledge, skills, and attitudes of faculty members and on the institutions where they work. Faculty development programs have usually been evaluated by questionnaires distributed soon after program completion in order to gauge participants' satisfaction with the quality and usefulness of the program.[6,15] Other methods include assessments of learning, behavioral, and attitudinal changes; however, these are often participants' self-reported assessments. More rigorous methodologies like long-term follow-up studies and those with control or comparison groups are seldom performed to research faculty development in the health professions,[6,16,17] especially in dental education. Steinert et al. also contended that researchers should examine the contextual factors that impact the success of faculty development programs, arguing that the effects of such programs should be studied in tandem with organizational outcomes and priorities.[6]

In 2011, O'Sullivan and Irby reported that program impacts at levels beyond the participants themselves—that is, the effects on students, their patients, and their institution—are rarely studied because these effects are often attenuated and cannot be directly ascribed to a single educational intervention for faculty.[14] Moreover, the existence of confounding and interacting variables, like self-selection bias, loss of subjects, historical events, or maturation,[18] in such a linear research model makes it difficult to draw direct conclusions.[14] Therefore, O'Sullivan and Irby proposed that, for researchers to better understand the effects of faculty development interventions, appreciation of the complexity and interaction of these variables, both personal and organizational, is required.[14] This expanded and more cyclical model looks at the interactions among two or more of faculty development's primary components: facilitator, participants, context, and program (Figure 1). Therefore, they recommended research into outcomes directed at two communities of practice: one created by participants in faculty development programs, and the other in the workplace community itself. The workplace community's components include relationships and networks in that environment, the organization and culture of the setting, types of teaching activities, and the mentoring available to members of that community.

Faculty development activities in the workplace are framed by and unique to an institution's culture; yet limited attention has been given to the interplay of contextual factors that affect the success of faculty development on the institutional level. In fact, evidence of the extent of organizational development as a result of or as factors contributing to faculty development is rare.[19] Therefore, the overarching research question that guided our inquiry was the following: How do both individual participants and the organization change by engaging in and supporting professional development programming? In the first section of the article, the activity of the participants in NYU's Excellence in Clinical Teaching certificate program (retention rate, promotions, presentations, etc.) since 2005 is compared to a comparison group of nonparticipants. The second section describes and documents the growth of other professional development initiatives to support teaching primarily for faculty but also for students and residents engaged in teaching at NYU since 2005. We summarize the features of these professional development programs, discussing their sustainability as well as the organizational milieu.

Methods

This retrospective study received approval from NYU's Institutional Review Board as exempted research (HS# 11-8516). The multi-session faculty development programs, known as Excellence in Clinical Teaching and the Class ACTS (Advanced Clinical Teaching Scholars), were developed to improve teaching skills. Those programs have been extensively researched with multiple measures that included participant satisfaction surveys, pre- and posttests of knowledge and behavior, objective structured teaching exams, and a long-term follow-up study.[20-23]

To supplement that research, we conducted a small comparison study of a group of participants in the Excellence in Clinical Teaching program versus a group of nonparticipants. Subjects were
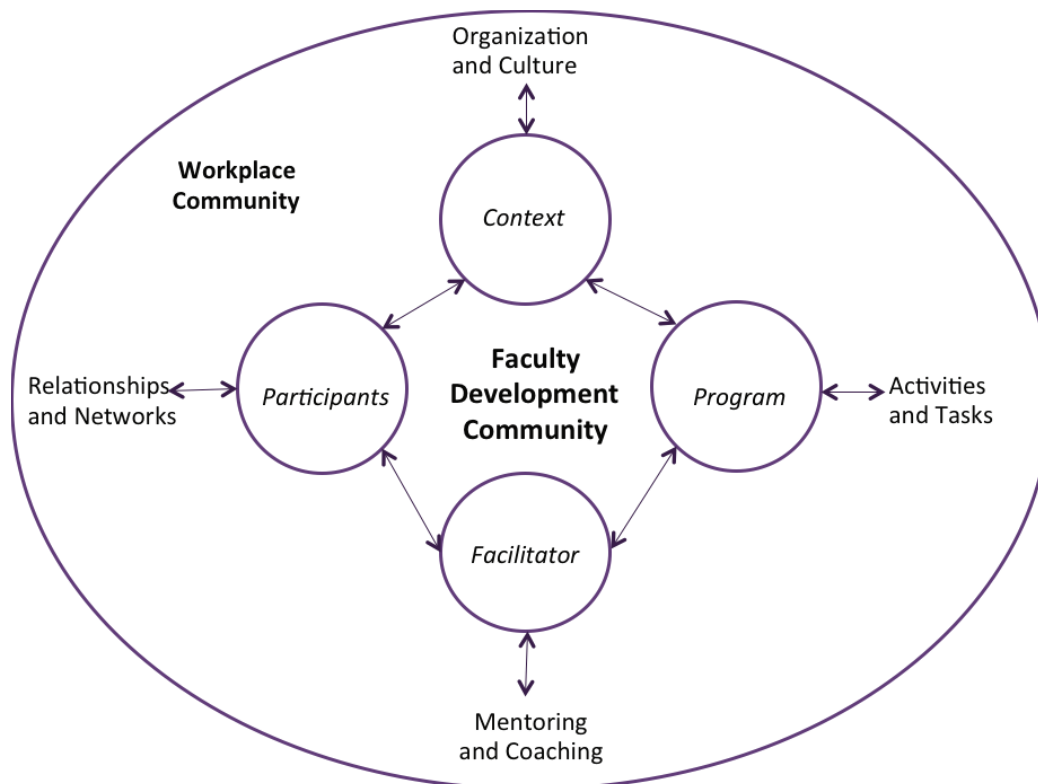
Figure 1. The faculty development community: a new model for research on faculty development

Source: Adapted with permission from O'Sullivan PS, Irby DM. Reframing research on faculty development. Acad Med 2011;86(4):421-8.

recruited for this study by asking participants of the Excellence in Clinical Teaching program who were hired between 2005 and 2009 as part-time faculty members to complete a short survey listing their academic accomplishments. A group of part-time faculty members hired during the same time frame but who were not eligible to participate were recruited as a comparison group.

In addition, we sought to identify various organizational and contextual factors that may have impacted the creation, sustainability, and growth of NYU's faculty development programs. The methods were informed by O'Sullivan and Irby's conceptual framework that calls for an expanded model that moves beyond analyses of individual participants to one that accounts for the powerful influences of the workplace environment on faculty development.[14] Context relates to the organization and culture of the workplace setting. This examination of the broader network of school-wide activities supporting the teaching mission at NYU includes programs and

resources dedicated to academic career development, faculty retention, promotion and dissemination of educational research, and encouragement of future generations to become faculty members.

In order to reframe faculty development research by placing it in its proper context, institutional metrics are provided that track participation by NYU faculty in educational activities at NYU and in national dental educational activities since 2005. Steinert et al. stated that outcomes such as the scholarly activity of participants in faculty development programs can serve as reasonable evaluations for these programs.[6] Therefore, we attempt to chronicle NYU's faculty development program participants' involvement in American Dental Education Association (ADEA) activities from 2005 to 2012 as well as the growth in NYU's overall involvement with ADEA. ADEA-related activities were chosen as a metric because ADEA represents academic dentistry in North America with activities spanning research, advocacy, professional development, meetings, ad-

missions, communications, and scholarship including the peer-reviewed *Journal of Dental Education.*

The institutional data were obtained from internal archival sources such as self-study documents for accreditation purposes, annual reports of the Faculty Staff Development Commission, NYU Department of Human Resources reports, and *Global Health Nexus*, NYU's biannual publication. Additional information was obtained by searching ADEA Annual Session programs and the adea.org website for award winners and the archives of the Council of Sections.

The Context

NYU's College of Dentistry is the nation's largest and most diverse dental school with over 1,900 students from the United States and over 40 countries. The college offers professional instruction to predoctoral, postdoctoral, and dental hygiene students. Located in the heart of New York City, the college's dental clinic provides care for over 300,000 patients every year.[24] Instruction is designed and implemented by a total of 262 (33%) full- and 531 (67%) part-time faculty members. One-third of the full-time faculty members are tenured or on the tenure track.[25] (See Table 1 for demographic details.)

The NYU Office of Professional Development (OPD) was created in 1999 and provides learning and development resources for faculty and staff. The office has two full-time staff members: a senior director of professional development (a dentist with an advanced degree in education) who creates, conducts, and evaluates much of the teaching skills programming and an administrative director who coordinates scheduling and other logistical issues. The 2014-15 operating budget was roughly $270,000, exclusive of salaries.

On average, over 100 distinct programs are offered by the OPD to faculty and staff every year.[26] These include programming on various clinical and educational topics, leadership, technological skills, multi-session certificate programs in teaching skills and evidence-based practice, and other special interest programs, such as retirement planning. The office's activities are informed by best practices in professional development adhering to adult learning principles that include experiential learning, multiple instructional methods, opportunities for reflection, and interactions with students and peers.[6] The OPD conducts ongoing needs assessments, program design and delivery, and outcome evaluations to help ensure quality programming.[20-23] Seminars and courses are led by internal and external dental professionals, educators, and consultants in a number of fields and are scheduled so as not to conflict with faculty teaching commitments. For the most part, programs are open to all faculty members. However, programs with limited enrollments are offered on a first-come, first-served basis; in a few cases such as those geared to standardizations for specialty faculty, programs are by invitation only.

Results

Programs to Augment Teaching Skills

Single sessions on varied educational topics such as critical thinking, syllabus development, games for learning, clinical standardizations, academic publishing, and career development are offered on a weekly basis. The following multi-session programs are available for interested full- and part-time faculty members with the intent not

Table 1. Demographics of faculty members at New York University College of Dentistry, by number in 2014

Faculty Category	Total in Category	Male	Female	White	Asian	Black	Hispanic	American Indian/ Alaska Native	Native Hawaiian or Other Pacific Islander	Not Captured
Tenured	68	49	19	58	9	0	1	0	0	0
Tenure-track	19	6	13	11	5	0	3	0	0	0
Full-time contract	151	88	63	118	23	4	4	1	0	1
Administrative full-time	24	18	6	21	3	0	0	0	0	0
Part-time clinical	531	361	170	411	76	24	20	0	0	0
Total	793	522	271	619	116	28	28	1	0	1

only to improve teaching but also to create peer networks and to promote cooperative interactions among colleagues.

Excellence in Clinical Teaching program. This five-session program conducted in a small-group setting was initiated in 2005. As of 2013, 101 faculty members have completed the program. Session topics include generational issues, adult learning theory, setting expectations, and giving effective feedback. Although the program was designed to improve clinical teaching skills primarily, the addition of an educational project requirement in 2006 broadened the program's scope to encourage academic pursuits and to help advance academic careers.

In a 2011 follow-up study, 48 participants who completed the program between 2005 and 2009 and were still active on the faculty were asked about their career development, peer relationships, and scholarly activities and to self-assess their teaching skills.[22] Respondents reported that they were more likely to confer with peers about teaching issues than before the program, and all had recommended or would recommend the program to their peers. Of the 59 program graduates at that point, 48 remained active faculty members, yielding an overall retention rate of 81% over the two to six years of follow-up; this percentage is considerably better than national averages that indicate 8-11% of dental faculty members leave academia each year.[22] The 11 faculty members in this group who no longer taught at the college had retired, moved, died, or left due to increased private practice and personal commitments.[25] To the best of our knowledge, none held academic positions in other dental schools.

In order to conduct a comparison study of this program, the academic accomplishments of those participants hired between 2005 and 2009 as part-time faculty members (n=15) were compared to a group of part-time faculty members hired in the same time frame who did not participate in the program. Prior to 2009, participation was limited to Department of Cariology and Comprehensive Care faculty because it is the largest department with most of its faculty members teaching predoctoral students. For the comparison group, 124 faculty members from the school's other departments were invited to complete a survey similar to that used with the program participant group; 25 members of this comparison group responded, for a response rate of 20%. These respondents were from specialty departments, dental hygiene, generalists in the Department of Oral and Maxillofacial Pathology, Radiology, and Medicine,

and generalists who teach postgraduates or in continuing education programs.

All members of the participant group of 15 participated in the survey (100% response rate). In this group, 73% (n=11) reported expanding their teaching responsibilities either by increasing their time commitment or by assuming leadership roles since their date of hire compared to 60% (n=15) of the comparison group. Differences between the two groups in the number of publications, teaching awards, and self-assessed teaching skills were not significant. The most striking finding was the number of promotions to full-time positions in the participant group (seven out of 15) versus none in the comparison group of 25. While these results provide an interesting juxtaposition of the two groups, the fact that these were not paired and matched groups, taken together with the small sample sizes and low response rate in the comparison group, limit our ability to draw any clear conclusions in this regard. However, they do indicate the potential for future study using this approach in greater numbers and more closely matched sets.

Class ACTS (Advanced Clinical Teaching Scholars). This program was created in 2009 to build on the success of the other program and to respond to an institutional directive regarding the improvement of teaching. Moreover, "booster" sessions are frequently requested by faculty members who have completed teaching skills programming.[16] Development of the Class ACTS program was informed by a needs assessment of eligible faculty, thereby expanding the focus beyond clinical teaching to include such requested skills as small-group facilitation and conflict resolution. As of 2013, 60 participants had completed the four-session program, which also covered instruction in interactive lecturing, how to ease the transition to the clinic, and peer teaching. The Class ACTS program has been studied extensively using evidence from multiple sources: pre- and post-tests of pedagogical knowledge, objective structured teaching exams, self-assessments of teaching ability, and satisfaction surveys.[21,23]

Academy of Distinguished Educators. In 2010, at the behest of Dean Charles N. Bertolami, who was ADEA president in 2008, an NYU Academy of Distinguished Educators was founded. Its mission is to recognize excellent teachers, to promote teaching as a scholarly activity, and to function as a "teaching commons." The academy encourages its members to engage in educational innovation and risk-taking, expands mentoring opportunities,

facilitates development of teaching portfolios, fosters curricular reforms, and supports additional development activities and events. As of 2013, 19 members have been inducted. The academy sponsors an annual showcase for faculty members who present clinical cases and educational projects, often in collaboration with students. There is a monthly journal club, a peer mentoring program, a speaker series that hosts thought leaders from a range of educational disciplines, and an online *Journal of the Academy of Distinguished Educators* (JADE). In addition, the academy sponsors educational research workshops and provides funds for educational research projects.[27] The Office of Professional Development provides the infrastructure and the financing for most academy initiatives. Ten of the 19 inductees of the academy have completed the Excellence in Clinical Teaching and/or the Class ACTS certificate programs. (Five of the inductees are not clinical teachers.)

Other Recent Multi-Session Initiatives

A two-session Basic Science Seminar Series was initiated in 2013 on interactive lecturing and presentation skills for 22 basic science faculty members. In addition, Welcome Week was created in 2013 to introduce all new faculty members to educational terminology, emerging technologies for teaching, academy initiatives, the DDS curriculum, and an overview of NYUCD's administrative structure and school policies. An average of 26 faculty members has attended each session. In all, 129 faculty members have voluntarily participated in Welcome Week. The NYUCD Leadership series was created in spring 2014. Eight alumni of the ADEA Leadership Institute[28] have given seminars to the NYU community on lessons learned from the program and other pertinent leadership topics. These alumni have presented to groups of faculty and staff as large as 75.

Since its inception, the Office of Professional Development has awarded travel grants to faculty and staff on a competitive basis to support presentations at professional meetings. Starting in 2012, successful grantees were required to present to their peers prior to the professional meeting. The purpose of this requirement is twofold: to enlighten the community and to ensure that the presenting faculty member receives peer feedback to improve the upcoming presentation. On average, 30 faculty members receive travel awards of approximately $1,000 each year.

Promotion Process and Scholarship of Teaching and Learning

There is increased emphasis on educational accomplishments in the promotion process for all faculty members at NYUCD. Clinical faculty members with substantial teaching commitments and private practices that limit time spent on scholarship may be eligible for promotion, provided they can document teaching and related educational endeavors with a teaching portfolio. In addition, six years ago the recommended curriculum vitae template for NYUCD faculty was amended to include teaching, mentorship, and related activities such as course directorship and the development of educational materials. Since 2010, the Office of Professional Development has sponsored programs that review guidelines for promotion and tenure as well as workshops designed to guide the creation of teaching portfolios.

Faculty Council teaching awards were initiated in 2010 to recognize six full- and part-time faculty members each year. Those who have taught at the college for at least three years are eligible to be nominated by their peers. Nominees are vetted by an internal committee and then voted on by the council's leadership board. Winners receive plaques, are invited to lunch with the dean, and attend a reception that honors their achievements.

Involvement in ADEA Activities

From 2005 to 2012, 32 faculty members (nearly 1/3 of the 101 Excellence in Clinical Teaching participants) presented at one or more meetings of the ADEA Annual Session & Exhibition. Of the 60 NYUCD faculty members who received Class ACTS program certificates, 30 (one-half) have presented at one or more ADEA Annual Session & Exhibitions from 2009 to 2012. NYUCD faculty members' oral presentations (seminars, lunch and learns, symposia, and faculty development workshops) at ADEA Annual Session & Exhibitions rose from two in 2005 to 19 in 2012 (Figure 2). Published abstracts (presented as posters and in the Tech Expo at these ADEA meetings) rose from eight in 2005 to 28 in 2012 (Figure 3).

The ADEA/Gies Education Fellowship was awarded to NYUCD faculty members in 2009 and 2011. The 2010 ADEA/Colgate-Palmolive Excellence in Teaching Award was won by an NYUCD faculty member. ADEA Presidential Citations were awarded to NYUCD faculty members in 2010, 2011,

and 2013. ADEA/AADR Gies Academic Dental Careers Fellowships were awarded to one NYUCD student in 2011 and two in 2012.[29]

The number of articles published in the *Journal of Dental Education* (JDE) and the *European Journal of Dental Education* in which the first or second author was from NYUCD increased from one in 2005 to nine in 2012 (Figure 4). One NYU faculty member served on the Editorial Review Board of the JDE from 2012 to 2015. MedEdPORTAL publications by NYU authors totaled seven by 11 authors from 2009 to 2013.[30]
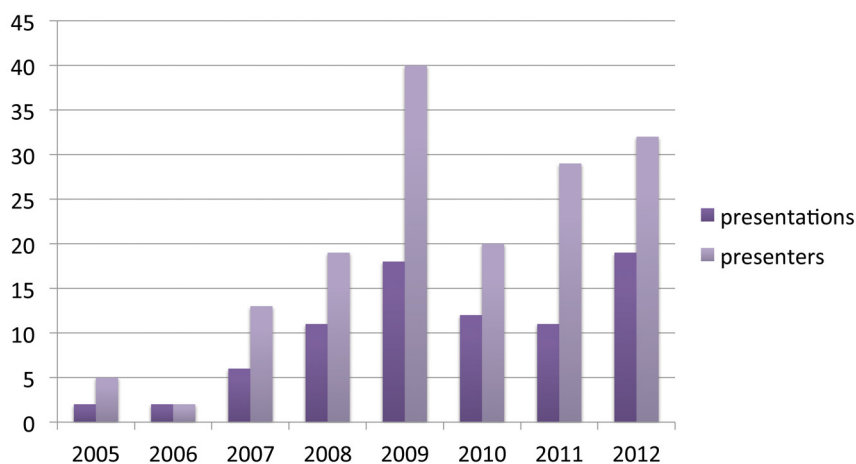

Figure 2. New York University College of Dentistry faculty members' oral presentations at ADEA Annual Session & Exhibitions, by number of presentations and presenters, 2005-12

Note: Oral presentations include faculty development workshops, lunch and learns, seminars, section programs, and symposia.
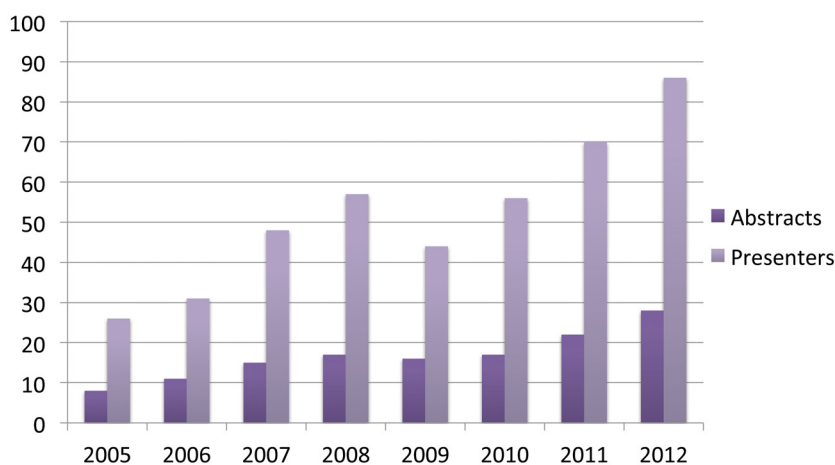

Figure 3. New York University College of Dentistry faculty members' published abstracts for ADEA Annual Session & Exhibitions, by number of abstracts and authors, 2005-12

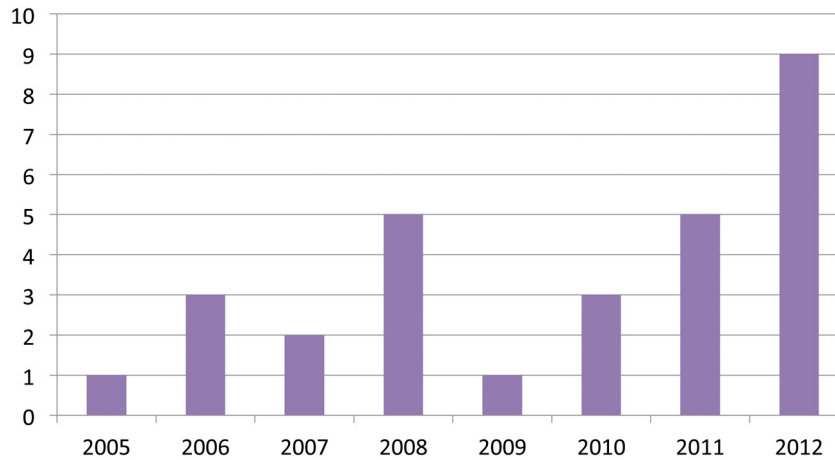*Note:* Abstracts include both posters and Tech Expo presentations.

Figure 4. New York University College of Dentistry faculty members' articles published in dental education journals, by number of articles, 2005-12

Note: Articles are those in which the first or second author was from the college; journals are the *Journal of Dental Education* and the *European Journal of Dental Education.*

In 2003, only two NYUCD faculty members served in leadership positions in the ADEA Council of Sections.[31] Since 2006, an average of nine NYUCD faculty members have or are presently serving as leaders (chair, chair-elect, or secretary) of individual ADEA Sections or on the Council of Sections Administrative Board each year.[32]

Programming for Residents, Fellows, and Students

Concurrent with the organizational emphasis on improving teaching among its faculty members, formal programs and other initiatives were put in place for residents and students. Implemented in the 2011-12 academic year, postgraduate orthodontic residents are given a choice of three tracks or concentrations: research, private practice, or education. Education track residents engage in weekly didactic and discussion sessions, and all complete a capstone educational research project. Over three years, 18 orthodontic residents have participated in the program.

Created in 2013, the Teaching in Dental Education (T.I.D.E.) fellowship program is a one-year full-time course of study designed to foster the career development of dental educators. The fellowship is geared to various skill sets that promote effective

dental teaching: didactic teaching in small- and large-group settings, simulation teaching, and one-to-one clinical teaching. Other topics to facilitate professional growth include curriculum development, evidence-based dentistry, research skills and publishing in academic journals, and teaching with the latest technologies. Ten fellows have successfully completed the program.[33]

The Selective in Teaching Skills Program was created in 2003 with 13 third-year students who provided instruction to first-year students in the simulation laboratory course on dental anatomy and operative dentistry. Currently, 40 students serve as teaching assistants in this selective. The Practicum in Clinical Teaching was created in 2009 with ten senior dental students serving as clinical teaching assistants to their third-year peers in the comprehensive care group practices under a faculty mentor's supervision. (All faculty mentors have completed both the Excellence in Clinical Teaching and the Class ACTS programs.) These teaching assistant programs require attendance at teaching skills seminars and presentation of an educational project. The application process for both programs has become increasingly competitive with fewer than half of all applicants accepted. Eight former teaching assistants currently hold or have held full- and part-time faculty appointments at NYU.

Discussion

Faculty development is necessary to improve the instructional competence of dental educators and to promote academic excellence. Steinert et al. argued for the need to increase the rigor of faculty development research, recommending long-term follow-up studies, the use of comparison or control groups, and diverse data sources.[6] They also advocated evaluating the context in which faculty development occurs to illuminate the complexity that embodies all but the most basic faculty development interventions.[6,16] O'Sullivan and Irby reframe research in faculty development by conceptualizing a model that considers the environment in which faculty work and learn.[14] This model focuses on the interactions between the faculty development community and the institution. Indeed, because an organization is impacted by professional development, this article has reviewed associated institutional changes dedicated to teaching and educational scholarship at the college since 2005. NYU has demonstrated a high level of commitment to its teaching mission as evidenced by the increased number of programs devoted to the enhancement of teaching for faculty and related programming for students, residents, and fellows who teach. These programs did not exist prior to 2005.

Evaluations of the two multi-session teaching programs—the Excellence in Clinical Teaching program (researched by a long-term follow-up study) and Class ACTS (studied with multiple measures)—have been published in dental education journals.[21-23] The retention rate of participating faculty in the Excellence in Clinical Teaching program exceeds national averages. Furthermore, as reported in this article, participants were more likely to be promoted to full-time positions than a comparison group of nonparticipants. One-third of the Excellence in Clinical Teaching program participants and one-half of the Class ACTS participants have presented at least once at an ADEA Annual Session & Exhibition since 2005. According to Jolly, a major effect of successful faculty development at the organizational level appears to be when a course is so well received by an organization and evaluated highly by participants that it becomes a permanent part of the institution's activities.[34] Indeed, in this analysis, the Excellence in Clinical Teaching program and its offspring, Class ACTS, by virtue of their longevity, appear to serve both individual and organizational needs. Ten members of the Academy of Distinguished Educators have completed at least one of these certificate programs. The rising involvement of NYU faculty in ADEA activities since 2005 is strong evidence of the institution's commitment to educational pursuits at the national level. The creation of teaching programs for students, residents, and fellows further underscores the institution's commitment to academic excellence and to recruiting the next generation of faculty members.

In this study of NYU faculty development programs, we attempted to depict the spectrum of activities devoted to the teaching mission that have not only impacted individual participants of these programs, but also the organization itself and extending to increased involvement at the national level in dental education. Limitations of this study include self-selection biases as both program participation and participation in the program evaluations were voluntary. We relied on self-reported information for some of the data. Future analyses could employ qualitative or mixed-method approaches to elicit richer data from participants in faculty development programming.

Conclusion

This study sought to integrate traditional faculty development research methodology concerned with individual faculty participants with an appreciation of the relevant contextual factors unique to the culture at NYU. Because contextual factors are complex and local, greater attention should be given to the role of context concomitant with research on specific faculty development programs. In fact, it is in the everyday workplace, where teachers conduct their clinical, research, and teaching activities—and where they interact with colleagues and students—that most learning takes place. Creating a culture that advances the professional development of its faculty requires sustained institutional leadership and support, sufficient financial and human resources, time, and proper planning. Faculty development programs need to be designed, supported, and promoted in ways that reflect organizational values and goals. Ideally, designers and facilitators of these programs should confer with institutional leadership before initiating a program in order to scope out desired outcomes, recognize key contextual issues, and enhance the ability of the targeted faculty to deal with these issues.

The organizational culture supports educational change through its imparted values, incentives for

teaching, and supportive leadership. The contextual landscape should be considered and incorporated into future research on dental faculty development if we wish to document realistic outcomes. An institution that embraces its teaching mission fosters a mutually supportive environment for faculty development. A universal culture of teaching and learning is needed to educate successful health care practitioners and to build capacity for the future.

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