

Faculty Perceptions of a Professional Development Seminar

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Abstract: A web-enhanced seminar was provided to address the pedagogical needs of professional faculty educators at a college of dentistry in a research-intensive university in fall 2006. In this qualitative report, the authors describe the participants' (n=12) perceptions and evaluation of the seminar. An evaluation of the seminar journals showed documented improvement in the participants' confidence and an enhanced awareness of their teaching practices. Six themes (new knowledge, planned change, awareness, changes made, current practice, and challenges to learning) ranging from 5.3 percent to 35.5 percent among four to twelve participants emerged across their learning journals. Participants also rated the course 4.9 on a five-point scale in helping them understand a variety of teaching modalities other than lecture and the sole use of multiple-choice tests as insufficient. When we invest resources in our faculty, progress is made towards ensuring quality teaching, as well as increased understanding and enhanced communication in the teaching and learning environment. This recursive process not only influences the faculty and those they teach but the patients they care for as well.

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Dental faculty must play an ever-increasing number of roles: teacher, scholar/researcher, mentor, discipline leader, curriculum developer, information manager, committee member, and clinician (practitioner). Other than the delivery of clinical oral health care, dental education training programs¹ provide little opportunity for the development of these skills. The faculty is the dental school's most important core resource. Faculty members must be nurtured, mentored, and provided opportunities to advance their teaching to its fullest potential.^{2,3} As the roles and required competencies of dental educators and scholars have increased, the need for relevant professional and faculty development has expanded.^{4,5} Based on a survey of 280 new dental educators, Shepherd et al. reported that "positive department working environment" and "opportunity for professional development" were ranked as the two highest reasons for remaining in dental education.⁶ Thus, faculty development for academic dental schools is vital in supporting institutional missions.

A 1999 American Association of Dental Schools (AADS; now the American Dental Education Association, ADEA) President's Task Force recommended that dental education create programmatic activities that are most likely to improve faculty

performance and contribute to job satisfaction.⁷ Dalrymple et al. argued that developing problem-based learning (PBL) core skills through faculty development efforts is essential.⁸ O'Neill and Taylor,² as well as Steinert et al.,⁹ found that faculty development activities have become a valued resource for the faculty. But programs committed exclusively to improving teaching and learning remain few.

The six-week faculty development seminar described in this article was designed to support new faculty members, many of whom were new to this country, in their teaching role. The seminar was also designed to support the instructional mission of the college: creating active learning opportunities for students and enhancing faculty members' repertoire of teaching skills. The question that guided this study was the following: how would the faculty development seminar influence the participants' skills and understanding of instruction?

"Not having a lot of experience teaching was my biggest challenge in accepting this job as an assistant professor in the Department of Pediatric Dentistry," reported one of the participants in this study. This comment seems to confirm what has already been reported: that dental educators typically do not teach from a knowledge base of educational

training and/or evidence-based teaching practices.¹⁰ Yet it is recognized that the ways in which faculty have been taught significantly influence how they teach.¹¹ While some individual faculty can learn enough teaching skills over time to utilize sound educational practices, others benefit from professional development activities. Dental and other health educators are beginning to understand the importance of enabling professors to make informed and pedagogically bounded decisions.¹⁰

The Seminar

To address the teaching needs of the dental educator, the first and second authors designed this seminar to make participants more conscious of their beliefs and attitudes about teaching and learning. The objectives of the curriculum were to provide participants with specific skills, knowledge, and strategies by using experiences that asked them to a) document and compare their entry to exit beliefs about instructional practices; b) identify how they assessed student learning during instruction; c) write assessments that were consistent with desired student outcomes; d) design learning experiences that would promote critical thinking skills (CT); and e) suggest alternate ways of presenting content that would reach all types of learners while being mindful of the institutional and extra-institutional factors that impact the work of professional educators.¹² The content of the seminar

included teaching why curriculum is important to teaching; the relationship between curriculum and instruction; strategies for writing curriculum and assessment; ways to promote critical thinking skills; how to teach to learning styles types; and how to use models of teaching¹³ to achieve desired outcomes. Following each session, participants were asked to respond to the seminar director's prompts in a learning journal. Prompts for each session are shown in Table 1. The postseminar evaluation provided another source of data.

Learning journals offered a medium for recording personal thoughts and experiences related to seminar readings, discussion, and activities. They were used as the primary means to assess the changes participants experienced during this faculty development process.^{14,15} Instructors have used journals, also referred to as student journals, for decades.¹⁶ Research has shown that journals can provide valuable feedback to students by showing them their growth in knowledge and changes in attitude over the course of a term.¹⁷⁻¹⁹ Learning journals can provide powerful forms of feedback for students; they can also inform instructors about what kind of student learning and thinking is taking place. Research has shown that thinking about, talking about, or simply reading about new knowledge is insufficient to evoke change.¹⁷ As Varner and Peck have shown, learning requires reflective integration of new knowledge with practice.¹⁶

Table 1. Prompts for learning journals

Session #	Prompts
1	<ul style="list-style-type: none"> • How you believe you teach. • Identify the type of teaching you provide to students. • Identify the type of learning experiences you provide. • Describe the kind of assessments you use.
2	<ul style="list-style-type: none"> • Write a two- to three-page reflective paper that describes the relationship between how you teach and how you learn. • Describe how you will use your knowledge of learning styles during instruction.
3	<ul style="list-style-type: none"> • Describe how you will take OT and change it to a CT activity. • Write a two- to three-page reflective paper explaining how to promote CT skills during instruction or what you will do to promote CT skills.
4	<ul style="list-style-type: none"> • Write a two- to three-page reflective paper describing the type of assessments that you use. • Identify one new type of assessment that you will try this semester. • Also characterize the alignment among your course objectives, learning experiences, and assessments.
5	<ul style="list-style-type: none"> • Submit a revised course syllabus using what you have learned in this course. • Describe what components of the syllabus you have changed.
6	<ul style="list-style-type: none"> • Learning journal: where do you go from here? Create an action plan indicating approximately three changes you will make in your teaching that are a result of having taken this course.

The learning journals required participants to engage in critical thinking and reflection about the applicability of seminar content to their teaching practice. While learning journals have been used widely across disciplines, including statistics, nursing, and literature, they all share a common feature: writing about how course content relates to personal experiences, in this case, the teaching experiences provided by the professor.¹⁶ The prompts for the learning journals were structured with the intent of increasing participants' self-awareness about how they currently teach and how seminar content might be applied to their instructional practices. The learning journals also provided the first author, the seminar director, with valuable insight about the participants' experiences. The journals provided a keen sense of what the participants were able to understand or not and helped her critically assess her own teaching effectiveness.²⁰ Although the learning journals were not graded, the instructor provided detailed feedback. To receive a certificate for completing the seminar, participants were required to complete the learning journals. To ensure that journal writing was productive and not too time-consuming, only two to three written pages were required for each entry.

Method

Twelve faculty on tenure-accruing or clinical tracks at a research-intensive university's college of dentistry located in the Southeast participated in this study. From the dental school, there were two participants each from the Departments of Community Dentistry and Behavioral Sciences, Endodontics, Pediatric Dentistry, and Operative Dentistry. One faculty member each was from the Departments of Dental Biomaterials, Periodontology, and Oral Surgery. Additionally, a clinical associate professor from the Department of Physical Therapy in the College of Public Health and Health Professions was a participant. The sample was comprised of eight females and four males; 10 whites and two African Americans; three Americans, three Brazilians, and one individual each from Australia, Asia, England, India, Italy, and Sweden. Signed letters of informed consent were obtained from the participants during the first session of the seminar (UFIRB # 2006-U-791).

The participants met two hours per week for six consecutive weeks. All sessions were videotaped, and each participant attended at least five of the six sessions. A professor from the university's College of

Education taught the seminar. She is an experienced qualitative researcher who has extensive experience working with professional education faculty and has conducted research in the clinical and classroom dental school learning environments.

Research Framework

Lincoln and Guba's model for trustworthiness was used to enhance the validity of the study.²¹ Four criteria for promoting trustworthiness, an essential component in qualitative research, were applied; those criteria were credibility, confirmability, dependability, and transferability. To ensure the integrity of the data, qualitative researchers also attempt to ensure that the data are representative of the participants' voices.²² In this study, learning journals were the primary method of enhancing trustworthiness. Credibility was established by using three researchers to code the data. This process helped to ensure that reconstructed meanings represented the intentions of the participants.²³ To assess confirmability, the data were first coded by a graduate student in education with two years of qualitative research methods and experience using NVivo (a qualitative coding software program) who was not directly involved in the development and implementation of the seminar and could thus provide another perspective.²² Next, the first and second authors coded the data independently. There was a high degree of similarity between the first and second authors' coding. Subsequently, the three authors met to determine the similarities or differences between their identification of themes.

"Inquiry audit" was used to enhance the dependability of the study. The first and second authors debriefed each other after each session to determine the fidelity of the written and the taught curricula. During this process, the researchers examined both the process and the product of the research for consistency. They observed that the seminar director taught the written curriculum that was planned for each session. Triangulation of data was accomplished by using multiple sets of learning journals, peer debriefing meetings, and multiple raters.²³ The transferability of findings in qualitative research is dependent upon the degree of similarity between the original situation and the situation to which it is transferred. Extrapolation of the findings requires speculation "on the likely applicability of findings to other situations under similar, but not identical conditions."²³ The transferability of this study is limited to the context in which the study was performed.

The data in this study consisted of six reflective journal entries (seventy-two entries in total). Using a constructivist framework and the prompts,²⁴ the seminar director asked participants to consider how a specified concept could be used while they provided instruction. Others have conducted similar seminars using this constructivist framework.²⁴ Following the completion of the seminar, the participants' names were removed and replaced by pseudonyms prior to analyzing the data. The journals were then compiled and organized by journal entry for each of the twelve participants. The documents were imported into QSR International's NVivo 7 software on an encrypted laptop.

Data Analysis

The third author read each of the journals in their entirety to get an initial sense of the dataset. After reading all of the journals, he began the process of open coding. Open coding is appropriate for analyzing qualitative data as it represents an attempt to look at emerging themes while buffering them from predetermined assumptions.²⁵ The open coding resulted in 205 free (open) nodes.

Next, the third author searched for connections among the open codes and grouped into them tree nodes according to the research question. This process resulted in eighteen tree nodes that semantically related back to the data. Tree nodes resulted in "categories of meaning . . . that represented the data."²⁴ Using the tree nodes, he looked for cross coding (where one chunk of text might be coded multiple ways) and a richer understanding of the connections between and among the participants.

To ensure the validity of the NVivo analysis, the first and second authors also coded the data independently by hand using open coding. Their open coding resulted in 225 free nodes and twelve tree nodes. As the three authors met, their findings

coalesced and resulted in the identification of six themes. Conceptual definitions were developed to support the tree nodes (see Table 2).

Results

The dataset revealed six themes (New Knowledge, Planned Change, Awareness, Changes Made, Current Practice, and Challenges to Learning) across the participants' learning journals. The frequencies of themes ranged from 5.3 percent to 35.5 percent across five to twelve participants (sources) as shown in Tables 3 and 4. In this section, supporting evidence for each theme is presented.

New Knowledge

All participants (35.5 percent of the data) wrote about the effect of newly learned material. Their feedback, slightly more than a third of the dataset, showed that they attained new knowledge. Participants reported how their prior conceptions of curriculum had been transformed. For example, Chaim reported how his understanding of curriculum had changed and that he realized "design of the curriculum . . . closely tie[s] to the . . . learner [and] also to the instruments of assess[ment]." Ellen expressed her new understanding of curriculum:

When I started this course, I had no idea that the word "curriculum" could be so complicated. Curriculum was the list of things that you read once you signed up for a course to make sure it sounded OK! Now I understand that it [the curriculum] is effectively the "master plan" for the whole course. . . . it includes the process [of how the course was conceived] . . . how it will be taught and then assessed.

Table 2. Conceptual definitions of tree nodes (themes)

New Knowledge	Information acquired (about curriculum, learning styles, models of teaching, assessment, critical thinking, and teaching styles) as a result of classroom instruction, instructor modeling, and class discussion.
Changes Made	Modifications to instruction made by participants during the seminar.
Planned Changes	Participants' intent to be more reflective about course matters and changes that they reported would be made in instructional design.
Awareness	Identification of or raised level of consciousness as well as a renewed motivation for teaching.
Current Practice	Participants' descriptions of the ways that they teach.
Challenges to Learning	Recognition of the difficulties or factors involved in translating new information into teaching practice.

Table 3. Themes by frequency (n=225) by sources (# of participants)

Themes	Frequency	Sources
New Knowledge	80 (35.5%)	12
Planned Change	45 (20.0%)	12
Awareness	35 (15.6%)	9
Changes Made	27 (12.0%)	5
Current Practice	26 (11.6%)	9
Challenges to Learning	12 (5.3%)	8

Adriana described how learning about curriculum and learning styles influenced her perspective. She reported that she understood that it was “important to teach what students need to know . . . to make things clear and easy . . . to ask questions from the students [and] how important it is to understand [students’] learning styles . . . to optimize [their] learning potential.” Walter reported that he now recognized that it was important “to give students the ability to ask why, how, and if, instead of only giving out facts.” Laura explained that she learned the importance of prioritizing which content to present and why it was important to explain to students why certain topics were selected rather than others.

Following the session on assessment, Laura explained that she was now convinced that “telling

students that exam questions [would] come only from the slides is a disservice” and should be avoided. Another participant who recognized the importance of feedback wrote: “explicit formative feedback must be given often and constructively.” Commenting on assessment, Ellen stated that she “now see[s] the value of a combination of evaluation techniques,” rather than relying strictly on the use of multiple-choice tests.

Others reported how their ideas about teaching had changed. For example, Laura stated she learned that “using examples may be more effective than teaching the theory.” Charles learned that he was really “blowing hot air” and that he really did not know if students understood what he was teaching. After the session on learning styles, he admitted that he could now understand that the ways in which he perceived and processed information could be problematic in his own teaching style for some students. Like Charles, Sol stated that “maybe my way of teaching it is not as effective as I thought. . . . I need to observe [students] more carefully to understand their individual [learning] needs. . . . I need to be more constant . . . grading students in our clinical rotations.”

When faced with students who could do a better job, rather than provide them with critical feedback, Sol explained he had let it go because he “didn’t

Table 4. Themes by participants

Adriana		Chaim		Charles		Ellen	
Changes Made	7	New Knowledge	6	New Knowledge	9	New Knowledge	11
Awareness	4	Challenges to Learning	3	Current Practice	4	Awareness	5
New Knowledge	4	Changes Made	1	Planned Change	3	Planned Change	3
Planned Change	1	Planned Change	1	Awareness	2	Challenges to Learning	1
Total	16	Total	11	Challenges to Learning	2	Total	20
				Total	20		
Joan		Laura		Lucy		Sol	
Current Practice	4	New Knowledge	16	New Knowledge	6	New Knowledge	10
Planned Change	3	Changes Made	15	Planned Change	6	Current Practice	2
Awareness	1	Awareness	4	Current Practice	3	Planned Change	2
Challenges to Learning	1	Planned Change	3	Awareness	2	Challenges to Learning	1
New Knowledge	1	Current Practice	2	Total	17	Total	15
Total	10	Total	40				
Maya		Marion		Walter		Marilyn	
Planned Change	7	Awareness	6	Awareness	6	Awareness	5
New Knowledge	4	Planned Change	6	Planned Change	6	New Knowledge	5
Current Practice	1	Current Practice	5	New Knowledge	5	Planned Change	4
Total	12	New Knowledge	3	Current Practice	3	Changes Made	3
		Total	20	Challenges to Learning	2	Challenges to Learning	2
				Changes Made	1	Current Practice	2
				Total	23	Total	21

want to deal with students' unwillingness to accept critiques." In his journal he stated that he needed to be more interactive during lectures, ask more questions, expect good answers, and develop his students' critical thinking.

Laura stressed the importance of how professors could keep students aware of what they do not know. She stated: "Showing [students] the wrong way [is] sometimes better than showing the right way." Charles discovered that he had "not promoted critical thinking enough."

Changes Made

Five participants (12 percent of the data) reported modifications that they made to instruction during the seminar. Feeling inspired after the first session, Marilyn described how she used case studies to help her students see the connections between what they were learning and how they would be expected to use that information in the clinical setting. "I stuck my neck out and did things completely differently," she said, "and [they] were having fun and were absolutely engaged." Adriana inserted "random questions into my lectures and . . . pause[d] between slides to ask questions." She gave her postdoctoral students "topics to discuss with objectives for the discussion so they had some direction on how to prepare." Laura described new teaching techniques that she implemented during the course. At the beginning of each lecture, she added a slide with the objectives for that session. She also reported waiting longer after asking students questions and asked more questions. Her "greatest change," she said, was the use of "multiple case scenarios taken from real experiences." She gave students a dataset and "asked them to find out all the possible problems associated with doing the statistical analyses on the dataset."

Planned Change

All participants (20 percent of the data) wrote that they were going to be more reflective about course matters and changes that they would make in instructional design. Walter stated that he would expect more reasoning aloud from his students: "I will be focusing on . . . having a student not only give the correct diagnosis but . . . explain why he or she arrived at that diagnosis."

Some participants said that they planned to make more changes in assessing student outcomes. Maya reported that she would provide more written

feedback on students' assignments and their online reports. Walter said that he planned to make his methods of assessment more consistent and planned to have "students do a self-evaluation on their performance." Joan and Marion reported their desire to use case studies to have students develop a written treatment plan so they could assess student understanding of course content. Marion planned to use the "automated response system" to gauge student understanding of particular concepts.

Now understanding that students learn in different ways, Sol wrote that he realized that he would "eventually have to go out of [his] comfort zone to reach other types of learners." Marion planned to "include . . . a method of instruction which would equally address all types of learners" within the context of her presentations. Some participants shared the changes that they planned to make to their syllabi. For example, Maya planned to add "more questions [to guide] small group sessions[s]." Sol said he would ensure that his "course syllabus describes what [he is going to present]."

Some of the participants described changes that they planned to make to their teaching. Sol stated that "each lecture [would] have better structure." He now planned to include objectives at the beginning of each lecture and align assessments with his presentations. He was also prepared to promote critical thinking during lectures by using varied activities rather than just teacher presentations. Along the same lines, Joan planned to "use more practical examples . . . and emphasize more hands-on experience." Marion planned to "introduce more critical thinking" in her course "through group discussions of simulated clinical cases." Sol expressed a "need to make improvements and align . . . course objectives, learning experiences, and assessments."

Maya reported that she planned to mentor the participants in this course to ensure that they did not lose the momentum they had gained. Marilyn wrote that she planned to use more "case studies and some personal reflection activities." Laura reported:

Next time I teach in a new environment, I will have some slides ready with explanations of basic concepts. I will ask the class if they already know those concepts (instead of assuming that they do). If they do, I can easily skip the slide; if not, I will have a slide ready to better explain the concepts.

Ellen stated that she would talk about diagnosis and management of patient problems and then:

introduce “what ifs” to encourage the student to think outside of the current problem and to apply the knowledge they have to a slightly different problem. I like to paint the picture of “if this same patient walked into your practice but with problem x instead of y.” It means the student can still visualize their current patient and they are not wasting their energies on trying to gather a new history but can now think about the new problem in a way that is practically relevant and they are interested because it is important to their future experiences.

Lucy provided an extensive list of changes that she planned to make such as using an “automated response system for lectures [and] . . . more science [in] lectures to provide a scientific base to our clinical practices.” Also, she planned to “use more clinical situations to ask a question, more slide questions? Maybe . . . some essay questions? (I know there will be resistance to this!)” To increase student participation, Lucy also stated that she would have students “write up some assignments before each lecture so that they come prepared for it . . . have them dig up some information before it is given to them!” Thinking about ways to enhance student collaboration, she described the possibility of “installing some group seminars, where . . . students would . . . get together to study a specific topic and put together a PowerPoint presentation on it.”

Awareness

Nine of the participants (15.6 percent of the data) wrote that the seminar raised their level of consciousness, provided an impetus to be more attuned, and renewed their motivations for teaching. Some of the participants reported the insights they acquired, while others shared that they felt empowered just knowing they had expanded their perspectives. Others reported that they now had an understanding of particular student behaviors that previously had left them feeling perplexed. Others described feeling a sense of renewal and collegiality. For example, Charles found observing the instructor valuable: “Observing the way [the instructor] presented . . . her body language, the way she walks in the seminar room, interacts with the audience (‘us’), and paces the lecture are learning experiences for me.” Walter explained how his perspective had changed as a result of taking the seminar and specifically how his new learning motivated him:

I now realize that I do have control over many things that can have a huge effect on the quality and results of my teaching. This realization has motivated me to look at things that I would not have done previously. First of all, I will look more closely at the individual and how he or she is reacting to me in clinical situations. I will be more closely attuned to feedback from the student . . . speaking so they understand.

Somewhat similar to Walter, Marion said that she now sees “students in a totally different way. I was always upset with . . . students who did not pay attention . . . and were easily distracted. Now I know that they are probably different types of learners who need a modified teaching technique to learn.”

Ellen reported how her new understanding of assessment changed her perspective, stating that “there is more to evaluation than just a bunch of questions and answers on a test. Maybe it should be the teacher stepping back and reviewing the course content to see if the pertinent information was delivered.”

Adriana reported personal growth and a sense of renewal: “I feel validated by this process . . . see the need for constant self-evaluation and improvement. . . . I am feeling happy and excited about teaching again.” Marion reported feeling “more confident in the way that [she taught]” and being “successful in getting [students] involved to some extent” by modifying her instructional technique. As suggested by the seminar director, Marion began to move around the classroom by talking to students and found that the class did not seem as big as it used to.

Laura shared that the seminar had improved her teaching and that she was learning to use the students’ reactions as a guide in her own decision making. Others, such as Ellen, found the community of learners to be a valuable resource: “My colleagues are very important to me. . . . They speak . . . the same language . . . face the same problems . . . and to observe others learn and interpret the same information is also very useful.” Marion reported that the seminar made her “feel a lot better [about] the problems [that she] faced [because they were] not unique to [her].” One participant wrote in the seminar evaluation: “This course was very effective at getting to the heart of the crucial changes confronting all of us. I have experienced ‘molecular’ changes in who I am as a teacher.” This participant also shared that “I feel very empowered and excited about my role as a teacher, where before I felt stale and somewhat ineffective and stuck.”

Challenges to Learning

Eight participants (5.3 percent of the data) reported experiencing difficulties while learning new ideas. This is not uncommon during learning.²⁵ Coping with new information did not necessarily fit into participants' existing paradigms. After Sol recognized that he was primarily a visual learner, he found an incongruity between his preferred learning style and instructional practices. While using lectures to introduce concepts in pediatric dentistry, he recognized that he had "an immense problem" trying to introduce more images and use fewer words, yet he shared that "visualization . . . is the best [way] to retain information."

Walter pointed out the challenges associated with making fundamental changes in instruction and commented: "Shifting from the concept of learning to the concept of thinking . . . will enhance [student] learning. . . . For some of us, especially myself, it will require a concentrated effort."

Holding firm to his teacher-centered approach, Chaim questioned the practicality of trying to implement critical thinking in classes with eighty students. He asserted that even if he got "a handful of students to think critically," other students would be left behind. Across the country, dental educators like Chaim are asking, "How do we implement critical thinking skills?"²⁶ Ellen became flustered by the coverage of teaching models and overloaded with too much information. She asked: "Do we really need to know what model of teaching is going on? . . . Maybe it is because I am tired and my brain won't work anymore or maybe it is because I am easily confused." She reported experiencing this information overload during the fifth week of a six-week seminar.

While discussing factors that influenced translating new information into practice, Walter explained how critical thinking had been ignored rather than become integrated as a routine part of teaching. He stated that it was "so easy to fall into a routine and habitual way of relating to students." His comment illustrates the need for ongoing reflection and conversation in the academy about teaching.

Struggling with the demands of an administrative position, Maya explained that she felt challenged by trying to meet students' needs. She explained, "I struggle with the dedicated time it takes to provide feedback, but it is the most effective method to truly know where the student is at and how to assist them in making further connections." In many ways, Maya struggled with defining how she wanted to see the college advance and the resistance that many faculty

displayed even when faced with necessary change. She also felt constrained by the college's belief that directive teaching was "good enough."

Current Practice

Nine participants (11.6 percent of the data) offered clear descriptions of how they taught. Charles stated that he invested "a great amount of time" in putting together his lectures and that he "rarely [had] specific objectives stated at the beginning of his lectures." He also said that he "always tried to get people involved and interested in the subject . . . with my dynamism and excitement." Laura reported that she gave "time to students to ask questions," while Lucy described her teaching as a coordinated effort to correlate what she taught to the practice of dentistry. She stated that she did her presentations "with a lot of animation . . . very little writing, lots of pictures, [trying] to correlate . . . subtopics of discussion and each piece of information . . . to a clinical setting." She also stated that she questioned students a lot in class "without really expecting an answer." In the clinic, she reported that she tried to ask students "questions before they start treatment . . . such as: why did you diagnose this patient this way?"

Using a research-based approach to her teaching, Maya wrote that she "used the learning cycle to design instruction and understand my learners." Concerned with assessing what her students understood, Marion stated that she tried "to evaluate my teaching during lecture by asking random questions." In the clinic, she stated that she tried to assess students "mostly one on one," then she quizzed them "orally to a great extent and [tried] to teach them at the same time."

Focusing on students as individuals, Sol wrote that he treats "every student as a future dentist with respect," but that he expects that "they have a basic knowledge to start an intelligent discussion in order to provide the best care for the patient." However, while he tries "to interact as much as possible . . . with some of [his own] topics, I have a lot of difficulty [doing] it."

Discussion

In a systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education from 1980 to 2002, Steinert et al. suggested implications for faculty development practice.⁹ Among the suggestions they made

that were employed in this study were using theory, linking theory with practice, acknowledging the importance of context in the organizational culture, and developing a program that extends over time in order to stimulate reflection and raise awareness of the participants as teachers. Steinert et al.'s suggestions for faculty development research also employed in this study included use of qualitative methodologies to understand how teachers' beliefs change, use of multiple methods of data sources to allow for triangulation of data, and collaboration with colleagues within and outside of medicine/dentistry. Clearly, performance-based measures of change are needed in additional research activities.

In this study, the theme of New Knowledge occurred eighty times, Planned Change forty-five times, and Awareness thirty-five times. Changes Made occurred as a theme twenty-seven times, while Planned Change emerged twenty-six times. Challenges to Learning occurred twelve times. Many of the participants reported that they had not taken courses in teaching or had not had opportunities to think about teaching. Initially, some faculty members were hesitant to experience the teaching activities and share their viewpoints. Saroyan and Amundsen share this belief and concur that recognizing hesitancy is often one of the catalysts for offering an internal professional development seminar.²⁷ When participants reported success in having made changes, their success encouraged others.

The mentoring and collaboration that took place between the seminar director and participants encouraged participants to reflect upon and reconsider their ways of teaching.²⁸ The seminar activities facilitated reflection, enhanced participants' awareness of how they teach, and resulted in others' making changes to or planning to make changes to how they planned to teach. Providing teachers and students with opportunities to critically reflect upon and rethink their conceptions of teaching and learning, collaborate, and address sociocultural and sociopolitical issues can facilitate positive change in instructional practices.²⁸

The model that evolved from our discussion of the collated results and examples from the individual journal responses depicts complex relational meanings (see Figure 1). Respecting prior experience and knowledge and acknowledging that participants bring existing beliefs about curriculum, instruction, and evaluation with them into the learning environment were baseline components for the model. The

elements of the seminar are grouped as curriculum, learning styles, models of teaching, critical thinking, and assessment. These elements represent an overview of the content provided to faculty. The participants saw New Knowledge as part of bolstering their Awareness. New Knowledge also had an impact on Planned Change and at times resulted in Changes Made to participants' teaching during the seminar. However, New Knowledge and Awareness also resulted in Challenges to Learning, which in and of itself was the cause of some immediate change in classroom teaching.

Dental education is still at a crossroads,²⁹ and, as stated by Kalkwarf, "Dental educators need to decide if they want to be a railroad or a means of transportation."³⁰ If dental education seeks to redefine its mission within the academy and to society at large, it is important to consider alternative ways to help faculty grow as educators. Although some faculty who have little to no experience in teaching can be expected to figure out how to teach on their own, others prefer to learn alongside their colleagues. To ensure that students receive state-of-the-art teaching, opportunities must be provided for faculty to sit and reflect upon the scholarship of teaching in public settings. The field of dental education would be shortsighted if professional development were not provided for all faculty, particularly new faculty. We found that the seminar allowed the faculty members in our study to engage in risk-taking and to discuss and reflect upon matters pertaining to their teaching practice and fitting into the culture of the school.

However, their tenuousness about trying new strategies and the concern for acceptance as a colleague were of concern for some. Participants asked how, as junior faculty, they could legitimately try new approaches when the more senior faculty, in their opinion, resisted efforts to explore the quality of the teaching mission. These concerns created tensions and challenges as the seminar director continually encouraged the participants to take risks. She also urged the participants to work towards change and remain engaged in the transformation of the college culture.

The age-old conflict reported by the participants is illustrative of the rigidity that characterizes some Research I universities. In these institutions, research is often perceived as the primary responsibility, while teaching is the unwanted stepchild that steals attention and resources. The irony of this

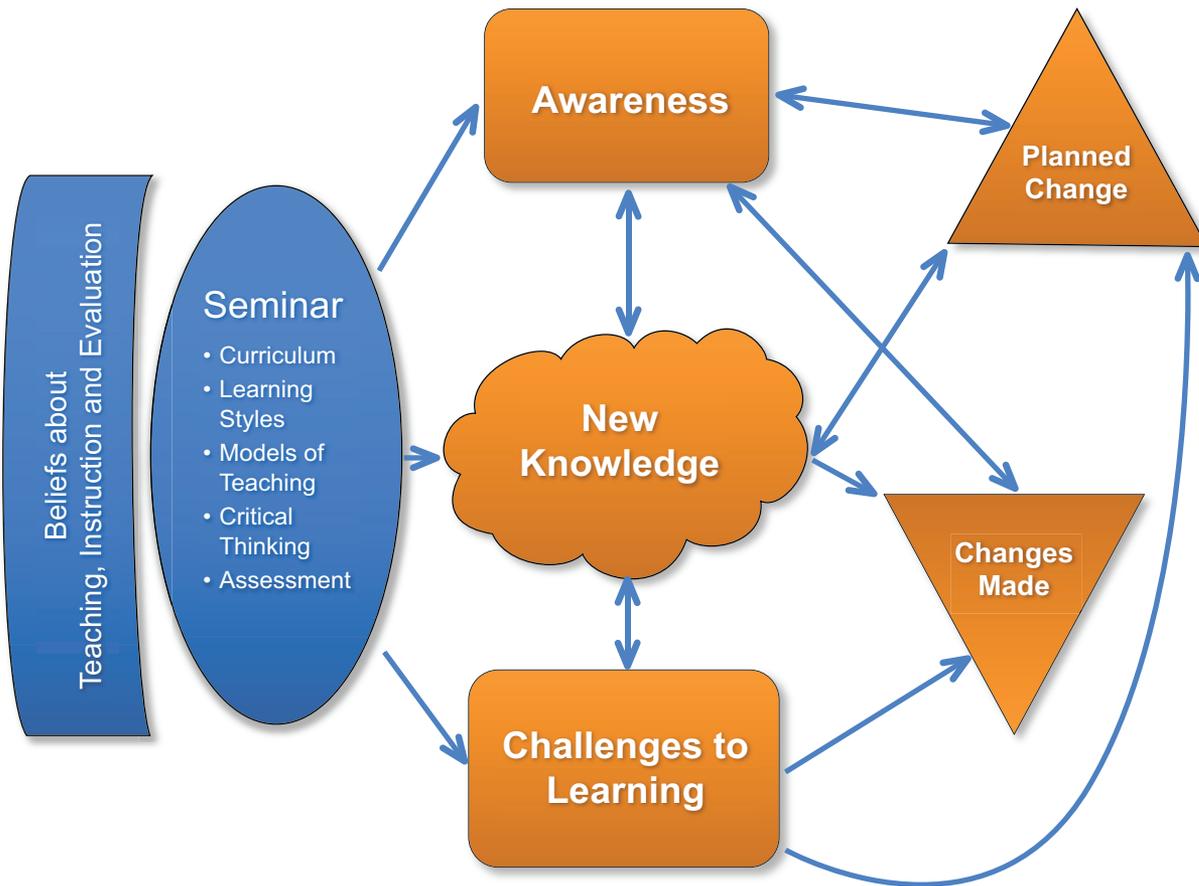


Figure 1. Thematic representations of faculty perceptions during teaching methods seminar

controversy is that teaching informs scholarship, perpetuates the creation of researchers and academicians, and enables new discoveries.

In this study, creating a collegial community of learners supported risk-taking, reflection, and sharing victories and encouraged growth. Participants benefited from discussions, questioning their assumptions, correcting misconceptions, exploring their beliefs about their roles as educators and beliefs about students as learners, and trying out new instructional practices. The collegiality that developed during the seminar was helpful as some participants began to formulate their identity as instructors. Participants' comments on the post-course evaluation suggested that future faculty development initiatives should focus on evaluation for "tips and models of different

assessment methods" and a deeper focus on assessing and implementing critical thinking skills in courses, such as including "role modeling [and] how to promote critical thinking."

As Coppola has said, "teaching is not merely the organization and delivery of content,"³¹ and it cannot be left to happenstance, particularly in disciplines in which classroom instruction will be translated into patient care. Participants said that our seminar series helped them understand a variety of teaching modalities other than lecture and see that the sole use of multiple-choice tests is insufficient, by 4.9 on a 5.0 scale (Figure 2). Participants also had a better understanding of the ways in which they taught (4.8) and an understanding of learning styles and their use in constructing a teaching philosophy (4.7).

Participant Evaluation
 DEN 9990, Getting Started: Course Design and Teaching Strategies
 October 18, 2006

Responses: 10

Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
5	4	3	2	1

As a result of this course:	Mean	SD
1. I have a better understanding of the ways in which I teach.	4.8	0.42
2. I have an understanding of learning styles that I did not possess prior to the course.	4.7	0.48
3. Knowing how I, and others, learn has been helpful to me in constructing my teaching philosophy.	4.7	0.48
4. I believe that knowing how I prefer to learn influences how I teach.	4.5	0.97
5. I have a clearer understanding of the difference between goals and objectives.	4.4	0.70
6. I have a better understanding of how to promote students' critical thinking skills when I teach.	4.0	0.70
7. Taking this course has helped me understand that there are a variety of modalities that I can use other than lecture.	4.9	0.32
8. I have a better understanding of types of assessments that can be used.	4.5	0.85
9. I believe that using only multiple-choice tests is insufficient.	4.9	0.32
10. I feel more confident about how I will teach.	4.6	0.70
11. I feel more confident in how to work with challenging students.	4.0	0.82
12. I feel more confident in assisting peer faculty in varying instructional practices.	4.2	0.79
Course content and value:		
13. The topics in this course were important to me.	4.9	0.32
14. The length of time for each session was sufficient.	4.8	0.42
15. I have learned a lot in this course.	4.9	0.32
16. The instructor provided adequate feedback.	4.9	0.32
17. The instructor answered my questions.	5.0	0
18. Attending sessions with my peers created a dynamic learning community.	4.7	0.67
19. I would recommend this course to other new faculty in the dental school.	5.0	0

Figure 2. Course evaluation of seminar

The academy must begin to see the essential relationship between teaching and social progress in clearer perspectives. How we teach people impacts understanding and communication. When we invest resources in our faculty, progress is being made to-

wards ensuring quality teaching as well as increased understanding and improved communication in the teaching and learning environment. This recursive process not only influences faculty and those they teach but the patients they care for as well.

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