

Chapter V—Improving Practice: Case Examples

Improvement of teaching is the result of an integration of refinements in how teachers think about teaching, what their beliefs are in terms how they can influence student learning, what they have come to know and understand based on experience and experimentation in action, and the degree to which they see teaching as an important part of their scholarly work which is connected to research. As such, teaching development will be manifested on several levels and the criteria used to measure that development must encompass cognitive, attitudinal, value and behavioral indices. Relying on a single indicator or data source such as student evaluations is not sufficient. Improvement may not always be indicated by a standard deviation in higher student evaluation scores.

Improvement grows out of reflection on feedback about one's teaching. This reflection helps teachers develop their professional knowledge, which will in turn affect their future instructional planning. The key concepts here are *feedback* and *reflection*. It is not sufficient to merely solicit feedback on instructional quality from students and peers and put it in a tenure file, reflection on the meaning of that feedback is necessary if development in teaching is to take place.

In most cases the degree to which the individual can adequately reflect on his or her teaching will be determined by the working environment created within his or her department. Overburdening new faculty with too many courses, or courses that are very labor intensive with insufficient instructional resources in the form of teaching assistants or money for materials to teach, or focusing too heavily on the establishment of a research agenda will create a working environment where reflection on teaching may seem a luxury too costly to indulge in for the newly hired faculty member. There are cases where the individual can adequately reflect on on his or her teaching practice in spite of these added burdens, but many promising teachers may, without being that aware of it, assimilate an adaptive attitude of cynicism toward teaching in order to survive. When such a thing happens, everybody loses: the candidate, their students and the department that has made the investment to start with.

Reflection on practice typically takes place in the planning stage of teaching—when the teacher is identifying course objectives, writing examinations, designing individual class teaching plans and choosing readings. What may make a significant difference in the degree to which an individual improves over time is a different kind of reflection. In his

book *The Reflective Practitioner*, Donald Schön uses the terms “reflection-on-action” and “reflection-in-action” as key to the practice of a new “epistemology of practice.”¹ His basic premise is that in order to make significant and effective changes in our professional practice we need to honor a different way of producing knowledge about what we do. This involves taking the time necessary to reflect on our practice so we become more aware of why we do things the way we do, what doesn’t work and why and what may be a more productive approach. An example of this relevant to teaching is thinking metacognitively, which includes monitoring student interest and comprehension and adjusting teaching practice accordingly. Another more reflective approach to developing one’s teaching involves using misconceptions to guide instruction. If I have spent enough time observing and reflecting on how my students learn or don’t learn what I teach, I may gain some insight into how to be more effective as a teacher by explaining things in new ways.

Some people may do this as a matter of course, but given the very heavy content orientation that graduate education tends to reinforce, the chances are that most reflection on action is limited to trial and error or substantive thinking. Reflection on the *process* of learning the subject matter and what is psychologically necessary to teach it adequately is very important in improving one’s teaching. An example of this is in the area of setting objectives. Many novice teachers begin by planning their classes in terms of how to fill the time allotted. They begin to become accustomed to thinking egocentrically: how will *I* plan to use this class time to cover what *I* think the students should know. In contrast, a teacher may have come to the conclusion, based upon reflecting on teaching practice, that no amount of time spent exclusively on the subject matter and limited to the teacher’s frame of reference will be very productive from a learning point of view. A more fruitful way to plan a class might be to start with the students’ frame of reference and try to build a conceptual bridge from what I understand to be their level of comprehension to my own. From a planning point of view this would involve a very different set of questions for setting class objectives, focused around: what do I want my students to be able to say, do, think, or feel when they leave at the end of class that they couldn’t say, do, think, or feel when they walked in to it?

¹Schön, D. (1983). *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books. pgs 276-78.

²Argyris, C. & Schön, D. *Theory in Practice: Increasing Professional Effectiveness*. San pgs 276-78.

Regardless of their graduate training or experience, all teachers bring to their practice what might be called personal theories of teaching and learning (citation). This theory may not be very conscious but the authors studying teacher thinking suggest that teachers personal theories are what guide them in making planning, course design and classroom behavioral decisions. Personal theories of teaching and learning grow out of our experiences as students and teachers and begin developing while we are children. We develop predispositions toward certain learning "styles" as some authors describe it, just as we gravitate around certain teaching styles. The degree to which we are conscious of our personal theories, how they guide us, how we refine them and how flexible we are from central stylistic tendencies can be thought of as indices of our instructional development. One can read books that influence the way we think about teaching but we learn how to do it and improve through trial and error practice, or doing as one author describes it as "on the spot empirical experiments." The problem from the point of view of our efficiently developing our teaching is that, for the most part, we make no records of these experiments so our learning curve is dependent on our memory.

If I am to trace the improvement of my teaching practice a useful focal point is an analysis of the degree to which my practice is consistent with my thinking about teaching (my personal theory.) Developing my personal theory is an epistemological issue as I discover and refine my knowledge about teaching and learning. The basis of this epistemology lies in the interrelationship between what I say I do when I describe and explain my personal theory of teaching and learning, on the one hand, and what, in fact, I do in practice, on the other. That part of my theory which is evident in what I say I do and which I have reflected on enough to be able to articulate it is what Chris Argyris has called my "espoused theory."² In contrast to my espoused theory is what Argyris calls my "theory in use" which is what is evident in my *behavior*. The developmental question that is useful for me to continually reflect upon is "To what degree is my espoused theory consistent with my theory in use?" Or, to put it more mundanely, "To what degree am I able to do in practice, what I think and believe I should be doing?" Discrepancies between the two can lead me to further refine my thinking or my practice, as the case may be.

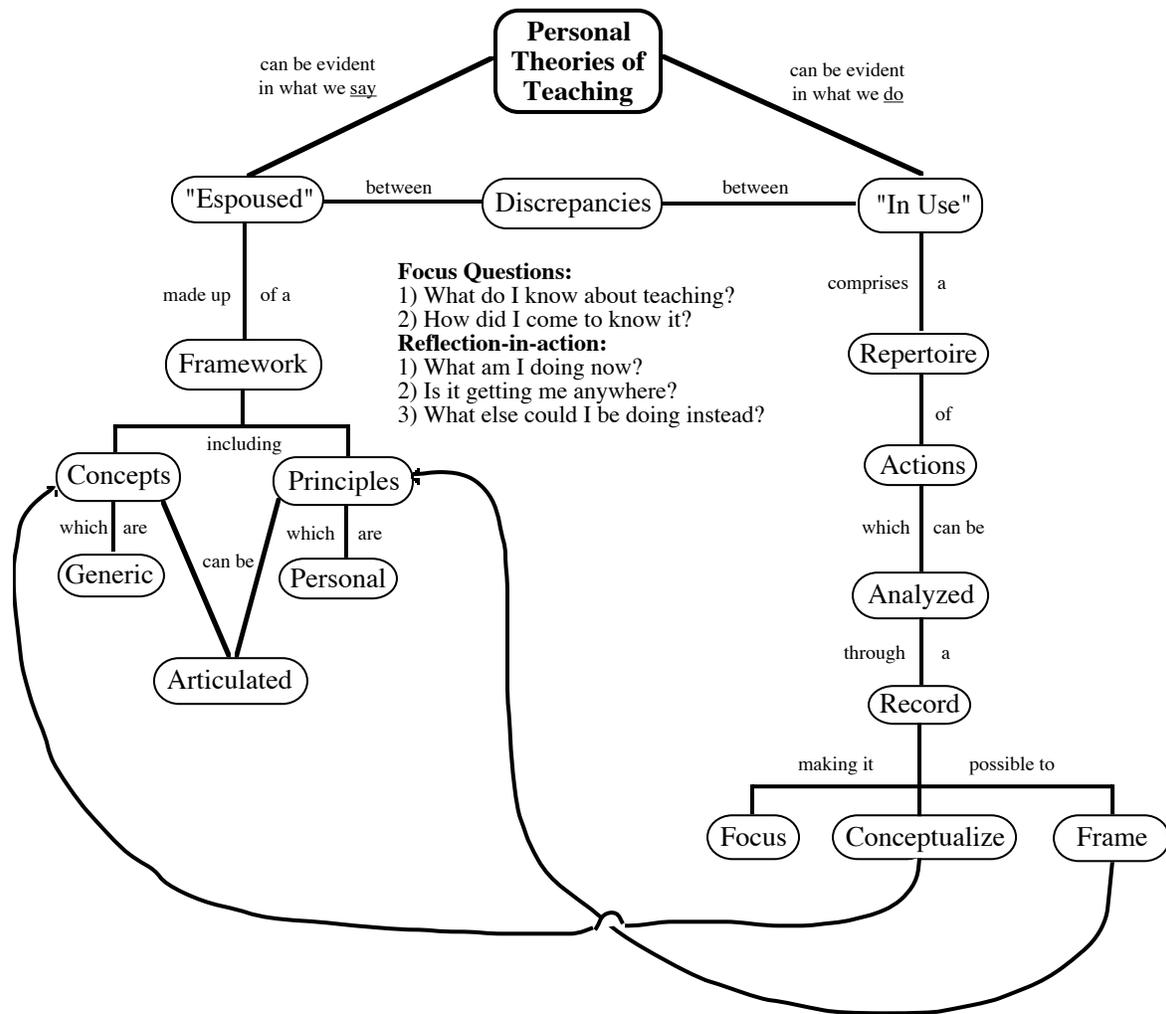
²Argyris, C. & Schon, D. *Theory in Practice: Increasing Professional Effectiveness*. San Francisco: Jossey-Bass, 1974.

This can be illustrated with a very prevalent but simple example. A frequently used teaching technique we are all familiar with is the use of the phrase, "Are there any questions?" This question is usually asked after we have just finished explaining some important or particularly difficult point. Another recurrent use of this question is at the end of a class or seminar. In many cases, particularly with novice teachers, but even with veterans, particularly when teaching something for the first time, the use of this question proves ineffective. What may be forthcoming, rather than a flood of inquiry, are confused looks and vacant stares. I may have to experience this frustrating effect many times before I even begin to acknowledge that something in my teaching strategy is in need of change, much less pinpoint the specific problem. Acknowledgement may slowly dawn on me from simple repetitiveness, or someone—a student or colleague—may risk bringing it to my attention.

If a colleague were to point this problem out to me and ask me, "What are you expecting to accomplish when you ask 'Are there any questions?'" I would be articulating my espoused theory. I might say something like, "I want to give the students a chance to clear up any confusion they may have about what I have just explained." If my colleague has observed me enough to have noticed a consistent pattern in my use of this question she might reply, "If that's what you are trying to do, you're going about it the wrong way. You consistently look down at your notes immediately after you ask that question."

When this discrepancy is analyzed from a personal theory point of view to encourage the development of my teaching practice, I must begin to conceptualize this sequence of events so that I can begin to think strategically about it. In Schön's terms, I am "reflecting on action." I might begin to develop a framework of teaching concepts to help me clarify my thinking about the problem. The first step involves naming the situation, like "checking for understanding." *Checking for understanding* now has become a concept of teaching that I can begin to think consciously about. I can begin to use it in my planning for classes, choosing more strategically where it might be appropriate and necessary. My colleague's observation about my looking down at my notes when I check for understanding might help me conceptualize further this situation. If I ask myself why am I looking at my notes at that point, I might begin to recognize that I use the time right after asking "Are there any questions?" to plan my next move. Upon hearing this, my colleague might point out that from the students' perspective, I don't look like I want to be interrupted. This situation can be conceptualized as a "mixed cue" where I send out a *verbal* cue to my students which

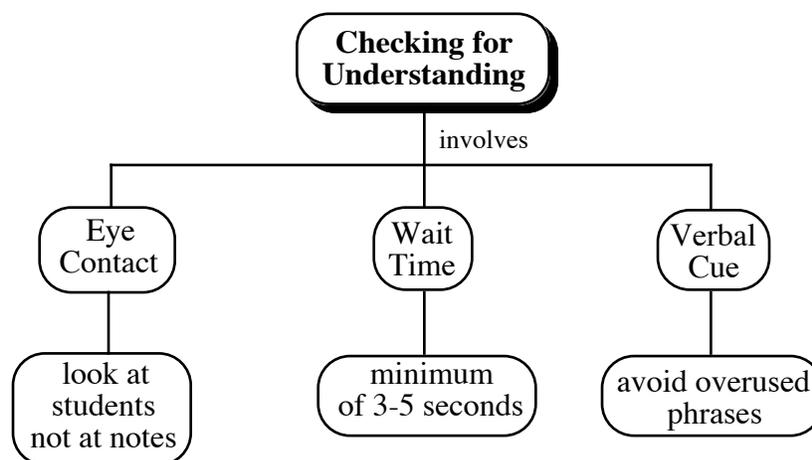
says, "Give me some feedback? What don't you understand?" while simultaneously sending out a *behavioral* cue which directly conflicts with my verbal cue. The net result is silence, filled with frustrated and confused looks from my students. This mixed cue example points out where my espoused theory (checking for understanding) is discrepant from by theory in use (taking time to gather my thoughts and plan my next move.) The diagram below helps put this epistemology in perspective.



An Epistemology of Teaching Knowledge
 David Way June 6, 1990

This diagram illustrates how our espoused theory is made up of a framework of concepts and principles that we use to think about teaching and which guide, in some ways, our theory in use. Reflecting on our actions taken helps us to integrate the two, so that we are more consistent, successful in achieving our intentions, and more knowledgeable about teaching practice in the sense that we can explain it to others. If we can articulate the knowledge that is evident in our actions the implication is that our actions become more governed and justified by a coherent framework that is part of a personal theory.

Research comparing novice and experienced teachers (Leinhardt, 1983) has indicated that as teachers learn from experience they develop a repertoire of strategies, or what can be called principles of teaching, which guide their practice and help them deal with the variety of situations they come to face. A principle of teaching is a guide to action that includes at least one concept of teaching. Using the checking for understanding example, we can see how concepts of teaching are generic in the sense that they do not, in and of themselves, guide us. We all must deal with the issue of checking for understanding but we all do it in our own ways, based on what feels comfortable and what our experience has taught us. A principle of teaching is our personal behavioral guide to how we check for understanding (the concept): I will pause after explaining an important point, make eye contact and ask, "Who would like me to go over that again?" leaving at least 3 seconds for students to react. This principle is now part of my espoused theory, which guides my practice (theory in use) and can be explicitly represented as part of a framework:

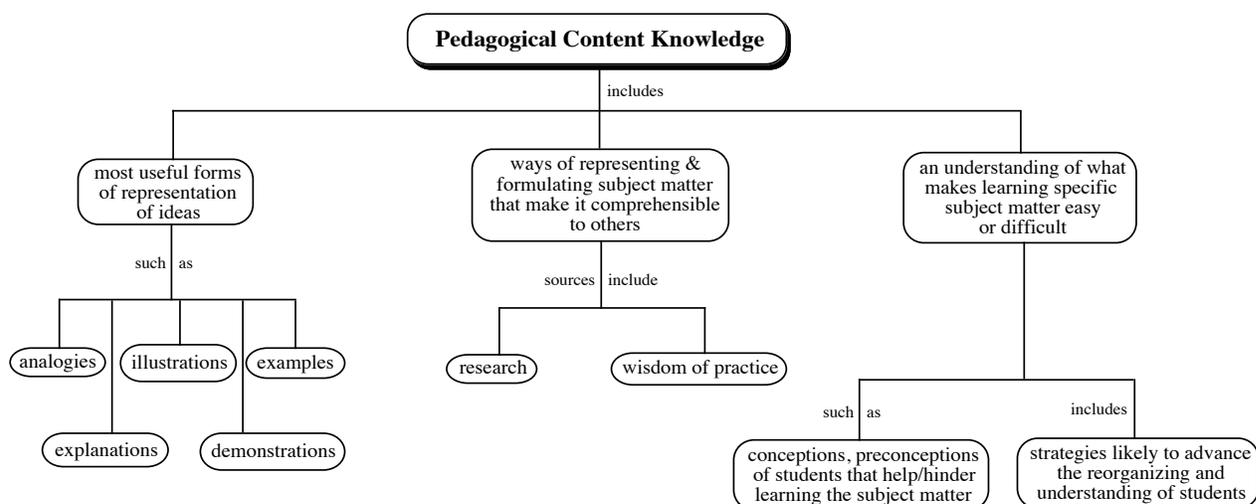


Whereas a concept of teaching is more generic, such as "warm up," "wait time," or "summarizing," a principle of teaching is an individualized way of dealing with that generic regularity. An example of a *principle* for warming up in a foreign language class

might be to engage students in casual conversation in the target language as they enter the classroom in order to get them thinking in that language by the time formal instruction begins. An example of a *principle* to ensure enough wait time after asking a question in order for students to respond effectively is to count silently to yourself from one to five, or seven. An example of a *principle* to deal with effective summarizing might be to budget time into your teaching plan at the end of the period and to review briefly the major concepts that have been covered, but in a fresh way. Of course there are many other principles to deal with each of these situations, which implies that effective teachers have extensive repertoires of principles so that if one proves ineffective in a situation, they have others available to choose from.

Colleagues can help each other improve practice in a way that respects individual differences and personal style in teaching when they observe each other and discuss their teaching. As they do so they are articulating their espoused theories and presenting an observational record of theories in use. If I am invited to reflect on my teaching actions by a colleague who has observed me and who asks me questions like, "What were you doing there? Was it effective? What alternative strategy might have been more productive?" I can begin to get used to reflecting on my teaching, which in turn may help me learn how to "reflect in action" as Schön calls it. I am able to reflect in action once I have articulated my personal theory to such a degree that my thinking and doing are consistent with each other. When I function on this level I am very efficient. My attention is not cluttered by the necessity to think through every response and pay attention to every detail available to me. I can now use part of my attention to monitor my performance by asking myself questions like, "What am I doing now? Is it getting me anywhere? What other principle do I know, or can I invent, which may be more productive?" In this way, both collaboratively with my colleagues, and individually through reflection, I continually develop and refine my knowledge about teaching and learning which constitutes a personal theory I use to improve my practice.

The example of checking for understanding is a process-related teaching concept. It has more to do with how I handle the process of explaining something. Teaching involves other knowledge relating to the content that is taught. In his work on the knowledge base of teaching, Lee Shulman uses the term "pedagogical content knowledge," which can be illustrated as follows:



adapted from Shulman, L. "Those Who Understand: Knowledge Growth in Teaching." *Educational Researcher*, Feb. 1986, pgs. 4-14

It is in the area of pedagogical content knowledge where colleagues can be extremely valuable in helping each other improve their teaching. There is a lot of creativity involved in devising analogies and choosing effective examples that prove to "achieve shared meaning" as D.B. Gowin³ has defined teaching. The relationships which develop between faculty are central to the evaluation of teaching within the tenure process. It has been the premise of this handbook that the most efficient use of faculty time with regard to the evaluation of teaching is to integrate the summative and formative forms of evaluation. Documenting teaching for tenure files and the evaluation of the data gathered will be much more efficient if the proper work has been engaged in collaboratively between faculty colleagues during the six years leading up to the tenure decision process. Direct observation of teaching performance is the final outcome of a lot of prior thinking and work that colleagues can collaborate on. The Teaching Portfolio described in Chapter II is designed to foster both thoughtful discourse about teaching and professional inquiry into how to more effectively contribute to the students' learning what has been taught. What follows are some real cases of portfolio components, each followed by comments which might be used to improve its quality.

³Gowin, D.B. (1981). *Educating*. Ithaca, N.Y.: Cornell University Press.

Using the Teaching Portfolio for Improve the Quality of Discourse about Teaching

The analysis of tenure files conducted in preparation for the report *Evaluation and Recognition of Teaching* revealed a significant imbalance between the level of discourse regarding teaching compared to that dealing with research. This was evident in the following quote from a department head to the tenure candidate:

“We discussed your teaching activities and my indications are that your teaching...is going well and that it is well received by your students. We hope that the renovations of the laboratories...will provide opportunities for further improvements in our...teaching program.”

In spite of the fact that this letter is out of a larger context in which the tenure case was judged, it fails to document for anyone outside the department (the dean or provost) just what "indications" were used as evidence in making the judgment that the candidate's teaching was "going well" or in what way was it "well received by [the candidate's] students." Supervision by senior colleagues and department heads is critical in establishing an atmosphere where teaching is valued and constructively evaluated. The documentation of a candidate's teaching practice and level of thinking about teaching can be reviewed through the teaching portfolio. The level of discourse about teaching that is exchanged between the candidate and supervisor establishes a standard by which teaching is evaluated. The following case from a portfolio is discussed in terms of the relationship between the quality of discourse, the improvement of practice and the establishment of professional standards.

Case 1⁴

Dr. Penelope Hansen
Faculty of Medicine, Memorial University of Newfoundland

My Approach to Teaching

The teachers I have had who stand out in my memory have some attributes in common: they presented their subjects in a way that caught my interest, clarified difficult topics and led me through complex areas, and put knowledge into context so that its relevance was

⁴O'Neil, Carol, Wright, Alan (1992) *Recording Teaching Accomplishment—A Dalhousie Guide to the Teaching Dossier*, 2nd Edition Office of Instructional Development and Technology, Dalhousie University, Halifax, Nova Scotia, pp. 32-33.

apparent. These role models have influenced my approach to teaching: I view myself primarily as a facilitator of learning, rather than as an expert who simply delivers information to students. When planning a curriculum or interacting with students, I am always conscious of their different learning styles and rates, what they have already learned and what they will need to learn in the future. Feedback from students has been vital to the process of growth I have undergone since I began teaching: I learned from them, for example, the pacing of lectures, and effective ways to help them learn in small group discussions.

Personal contact with students is essential to my approach. Many need encouragement to talk to their teachers, so I emphasize my availability for informal discussion and my willingness to help them sort out any problems they have with what they are learning. My experience as a teacher is greatly enriched by this contact with students. I am fortunate to teach in a professional school where I can follow the progress of the students through the program and sometimes beyond graduation.

As I gained experience and confidence as a teacher, I came to regard teaching as my primary professional responsibility. Consequently, I moved into areas of teaching administration and faculty development. My current position as Assistant Dean legitimizes my efforts to effect changes in the medical curriculum, and places me where I can have an influence on the “learning climate” of the medical school. I am able to help my colleagues develop as teachers in my roles as local chair of the Canadian Association for Medical Education and as a TIPS teaching skills instructor. Several years ago, I began to be interested in the theoretical background for teaching and learning. I have attended meetings and workshops to learn about this and am currently enrolled in a distance-education diploma course in medical education. I have begun to do collaborative education research.

As a physiologist working in a professional school, I benefit from having students who are eager to learn an intrinsically interesting subject. On the other hand, basic science teachers are often handicapped by having no clinical training, and therefore find it difficult to know the relevance of what they teach to the practice of medicine. Moreover, there is a torrent of new information in the basic medical sciences, and medical students have likened it to trying to sip from a fire hose. I have developed some teaching strategies to ameliorate these problems, including collaboration with clinicians for curriculum planning and teaching, and articulating clear educational objectives for myself and my students. Further, student autonomy is important in this situation: students must be encouraged to play an active role in determining what and how they learn. In so doing, they will develop the life-long learning skills needed to cope with progress in medical practice.

As chair of one component of a year-long course in Body Systems, I have had the opportunity of putting these strategies into practice. With my clinical colleagues, I have modified the content and format of the renal systems component so that it provides a bridge between preclinical and clinical sciences, and fosters students’ self-education and self-evaluation.

I played an active role in developing a new course for the first year of medical studies: Introduction to Physiology is a model in our undergraduate program for its innovative use of demonstrations. As chair of this course, I continue to work with my colleagues and students to improve it and to demonstrate its unique qualities to physiologists around the world. In this first case this teacher describes herself as a "facilitator of learning" and indicates she remains "always conscious of [students'] different learning styles and rates." She has learned how to be more effective in her pacing of lectures and has discovered how to use small group discussions effectively. These are all good signs since she seems to be moving away from simple information delivery and is willing to make the effort to treat her students as individual learners. What is left out and not explained are the details of how she has made these innovations and what evidence she has to evaluate the effectiveness of these changes. Pacing and small group discussions are concepts of teaching. What principles specifically guide her pacing? Under what conditions does she use small group discussions and what other changes in the material she covers has she made in order to accommodate the time necessary for small group discussions? The clarity with which she can answer these questions will be a test of the degree her espoused theory (as it is evident in this written account) is reflected in her practice. By bringing these questions to her attention a supervisor may help her develop these innovations further.

She mentions how her experience stimulated her to "regard teaching as my primary professional responsibility" and that she has begun doing collaborative research. Including examples or some kind of written accounting of such work would be exemplary evidence with which to evaluate her work more fully. Much of her story she alludes to only superficially "...collaboration with clinicians for curriculum planning and teaching...students must be encouraged to play an active role in determining what and how they learn....I have modified the content...so that it provides a bridge between preclinical and clinical sciences." Admittedly much of the details of her story which she refers to may be well known to her colleagues and therefore may seem superfluous in a tenure file, but there are those who must evaluate her who have less of an intimate knowledge of her work. Also, a more complete written accounting of her work in teaching development is itself a developmental exercise and good test of her new knowledge.

Case 2⁵

Dr. Graham J. Fishburne
Department of Elementary Education, University of Alberta

Personal Teaching Philosophy

Recently, while helping a University colleague from a Faculty other than my own to prepare a teaching project, the colleague asked me to articulate my own personal teaching philosophy. I answered in the following way: I explained that I thought too many Government agencies believe that the richest Canadian resources lie beneath the earth's surface, whereas I truly believe that one of the richest Canadian resources is its people. The process of socializing Canadian people to be educated and well adjusted to life becomes a priority in my view. As a result, the young people of Canada need the best role models to work with them throughout their education. They need to experience a whole variety of learning situations; situations that will cater to their unique style of learning and development. In a world where there has been an 'Information' explosion, there needs to be an excellent education system to put order to what can be chaos. This is why, in my belief, one of the primary aims of any University is the role it plays as a 'Teaching' Institution. A University should not merely be a place for conducting research. Indeed, as I see it, the two activities of research and teaching should go hand and hand, and be mutually beneficial to each other. The University plays an absolutely vital role in the process of educating (socializing) Canadian people. Therefore, I see all University Professors, regardless of Faculty, as 'educators' who are involved in the world of instruction.

This introduction led to my second point, which is best described with an analogy to sport. Throughout my life I have been involved in sport. The particular sporting activities that I give so much of my time to are team oriented. I have always been a team player. The most successful teams I have been involved with were successful because they were dedicated teams of individuals working together toward a common goal. Throwing a group of individuals together to separately work on a common goal was not the best way to achieve success. My teaching philosophy takes its basis from my sporting experiences. As a member of the University team of 'educators' I must possess certain knowledge and skills. I must offer the role model of 'instructor and educator' to my students. Further, as in sport, if the University team of educators is to achieve success in educating students, then in my opinion, we must work together (cooperate and share), with other University Professors who are on the same team working toward a common goal. When we combine our talents and expertise, we not only help to achieve the goal of educating our students, but we also improve our own skills and knowledge. Hence, as I explained to my colleague, this was the reason why I was sharing in the teaching project with her!

⁵*Ibid.*, pp. 33.

A major omission in this accounting is an explication of the relationship between *socialization* and *educating*. What does he mean here? There are a whole host of authors who have written on this distinction. Where does this person's thinking fit in? What experience(s) lead him to equate socializing with educating? Answers to these questions may help the author more clearly validate (or refine) his personal theory.

Case 3⁶

Dr. Jack Gerrow

Department of Removable Prosthodontics, Faculty of Dentistry, Dalhousie University

Personal Teaching Evolution

From 1981 until 1983, I was an instructor in the preclinical operative dentistry program and the preclinical fixed partial prosthodontics program at the University of Toronto. As a part time instructor, I was required to supervise groups of students during the laboratories and to prepare a number of presentations for all groups. It was during this time that I developed an awareness that improved teaching methodologies and evaluation procedures for both clinical and preclinical dental courses were needed. I worked with the Department Chairman, Dr. Bruce Hord to institute a number of changes in the preclinical laboratory that included the first anonymous grading of student projects and attempts at calibrating the course instructors.

While teaching at the University of Toronto, I was encouraged to pursue graduate training with the understanding that I would return to teach at a Canadian university and as a result received a Canadian Fund for Dental Education Training scholarship.

While in graduate school at the University of Iowa, I was involved with teaching both clinical and preclinical prosthodontics. In addition, I was responsible for supervising the prosthodontic rotation in a general practice residency program.

After completing graduate school, I accepted a position in the Department of Restorative Dentistry, Division of Operative Dentistry, here at Dalhousie University. As can be seen from my time assignment, I was an instructor in numerous clinical and preclinical programs.

As a new faculty member, I was asked for, and gave, input regarding both course content, teaching methodology and evaluations systems. As a result of some of my input, some significant changes such as small group seminars, calibration procedures and anonymous grading were instituted in some of these courses. Attached to this section are letters from Drs. Bruce Graham and Ron Bannerman that document these changes.

⁶*Ibid.*, pp. 42-43.

Teaching Evaluation Handbook

Cornell University Center for Teaching Excellence

In June, 1986, I was fortunate enough to attend the ACFD Summer Teaching Institute for two weeks. This Institute gave the participants the practical educational theory needed to organize and teach university courses.

Attached is a letter from Dr. Bruce Squires that outlines my participation and my subsequent success with applying the principles of the institute to courses at Dalhousie. Dr. Graham's and Dr. Bannerman's letters also deal with this. . . .

During the summer of 1986, I was made course director of two courses. Using the principles attained from the Summer Teaching Institute, I reorganized both courses to update subject matter taught, to make the teaching methodology as effective and efficient as possible, and to institute a reliable and valid grading system.

Courses D2303R, Preclinical Fixed Partial Prosthodontics (FPD)(course outline and other material attached) was traditionally taught using one hour lectures to impart didactic information and show technical procedures followed by a three-hour laboratory. In this laboratory, students were required to perform the many procedures associated with the fabrication of a FPD. The students performed each procedure once and received some help from their instructor. At the completion of the procedure, the instructor would grade the project. Didactic information was tested on written examinations that generally involved only recall type questions.

The redesigned course replaced the majority of lectures with specific reading assignments that were done in conjunction with a reading guide (attached) to help emphasize the important points. The reading assignments were the basis of short class tests held at the beginning of each period. The answers to the test were discussed immediately after the test and instructions for the day were given. When necessary, short lectures were used to clarify, highlight, or expand upon the readings. Student-led seminars on specifically designated and timed topics also were used.

Laboratories involved the use of small group demonstrations of each step in each procedure by the instructors. The instructors were carefully calibrated to ensure consistency between them. Following the demonstrations, the students were encouraged to do multiple repetitions of each procedure. Numerous models and problem boxes were prepared and used to help students develop discrimination skills. After each repetition of a procedure the student was required to self-evaluate and obtain instructor feedback. None of the repetitions were graded (no summative grading, only formative evaluation). Clinical tests graded anonymously evaluated the students' performance along with "Bell Ringer" discrimination examinations and problem solving written examinations.

A course review (attached) was carried out and changes suggested by the students and the instructors were implemented. The course has been reviewed by two outside consultants, and received favorable comments along with constructive suggestions for change and improvement. Attached is an article written describing one of the evaluations. The

University of Western Ontario has used this course as a model for one of their preclinical courses.

Course D3306B, Fixed Partial Prosthodontics Clinic, was redesigned to implement an evaluation system that would be more reliable and valid and allow better teaching on the clinic floor. The course material for the course is attached. Instructional aids such as self-instructional packages have been made to help students gain a better understanding of diagnosis and treatment planning. A problem solving written examination was used for the first time in this course last year.

In July of 1988, I was appointed Head of the Division of Removable Prosthodontics and assumed course directorship for three courses. Course D4302A is a lecture series for 4th year dental students. Course D3031R is a preclinical course on removable partial dentures and Course D2301R is a 2nd year preclinical removable prosthodontics course. Many changes were made in the content and teaching methodologies of these courses this past year. The course material is attached. Most significant are the reading guide, the evaluations systems, and the overall format which is similar to that described for Course D2303R. In addition, numerous models and problem boxes have been prepared.

The changes implemented in the above listed courses have resulted in significant improvements in the instructional effectiveness of the courses as has been demonstrated in the course evaluations and from feedback from instructors and students. The use of instructional aids and self-instructional materials along with the reading guides and class tests has made the teaching effective and time-efficient, making it possible to include updated techniques and materials in the courses.

What is particularly impressive and appealing about this accounting is the reference to supplementary testimony by colleagues who have collaborated with the author. Hopefully these letters will tell a more complete and objective story. Limiting his description to statements like "updating subject matter" and "reorganizing both courses...to make the teaching methodology as effective and efficient as possible..." does not do justice to the work that must have been involved. When he talks about "calibrating" the instructors, what is he referring to? The candidate needs guidance in how to adequately give an accounting of his teaching development that not only benefits himself but those reading it. Such guidance must encourage a higher level of discourse while at the same time enforces a limit on length.

It is in matters like these that a departmental standing committee on teaching can play a significant role. "Training peers as teaching consultants has been indicated by a number of researchers. . . . Activities include individual goal setting, sharing goals with other team members and seeking clarification on these goals, planning feedback strategies, gathering

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teaching data (e.g., classroom observation), presenting and discussing feedback, and evaluating the improvement process itself...For this type of procedure to be effective faculty must learn appropriate consultation skills, good observation procedures, and effective ways of delivering feedback⁷

It has been the goal of this handbook to provide some useful ideas and information to assist colleges, departments and faculty members in the complex and critical task of evaluating teaching within the tenure process. Further assistance and resources are available from the author:

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⁷Cohen Peter & McKeachie, Wilbert. "The Role of Colleagues in the Evaluation of College Teaching." *Improving College and University Teaching*. Vol. 28, no. 4 pp. pg. 153.