

Essentials of Professional Growth

For novices to develop into truly good teachers, they need to control their own learning and to collaborate with other teachers.

Photographs by John Baird



Professional growth in teaching has an emerging quality; it is a complex process that takes time. When novices have opportunities to share plans and ideas with experienced professionals, they refine their understanding of teaching.

We are facing today a crucial need to protect our investment in teachers. Not one of the proposals for reform suggests that education can survive, much less flourish, without excellence in teaching. According to the current rhetoric at least, teachers are now to be taken seriously—given more incentives, better training, improved working conditions, and higher standards.

Yet few such formulas for excellence recognize explicitly that school staffs must *grow* into excellence. We hear a great deal about what good teachers should know (e.g., Berliner 1984, Gage 1984, Shulman 1986) and do (Brophy and Good 1986, Rosenshine 1986, Rosenshine and Stevens 1986), but relatively little about how teachers *become* good teachers.

Views of Professional Learning

One of the major misconceptions about teaching, found both inside and outside the profession, is that teaching is a relatively commonplace, easy-to-learn task. The route into teaching, according to many, is (and should be) quick and easy. No one gets very excited when novices, following the briefest of orientations, are introduced to the workplace and given essentially the same responsibilities as veterans. We can alleviate any reservations we might feel about this by requiring these novices to masquerade as experts—to go through the motions that research suggests are typical of experts.



The lesson is seeing yourself as your students see you—after the class is over, on videotape, and in the company of a supportive colleague.

Commitment to long-term growth is thus bypassed simply by giving teachers methods and techniques that others have derived for them. Teachers, for the most part, are not encouraged to engage in autonomous, entrepreneurial work. They are encouraged to toe the line, to stick to the dictates of the bureaucracy, and to maintain the status quo (Callahan 1962, Darling-Hammond 1984, Fenstermacher 1979, Freedman et al. 1983, Lanier and Little 1986, Schlechty and Vance 1983, Sirotnik 1983, Sykes 1983, Wise 1979, and Zumwalt 1982).

We blame narrowly drawn conceptions of teaching on faulty or incomplete models of the teacher as learner. In the psychological and developmental literature, for example, it is common knowledge that novices do not learn simply by copying or modeling what experts do. In contrast to the notion, that teaching expertise can be quickly acquired by any reasonably intelligent individual, research on human learning implies that professional growth in teaching has an emerging quality, that the process takes substantial time, and that complex understandings and skills follow develop-

mental patterns that have been understood in psychology for years but rarely applied to the training of teachers. Our view of the mind-set required to understand the making of a professional teacher corresponds closely with that of Donald Norman (1978).

I do not care about simple learning. I am not interested in the kind of learning that only takes 30 minutes. I want to understand real learning, the kind we all do during the course of our lives, the kind of learning that takes years to accomplish and that may, indeed, never be completed. I want to understand the learning of complex topics. A complex topic is one with such a rich set of conceptual structures that it requires learning periods measured in weeks or even years. The learning of complex topics differs from the learning that can be completed in minutes. I have estimated that to become an expert in a complex topic requires at least 5,000 hours of study. Where does this estimate come from? I made it up. But it is remarkably robust, having been defended for a wide variety of topics (p. 39).

Mechanisms for Learning

Certainly teaching is one such activity in which thousands of hours are spent acquiring a knowledge base, a set of skills (some of which eventually be-

come routine), and the ability to behave in what we will call a deliberative, decision-making manner. Thus, it simply doesn't work to tell young, inexperienced teachers to behave as experts do. However, we can guide and assist in their development if we know and are sensitive to the phases and processes that occur over time.

The exact nature of the route from novice to expert is open to continuing debate, of course, but Norman (1978) and Rumelhart and Norman (1979) provide potentially useful ways of thinking about the process as it takes place during a period of several years. Essentially they propose that the learning of a complex topic involves the cyclical interplay of three independent learning mechanisms: accretion, restructuring, and tuning. Experience, or new knowledge, is initially preserved through associations with existing schemas or memory networks. Norman refers to this rather straightforward accumulation of knowledge as *accretion*. Learning via this mode is enhanced through standard information-processing strategies such as elaborative rehearsal, use of imagery, and construction of temporary frameworks

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such as scripts, plans, and the like. A good example of the process of accretion is a teacher who remembers that a set of new procedures has the same format as a routine procedure already in his or her repertoire.

For the novice in particular, existing memory units often are not good "hosts" for new information or experiences; hence the need for a second learning mechanism called *restructuring*. Restructuring involves the creation of new memory structures or the modification of old ones. It is mainly through such restructuring activities that new understandings emerge. Examples from teaching might include the additional understandings that accrue from the adoption of different metaphors of teaching (e.g., executive, decision maker, innovator, problem solver). Restructuring episodes or phases are generally followed by enhanced capability for accretion (i.e., the addition of more new information), thus illustrating the cyclical and interdependent nature of the two learning mechanisms.

Finally, in much the same way that motor skills are perfected through practice, one could think of "fine tuning" knowledge or procedural schemas about teaching. This third mechanism, *tuning*, would show up as increments in speed, elaboration, flexibility, smoothness, and the like.

Probably not by accident, these learning processes are quite akin to the Piagetian view of learning and development. Within either conception (Piaget's or Norman's) learning involves the coordination of uniquely different but compatible activities (i.e., assimilation-accommodation or accretion-restructuring). Further, special environmental conditions are necessary to drive the particular phases or learning episodes. In the Piagetian sense, for example, conditions of disequilibrium are associated with advances in schema development (e.g., in striving for a state of adaptation, individuals will change as necessary to "accommodate" to new, conflicting experiences). Norman proposes similarly that "critical confusion" is a state frequently encountered in the learn-

ing of complex tasks. The learner's effort to puzzle out how to accomplish some new goal effectively promotes new understandings. Teachers' growth in particular may be intimately tied to the ways in which they handle confusion, ambiguity, and conflicting goals.

Viewing the acquisition of teaching competence from a cognitive developmental perspective accounts for and helps us appreciate the continuing effort that is required to develop expertise. Complex understandings must be constructed from experience, and because experience can be constructed and reconstructed in many ways, the process is rarely ever finished.

Conditions for Growth

Viewing professional growth from a learning perspective forces us to consider seriously the conditions under which teachers learn about and from their teaching. Three conditions are essential: autonomy, collaboration, and time.

Autonomy. Complex learning demands that learners have substantial freedom to direct their own growth. To suggest otherwise is to miss the point of several dozen years of research and exploration into human learning and development. Good problems, information-rich environments, and requisite cognitive skills are all crucial to professional growth, but without sufficient latitude for exploration and the independent testing of alternatives, one's growth opportunities are severely limited. Increments in cognitive growth, positive self-concepts, and a feeling of power over one's own learning are all expected outcomes when learners (students or teachers) exercise responsibility for their own growth.

Quite the opposite effects occur when systems of accountability replace systems of responsibility in a profession. A particularly vivid account of how teaching affects teachers comes from the work of the Boston Women's Teachers Group (Freedman et al. 1983). Drawing from their interview protocols with teachers, these researchers point to persistent tensions

or discrepancies between idealized visions of teachers as professionals and the barriers to professional growth that exist within the hierarchically organized, technologically oriented structure of schools. They argue convincingly that teacher burnout is not inevitable but is a condition of frustration arising when intelligent, motivated teachers find little opportunity to exercise professional judgment. Ironically, as public policy tightens its screws on teacher behavior—presumably to compensate for perceived weaknesses in the teaching force—the contradictions and dilemmas for teachers are only deepened. (See Sykes 1983 and Wise 1979 for a more elaborate analysis of this problem.)

Interestingly, this vicious cycle may be avoidable if one believes Richard Elmore's (1983) persuasive case for how policymakers and school leaders

can actually increase their influence and control by relaxing accountability systems and delegating more authority at the point of program implementation (see also Berman and McLaughlin 1978). The delegation of intellectual control at the level of the teacher, as we see it, has the potential to promote and sustain real learning because it fosters individual motivation and builds self-confidence.

One of the best examples of the effects of autonomous learning is the analysis of successful business practices by Peters and Waterman (1982) in their best-selling *In Search of Excellence*. They emphasize repeatedly that the most successful companies in our society construct and nurture a culture for learning that is characterized by individual experimentation and problem solving rather than formal, hierarchically driven personnel develop-

ment efforts. It seems that schools would also be ideal places to create such cultures for students and teachers. Our own work with beginning and mentor teachers (Wildman and Niles 1986) has strengthened our view that teachers are willing and indeed capable of directing their own learning. Within the environments we have constructed, teachers consistently reveal to us an extensive knowledge base about teaching, a refreshing creativity in adapting to new responsibilities, and a reassuring penchant for quality.

Collaboration. Given that learning to teach is a complex, time-consuming, and difficult process, over time the cognitive as well as emotional demands on the individual can become quite severe. A collaborative work environment provides a condition for learning that can accommodate both



Peters and Waterman's In Search of Excellence reminds us that the most successful corporations nurture individual experimentation and problem solving, rather than formal, hierarchically driven personnel development. Taking a page from that book, a teacher listens to an audiotaped lesson, identifies personal teaching issues, and develops a problem-solving strategy.

of these side effects of complex learning (Niles and Lalik 1985). Participation in cooperative, collegial groups can expand teachers' levels of expertise by supplying a source of intellectual provocation and new ideas (e.g., Little 1982 and Shulman and Carey 1984). Additionally, collaboration breaks the grip of psychological isolation from other adults that characterizes the teacher's workplace (Sarason 1971) and creates a forum for teachers to publicly test their models or ideas about teaching (Lortie 1975). Finally, a collaborative group can furnish the emotional support and encouragement teachers need to cope with the risk that is inherently involved in learning to teach well. Colleagues can demonstrate to one another that they value attempts at growth and reassure group members that the effort and pain are worth it (Nemser 1983).

Collaboration naturally complements autonomy. Freedom to direct one's own learning is a vital aspect of collaboration. Collegial groups must be flexible in their composition and purpose. They must form and disintegrate based on the needs of individual teachers. And it is teachers who must decide on the specifics of their collaboration. Control of collegiality, either externally or hierarchically, is antithetical to the basic concept. Professionals cannot be forced to be collegial.

Time. From our discussions of the nature of complex learning and the maintenance of autonomy and collaboration, it should be no surprise that time is a critical resource for learning to teach. Efforts at professional development that ignore this fundamental relationship between time and complex learning are likely to yield negligible or even negative results. Unfortunately, in our research concerning teachers' exercise of autonomy and the development of collaborative relationships, we have found no easy answers about how to build additional time into teachers' already crowded schedules. Finding more time for teacher growth obviously involves increased costs, but time-efficient staff development efforts that do not produce teacher learning are

Table 1
Profiles of Professional Development Styles and
Characteristics Consistent with Different Conceptions
of Personal Growth

Ideal trainer qualities given current educational reform hysteria	Ideal trainer qualities given present analysis of teacher-centered growth
Knowledge	
<ul style="list-style-type: none"> • Has access to knowledge base on successful teaching 	<ul style="list-style-type: none"> • Has access to knowledge base on successful teaching • Understands what teachers know and believe about successful teaching • Understands ways of knowing
Communication Skills/Priorities	
<ul style="list-style-type: none"> • Demonstrates powerful communication style in conveying information to teachers • Demonstrates desire for teachers to adopt information being conveyed • Uses strategies associated with good salesmanship and showmanship • Demonstrates high self-confidence in terms of producing teacher change 	<ul style="list-style-type: none"> • Facilitates teacher reflection of research findings • Bases communication on what teachers already know • Demonstrates good listening skills • Demonstrates desire for teachers to adapt findings to their own purposes • Focuses on creating low-risk training settings • Exhibits patience, knowing that growth does not necessarily fit political schedules • Demonstrates confidence in teachers' knowledge and ability to learn
Performance Criteria	
<ul style="list-style-type: none"> • Measures success in terms of efficiency and successful completion of individual training episodes • Seen by school leaders as producing desired improvements in teaching efficiency/effectiveness 	<ul style="list-style-type: none"> • Measures success in terms of gradual increments of teacher, performance, autonomy, and capacity for further growth • Seen by school leaders as a teacher advocate who stimulates greater capacity for staff growth

clearly not cost effective. Time for teacher learning is one of the most important investments a school system can make to maintain and improve quality educational programs.

Implications for School Leaders

We have made several observations about professional growth that we believe have direct implications for school leaders in planning for and conducting their staff development enterprises. The following handful of suggestions illustrates our belief that the design of opportunities for professional growth is deceptively simple, at least in principle.

Promoting self-sufficiency. Because learning is ultimately an individual responsibility, instruction, whether for classrooms or staff development purposes, should be designed to make learners less dependent on teachers, trainers, and the curriculum. Jerome Bruner (1966), in one of his insightful essays on the nature of instruction and learning, stresses that "instruction is a provisional state that has as its object to make the learner or problem solver self-sufficient" (p. 53). If we are not careful, he suggests, "the result of instruction is to create a form of mastery that is contingent upon the perpetual presence of a teacher" (p. 53). It would be interesting to speculate on how many staff development practices in education today are designed with the purpose of ultimately making themselves obsolete.

Stimulating exploration. Autonomous learners display a strong disposition toward exploring and weighing alternatives. What drives this productive exploration across diverse learning contexts? Certainly rewards and punishments come into play, but the more enduring answer may be that humans are driven to reduce uncertainties and ambiguities. Berlyne's (1960) landmark work on curiosity, for example, shows how the proper balancing of levels of uncertainty is necessary to avoid boredom on the one hand (too little uncertainty) or anxiety and withdrawal on the other (too much uncertainty). Instructors

(or staff developers) who are sensitive to the motivating qualities of uncertainty in a teacher's environment, for example, will not try to remove the uncertainty for the teacher ("I've got the answer for you"), but will try to ensure that the teacher's own exploration of alternatives is conducted with an acceptable level of risk.

Teaching is a naturally complex activity that has the potential to stimulate exploration and testing of alternatives. Why is it that so much of our activity is geared toward reducing the complexity of teaching via formulas, best practices, and legislated curriculums? We may be successful in removing much of the complexity and messiness, but in so doing we also risk destroying the ingredients of uncertainty and conflict that drive professional growth.

Knowing as a process. One final point for consideration is the distinction between knowing as process and knowing as product. Drawing again from Bruner's (1966) work we find a direct and compelling statement.

It is the enterprise par excellence where the line between subject matter and method grows necessarily indistinct. A body of knowledge, enshrined in a university faculty and embodied in a series of authoritative volumes, is the result of much prior intellectual activity. To instruct someone in these disciplines is not a matter of getting him to commit results to mind. Rather, it is to teach him to participate in the process that makes possible the establishment of knowledge. We teach a subject not to produce little living libraries on that subject, but rather to get a student to think... for himself, to consider matters as an historian does, to take part in the process of knowledge-getting. Knowledge is a process, not a product (p. 72).

Today, it is possible to find neatly summarized results of research on teaching and learning in nearly every journal that reaches school-based practitioners. These summaries in turn are easily converted into performance statements by which professional actions may be judged. We must question the worth of our efforts in trying to convey such information to practitioners, for as Bruner suggests, "unless the learner also masters himself, disciplines his taste, deepens his view of the world, the 'something' that is got across is hardly worth the effort of transmission" (1966, p. 73).

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A Deliberate Growth

School leaders need to examine carefully the basic premises on which their plans for school improvement are based. It is essential that the enterprise follow from a clear understanding of professional growth and how and under what conditions it occurs. Elmore (1983) makes a very practical case for more delegated authority and less hierarchical control in schools, for measures that enhance teachers' sense of efficacy and control, and for allocation of resources (including information) at the point where delivery-level expertise exists.

Table 1 is a profile of the styles of staff trainers and developers that fit well and less well with the conceptions of professional growth that we've described here. An interesting set of contrasts becomes apparent as we look at the characteristics of development personnel most likely to succeed

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in today's "reform" environment compared to those we believe would excel in more teacher-centered environments.

As the reform movement in education continues, we hope to see school leaders develop a greater sensitivity to the essentials of growth and to the quality of personnel necessary to facilitate such growth. □

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