

**Entering the Community of Scholars**  
**An Unabashed, Somewhat Rebellious, But Affectionate Collection of**  
**Materials, Mullings, and Completely Biased Recommendations**

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This little packet contains four sections. The first section describes a model of entering and participating in a professional academic community. The second lists and briefly describes some of the issues we face as professionals. The third section lists some of my personal mullings about surviving and thriving in our profession. The last section provides a list of some of the books, which have had a major impact on my own scholarly thinking.

The intent of this particular session at the NARST meeting, from what I can tell, is to provide a forum for discussion about the issues involved in becoming a member of the professional community of university-based science teacher educators and researchers. In my role as a kind of discussant (however, I'm not sure this term accurately describes my role), I thought this packet could be of some help in at least initiating further thought and discussion about our profession.

As in any community, the potential for sinking into dysfunction is omnipresent. I have worked in five different universities (including my doctoral institution). Each of these situations could be placed somewhere along a continuum from functional-healthy to dysfunctional-unhealthy. One of these institutions was as far to the dysfunctional extreme as could be imagined. Another began on the functional side and then began sliding to the dysfunctional side. The others can be described as vacillating from one side of the median point to the other. These latter institutions were basically stimulating and reasonable situations in which to work. However, the politics and territoriality of universities can become quite tedious.

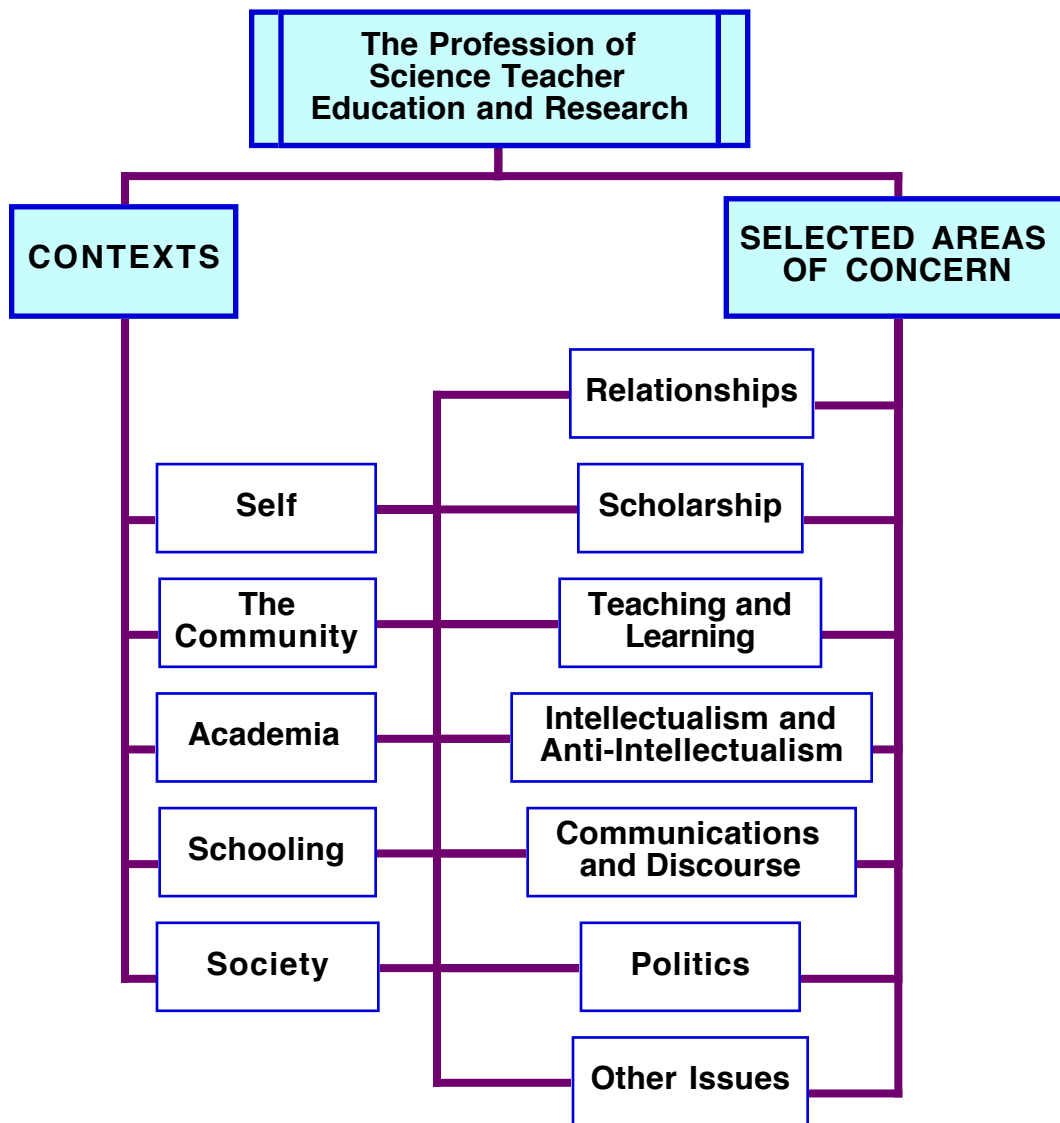
Being an idealist at heart, I don't think universities (or other institutions) need to be this way. At the heart of this idealist view is a notion of functional community, as well as the potential workability among people. During my first couple of years as a tenure track faculty member, I was shocked by the deeply entrenched battle lines I found within our "college." Such battle lines have been evident in all of the universities with which I've been associated. Being friendly with certain members of the faculty can place you in the middle of the conflicts along with a nagging distrust of you by others, even though you attempt to be equitable with all. It's quite bizarre. I'm not suggesting that we need to be careful with whom we're friendly. In fact, I think we all need to make an effort at equitability, at mending fences, and at trying to propagate some sense of sanity within our communities. We may not agree with the positions of others. We or others even may get angry. But, we can strive for civility, for ways of treating one another with humanity, and for ways to engage in productive discourse and effective problem resolution.

I also am quite concerned with the intellectual and scholarly state of affairs in the specific contexts of teacher education courses and science education, as well as in the broader context of our society as a whole. We presently are in a quite frightening period in the history of the world. In some ways, it is more frightening than the early days of the cold war, when my friends and I designed bomb shelters in elementary school classes. Rights are disappearing. Politicians are gaining power, while their abilities to understand issues in depth appear to be waning rapidly. The media, including public television and radio, are becoming perpetrators of propaganda and rarely go into any depth in their reporting on issues. Just a few days ago, a major network evening news anchor said that he'd be right back after commercials with the reasons why gas prices are rising. When he returned he said it was supply and demand. No more than 40 words were spoken on the topic. As a result, we are creating a society not only of adolescents, as suggested by Robert Bly (1996), but also of superficial, uncritical citizens. At the depths of my cynicism and move away from idealism, I become suspicious of the push for higher standards, more high stakes testing, and other political moves affecting education as a strategy to pacify and dumb-down the populace. If teachers and students have to spend all of their time preparing for

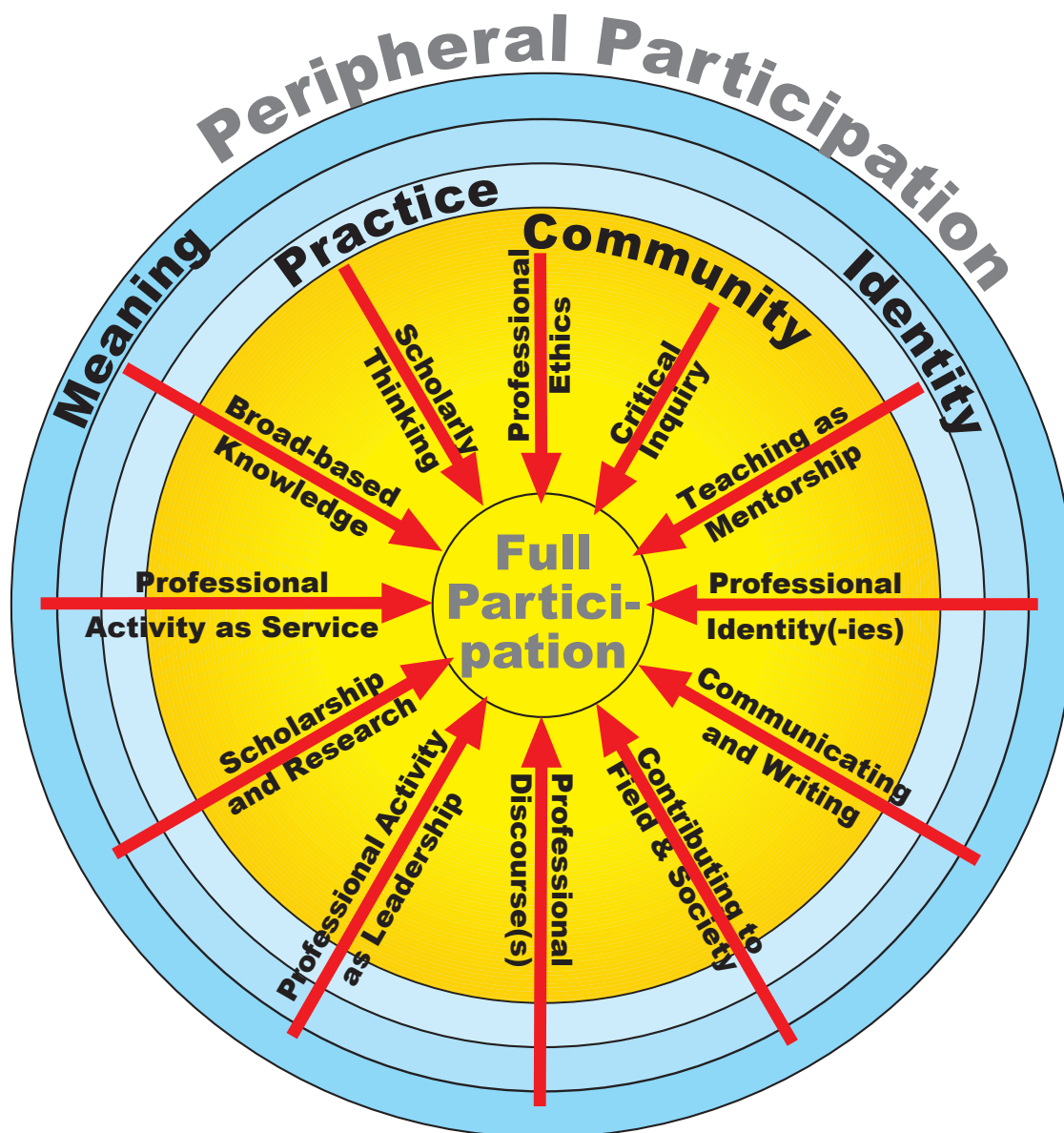
tests, they cannot devote the time to thinking critically about issues in science and society. On the March 21<sup>st</sup>, 2002, NPR “Talk of the Nation” three expert panelists agreed that standardized testing has the effect of increasing test scores, but decreasing achievement and learning.

We have our work cut out for us! I just hope that we can make a difference.

## An Overview of the Profession



## A Model of Entering the Academic Profession



**This model is based on the work of Jean Lave and Etienne Wenger in:**  
 Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*.  
 New York: Cambridge University Press.  
 Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New  
 York: Cambridge University Press.

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The model, which has been developed from the work of Wenger (1998), is based on the notion of holarchy (Volk, 1995) rather than hierarchy. Holarchies are embedded layers in which

control and information, unlike in hierarchies, pass omni-directionally among layers. In this particular model there also is a sense of moving from the periphery toward the center of full participation. The major aspects of developing as full participants in a community, according to Wenger, involve the development of (a) an identity as a community member; (b) meaning associated with one's involvement in the community; (c) the actions, interactions, discourse, and thinking as a practitioner in the community; and (d) a sense of what membership in the community involves. Within this model, I have identified some of the specific characteristics that develop as one continues through one's career in the community of academics with specific emphasis in science education. Brief descriptions of these characteristics follow.

### **Professional Identities**

Although this a major aspect of Wenger's model, it may be one of the more slippery notions. Part of the difficulty in defining this aspect is that it is highly personal. One of my colleagues, who happens to interact with me and my family outside of work, always criticizes me for being so different at home than at work. I don't feel that I am any different, but maybe there is a difference. As we move from one community to another (including family), we may tend to take on different identities. The development of a professional identity, barring a totally schizophrenic change, involves some combination of one's other identities from outside of the workplace communities. Some colleagues seem to be much "stiffer" in the academic community, some more arrogant, some angrier, and some with seemingly minimal differences. There are no hard and fast rules in developing a professional identity. It is a totally personal process, in which I think it is important to keep in mind the notion of being authentic to whom you are. The popularized notion that K-12 school teachers should begin the year as an authoritarian (i.e., be strict, be meaner) always has been very troublesome to me. Over the years, it always has appeared to involve more a sense of manifesting confidence, rather taking on some artificial stance.

### **Communicating and Writing**

A major part of working in the academic community is communicating with a variety of audiences. However, the major emphasis in our professional community is writing. Academic writing is different from other genres, but there is still a sense of acquiring one's voice and style. Stiffly written papers are difficult to read. Papers that read like one for a course (merely providing information) are not engaging. As I've tried to help graduate students develop the skills of academic writing, I've found a number of strategies helpful: (a) read a great paper and a lousy one for the writing style, not the content (some papers may be great pieces of work, but difficult to read... why?); (b) review papers for journals (it's much easier to critique some else's work than one's own) and take on the attitude of "what needs to be done to make this paper publishable;" (c) read student work in the same way as journals (however, the expectations may differ with the specific audience); and (d) take on the perspective of writing as making your own argument (e.g., avoid listing information from others' in theoretical background sections – instead use the literature as evidence for your own arguments). In addition, to write successfully, you need develop a strategy. I'm finding that disappearing with my laptop to the local coffee house every afternoon has increased my productivity tremendously (I'm here working on this paper, now, and have written two other papers in the last three weeks at the same table). However, you may find that getting up early or just closing your office door and not answering knocks on the door or phone calls will work.

## **Professional Discourse**

Discourse obviously is a subset of communication. However, it has its own special significance worthy of giving it a separate heading. The discourse(s) of our particular community involve understanding and using terminology from a number of disciplines depending on our particular interests. Such disciplines may include a variety of fields in the sciences, cognitive psychology, anthropology, sociology, psycholinguistics, and a variety of areas within education itself. However, when engaging in discourse of any sort, we need to be conscious of the audience and in making ourselves understood. We also need to be aware of how our students (undergraduate and graduate) develop their abilities in the specific discourse genres of the communities in which they are entering. In addition, we need to understand the nature of discourse, as a complex system, and recognize how to engage discourse in a variety of settings and with a variety of audiences. How do we talk to teachers, to students, to colleagues, and so forth?

## **Scholarship and Research**

Engaging in scholarship and research is a primary activity in our professional community. As mentioned previously and later in this handout, I think it is important to find your own path and passions. Engaging in research without a passion can get very tedious. Following in our dissertation supervisor's footsteps does not necessarily lead to finding one's passions or to finding novel theoretical or methodological approaches. Developing one's passions can avoid the problem of the proliferation of "so what" papers. At the same time, many institutions require "numbers" of publications. Such pressure can result in generating papers and books that are not necessarily all that interesting. Finding a balance, a routine (as in "writing" above), and a focus for your passions can help doing worthwhile and interesting scholarship.

## **Broad-based Knowledge**

This characteristic is related to scholarship, as well as teaching and service. In responding to the pressures of teaching, administrative service, and scholarly productivity, we may find it difficult to read in our specific area of interest, not to mention to read more widely. Although we may be science educators, we need to keep in mind the wider issues of the development of the whole child; education, in general; society; and so forth. Reading more widely also can have a direct impact on our specific area of interest and teaching. Unexpected connections can arise and open up new ways of thinking and acting.

## **Scholarly Thinking**

Scholarly thinking can have a tendency to become very narrow and dogmatic. Although we can certainly take positions on issues, we need to remain open to possibilities. However, what may be the most important aspect of our thinking is to uncover and ponder the effect of the underlying assumptions that affect schooling, learning, and actions in our society. All too often we proceed about our daily activities, research, and writing without ever questioning the assumptions and presuppositions that affect us. We may find these assumptions to be consistent with what we do, but we may find that they conflict with our intentions and theoretical-philosophical positions.

## **Critical Inquiry**

Critical inquiry is an extension of the scholarly thinking, but involves a further sense of curiosity and skeptical inquisitiveness. Such inquisitiveness and skepticism should permeate our thinking about teaching, learning, and functioning in our communities and society.

## **Teaching as Mentorship**

Teaching within the scope of multiple communities (i.e., students entering the teaching profession, masters degree students entering the community of scholarly teachers and leaders, and doctoral students entering academia or other professional communities) requires a sense of being a mentor. Students as apprentices are entering at the periphery of a new community. Just as in this model, such students need to develop in a variety of areas as they move toward the center of full participation.

## **Professional Activity as Leadership**

Leadership can take on many forms in numerous overlapping communities. Even without becoming a department chair or other administrator, we can take on leadership along a continuum from informal to formal approaches. We may take on leadership in subtle ways, such as trying to develop a more positive atmosphere in our departments or with local teachers and school principals. Such an approach may involve simply a way of relating to these people. On the other end, we can chair committees or lead a research project, in which we have to take on more direct approaches. As with any institution, academic settings can be riddled with problems. The major questions with which I am concerned beyond those of issues in the specific setting include:

- How can we deal with issues sanely and rationally and in ways that do not demean or harm others?
- How can we develop greater understanding and appreciation for the particular strengths and issue-based positions of others?
- How can we create an equitable environment?

There are many others, but I think that if we want to transform the current status of our professional communities, we need to be aware of the humanity of all with whom we interact.

## **Professional Activity as Service**

The lines between teaching, research, and service are often difficult to distinguish, but there is a sense of taking on ownership for the running of our departments and universities. In addition, there also is a sense of participating actively in our fields and their organizations. Participating on NARST committees, reviewing for journals, working with local schools and agencies, and participating in departmental and university committees are all part of the picture of service. However, be careful not to over-commit, especially while working for tenure.

## **Contributing to Field and Society**

Contributing to the field and society, although dealt with in previous categories, is separated for the basic reason surrounding the notion of “contributing.” Doing our work in relative isolation, even if we are publishing in scholarly journals, may not have the impact necessary for change. What we do in our teaching and research certainly needs to be shared within the field, but without the support of the general public, what we do may have little effect. It is becoming increasingly evident in my own work that I must start working with parents. Professors and teachers have little power. If schooling is going to change, the voting public must be informed about the issues. Politicians and the media present a propagandist view, often with no basis in research and theory. We need to begin a concerted effort to work with the public.



## **Professional Ethics**

As final category, another slippery notion of ethics needs to be addressed. Beyond the obvious aspects of ethics, we again need to look more deeply at the underlying assumptions and ways of relating to others. What ethics are involved in the way we treat students, support staff, and administrators, among many others? How can we relate to all with whom we have contact in ways that are decent and humane? Even though we may disagree with others or need to take action against some inappropriate acts of others, we still need to address such problems with the idea that there's a human being there (this may be very difficult to see at times!). Taking such actions does not mean that we are not direct and firm (or even angry), but that we do not seek to destroy a particular person. It is a challenge to take action and yet be supportive of the humanity of people.

## **Issues Facing Our Future and Careers**

- ◆ Universities are increasingly adopting the views and structures of corporations. Such a move affects us in a number of ways:
  - Students are clients or customers. By changing the view from student as learner to student as customer, universities are increasingly inflating grades and dumbing-down curricula to attract and retain students. At the same time, course evaluations have become the tool on which tenure, promotion, and pay raise decisions are based. In order to please the customers (students), high course evaluations are expected. As a result, faculty are faced with the dilemma of maintaining high expectations for students vs. keeping the customers happy, which usually translates into giving high grades. Many universities are contending with issues of grade inflation because of this situation.
  - Money-making issues take the lead in making decisions. Distance learning (a huge money maker) continues to increase in popularity in universities. However, there are a number of concerns with such an approach. In addition to being labor intensive for instructors, they bring up a number of critical questions. What assumptions about learning underlie this approach? What critically important aspects to learning and entering various types of professional and academic communities are not possible through distance learning approaches?
  - Corporations tend to expect employees to conform to a variety of expectations and obey sets of regulations. As universities move in this direction, a new reason for firing faculty has arisen – that of “insubordination.”
- ◆ The demise of humanity, or the increasing lack of relating to others as human beings, is on the increase. As with society in general, there is an increase in formulating zero tolerance rules and a variety of other approaches that do not take into account the individuals involved. Student, faculty, and even university administrators are dismissed or treated in ways that are not necessarily humane. This is not to say that removal of students from programs or firing employees is not necessary, but the approach taken is often cold-hearted and without a complete understanding of the individuals involved. Children, as well, are often treated as sub-human. I think we need to consider how to respect each person’s humanity, even when some action (i.e., for cheating, plagiarism, etc.) needs to be taken.
- ◆ Anti-intellectualism is running rampant and on the increase. The news media, politicians, schools, among others are all contributing to this very frightening situation. In fact, there is even an increasing sense of fear about speaking out on issues in the United States. Such governmental support for anti-intellectualism (and anti-democratic actions) was evident when no one spoke out against Dick Cheney’s wife’s black listing of 50 university faculty members for questioning the policies involved in the war on terrorism. In addition, the increasing assault on teaching evolution and other topics in school curricula are meeting less resistance. In university courses, the student as customer trend (see the previous discussion on the affects of the corporate model in universities) in combination with increasing anti-intellectualism are compounding the problem. In many universities, the tendency is for students to actively dismiss the value of reading and resist attempts to foster critical thinking. The motivation for attending university is based more on getting a credential rather than on learning, challenging one’s beliefs and ideas, or opening new horizons.

- ◆ Although testing cannot show what a child (or adult) understands, the use of testing is on the increase. The results are being used to determine if teachers can keep their jobs or receive pay raises. Students, as well, are under increasing pressure to perform well. In addition to the directly related stress placed on individuals, teachers are increasingly unwilling to teach in the ways they think most appropriate for their students. They are unwilling to teach topics they think are important for children. As a result children are being prevented from developing relevant, meaningful, and complex understandings of their worlds. Testing is becoming an act of violence (psychologically) against teachers and children.
- ◆ Although the intent of standards is to improve our education system, they tend to be accepted without considering some of the problems they present. Teaching to the standards all too frequently limits teachers to going no further. Who decides what content is more important than another? If something is not contained in the standards is it not worthy of being taught? What cultural biases and taboos are contained within the standards? Although these questions are critical, we need to consider what is most important for teaching any particular subject. I continue to ask myself “why teach science?” ... but I’m never satisfied with my answers.
- ◆ There are many other issues, which I don’t mean to diminish by omission. However, it seems that as a country we are losing our minds and hearts. Racism, sexism, and a general trivialization of learning and schooling, people and cultures, and other issues are not being addressed in any substantial way. We need to continue to ponder how we, as professionals and human beings, can begin to affect change.

## Recommendations and Mullings to Consider

- ◆ Find a balance between work, family, and pleasure. (I'm really bad at this!) Although we may really enjoy what we do in our work, we need to find time to relate with our families and friends and to engage in activities completely removed from our work.
- ◆ Learn to say "no." (I'm also really bad at this... to many interesting things to do.) Try to prioritize your involvement in the multitude of opportunities that come your way. Especially in the beginning of your career, avoid taking on too much committee work and other service tasks.
- ◆ Create a writing schedule. Disappear to a remote site with laptop, get up early, or devise some other system. Keep to a regular schedule as much as possible.
- ◆ Cultivate your passions and find your own path. All too often, we follow closely to the path created in graduate school. Find your own voice, your own direction. In addition, going through the motions to "play the academic game" will result in a great deal of frustration, animosity, and probably boredom, as well. Work from passion. What is most intriguing and interesting?
- ◆ Critically assess your own and others' assumptions. Do particular assumptions about teaching, learning, schooling, etc. conflict with the goals and actions you take? Conflicting assumptions and actions generally are involved in the "band wagon approach" and heavily contribute to the failure of "new" approaches to teaching and schooling.
- ◆ Read widely (as much as possible... academia has a way of eating up all of your time with non-academic related tasks). Read not only in fields other than science education, but also from other countries and cultures.
- ◆ Don't be discouraged by rejection (e.g., journal rejections). It hurts, but keep trying. Take the feedback, decide if it's worth making revisions, then resubmit if you think it's appropriate.
- ◆ When preparing to submit a paper for publication, investigate and prioritize journals. Is your paper a good fit with the intent of the journal? What is the quality of the journal? Avoid publishing too much in lower level journals?
- ◆ In almost all universities, some faculty teach and rarely publish, others do research and resent teaching. I find it hard to separate teaching and research. Both teaching and research inform one another. In fact, I find it difficult to understand how anyone can teach at a university or college without being engaged to some extent in scholarly activity. How can we really understand the most current issues in our field without engagement in the field?
- ◆ The politics of academia can eat you alive. Decide to what extent you want to be involved. Consider the trade-offs with research, writing, etc. Political engagement also can take a toll emotionally and physically. Proceed with an awareness of these issues.

## Some of My Favorite Books

Somewhere along my path to academia, maybe in college, I started reading and collecting books in a variety of fields. Although I always seemed to have widely ranging interests, I think that it is important for academics to draw on thinking from other fields. Even though we may have specialized in science education, we need to consider the wider context of schooling and society, as well as the development of the whole individual. So, it is with this notion that I offer some of my favorite books.

- Bakhtin, M. M. (1981). *The dialogic imagination*. Austin, TX: University of Texas Press.
- Bakhtin, M. M. (1986). *Speech genres and other late essays*. Austin, TX: University of Texas Press.
- Bateson, G. (1972). *Steps to an ecology of mind: The new information sciences can lead to a new understanding of man*. New York: Ballantine Books.
- Bateson, G. (1979). *Mind and nature: A necessary unity*. New York: Bantam Books.
- Bateson, G. (Donaldson, R. E. [Ed.]). (1991). *A sacred unity: Further steps to an ecology of mind*. New York: Cornelia & Michael Bessie Book/Harper Collins.
- Bateson, M. C. (1994). *Peripheral visions: Learning along the way*. New York: Harper Collins.
- Bauer, H. H. (1992). *Scientific literacy and the myth of the scientific method*. Urbana, IL: University of Illinois Press.
- Block, A. A. (1997). *I'm only bleeding: Education as the practice of social violence against children*. New York: Peter Lang.
- Bly, R. (1996). *The sibling society*. New York: Vintage Books/Random House.
- Bruner, J. (1986). *Actual minds, possible worlds*. Cambridge, MA: Harvard University Press.
- Bruner, J. (1990). *Acts of meaning*. Cambridge, MA: Harvard University Press.
- Campbell, J. (1972). *Myths to live by*. New York: Penguin.
- Capra, F. (1996). *The web of life: A new scientific understanding of living systems*. New York: Anchor/Doubleday.
- Cazden, C. B. (1988). *Classroom discourse: The language of teaching and learning*. Portsmouth, NH: Heinemann.
- Conroy, P. (1972). *The water is wide*. New York: Avon.
- Darwin, C. (1993). *The origin of the species*. New York: Random House.
- Delpit, L. (1995). *Other people's children: Cultural conflict in the classroom*. New York: New Press.
- Donaldson, M. (1978). *Children's minds*. London: Fontana Press.
- Donaldson, M. (1992). *Human minds: An exploration*. New York: Allen Lane/Penguin Press.
- Edwards, D., & Mercer, N. (1987). *Common knowledge: The development of understanding in the classroom*. New York: Routledge.
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- Fanon, F. (1967). *Black skin, white masks*. New York: Grove Press.
- Feynman, R. P. (1985). "Surely you're joking, Mr. Feynman." *Adventures of a curious character*. New York: Bantam.

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- Fiffer, S. (2000). *Tyrannosaurus Sue: The extraordinary saga of the largest, most fought over T. rex ever found*. New York: W. H. Freeman and Company.
- Freire, P. (D. Macedo, D. Koike, & A. Oliveira [trans.]) (1998). *Teachers as cultural workers: Letters to those who dare teach*. Boulder, CO: Westview Press.
- Gallas, K. (1994). *The languages of learning: How children talk, write, dance, draw, and sing their understanding of the world*. New York: Teachers College Press.
- Gallas, K. (1995). *Talking their way into science: Hearing children’s questions and theories, responding with curricula*. New York: Teachers College Press.
- Gallas, K. (1998). *“Sometimes I can be anything:” Power, gender, and identity in a primary classroom*. New York: Teachers College Press.
- Gleick, J. (1987). *Chaos: Making a new science*. New York: Penguin.
- Goleman, D., & Thurman, R. A. F. (Eds.). (1991). *Mind science: An East - West dialogue*. Boston: Wisdom Publications.
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- Gould, S. J. (1981). *The mismeasure of man*. New York: W. W. Norton & Company.
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- Johnson, M. (1987). *The body in the mind: The bodily basis of meaning, imagination, and reason*. Chicago: University of Chicago Press.
- Kaufman, S. (1995). *At home in the universe: The search for laws of self-organization and complexity*. New York: Oxford University Press.
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